MERCK

# EMPOWER YOUR LAB

## EMSURE® | EMPARTA® | EMPLURA®
## Inorganics & Solvents for classical analysis

The Life Science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Supelco®
Analytical Products

# precision Made simple

At Merck our goal is to make your daily lab work safer, more efficient, and more reliable. With one word: smarter! Close partnerships with our customers have been at the heart of our progress throughout our long history. They have allowed us to clearly understand your challenges. Our Supelco® Inorganics and Solvents are developed from analytical experts for analytical experts. They stand for precision, accuracy and consistency. And even more, they constantly push the boundaries of innovation.

We provide scientists with best-in-class portfolio particularly for lab applications. Our Life Science portfolio comprises more than 300,000 products, served to you in 66 countries around the world. So whether in your quality control lab, pilot plant or production facility, you'll have the most suitable products, packaging and documentation to conduct your application more easily, efficiently and economically.

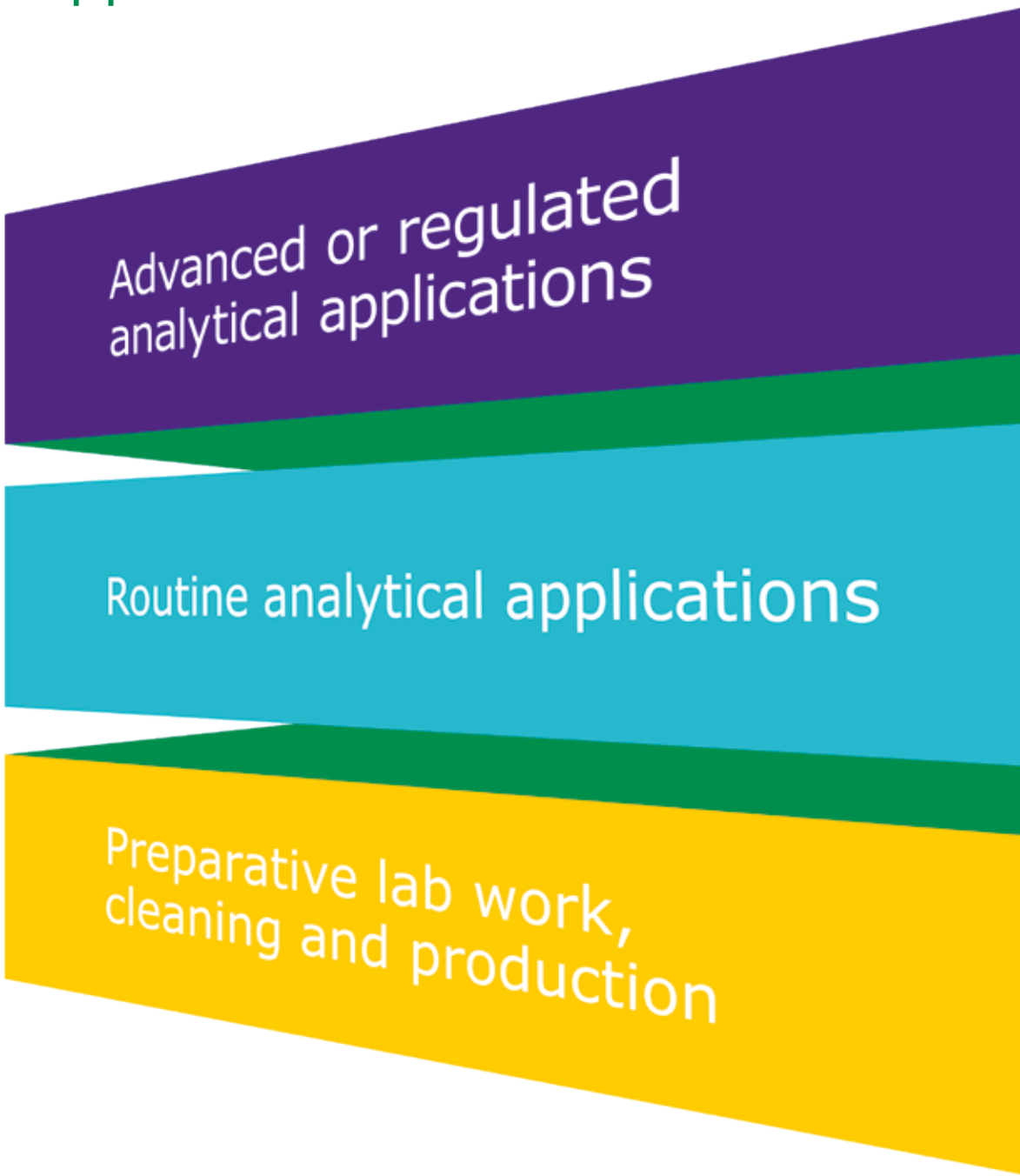
**Discover how our Inorganics and Solvents can empower your work.**

Supelco®
Analytical Products

The Supelco® portfolio of analytical solutions is developed by analytical chemists for analytical chemists to ensure your results are accurate, precise and reproducible. Every product is meticulously quality controlled to maintain the integrity of your testing protocols and, with our dedicated scientists, the expertise you need is always on hand.

**SigmaAldrich.com/Supelco**

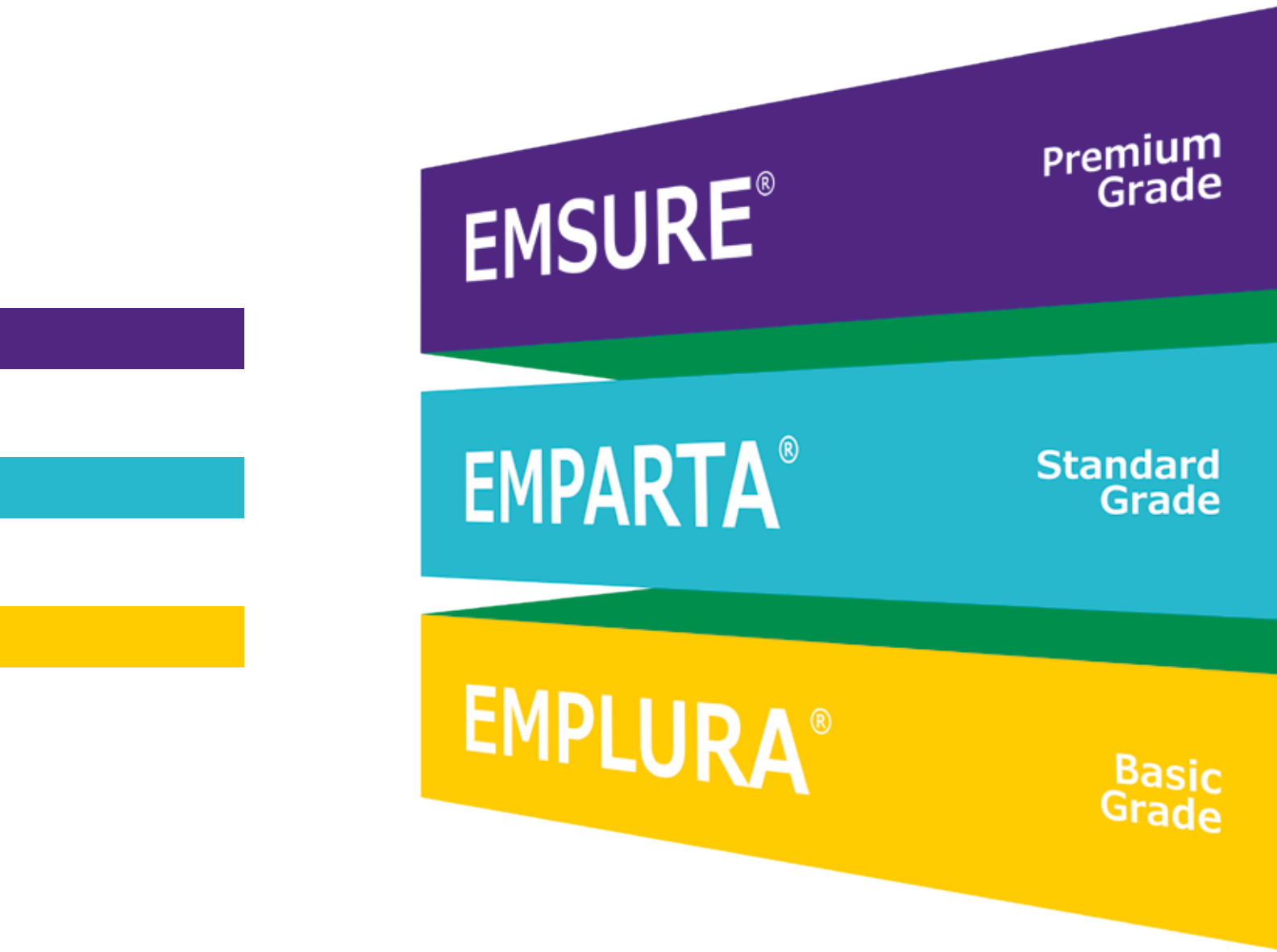
# ...it's so simple to find the right reagent for your application!



# just choose your grade

Analytical chemistry is a vast field. It can mean anything from complex analysis to routine or preparative lab work. Each poses unique demands, requires distinct solutions, and is governed by different regulations. When looking for products, you have to consider your application, your target and, of course, your budget.

To simplify your search, our extensive Supelco® portfolio of Inorganics and Solvents is divided into three grades: EMSURE®, EMPARTA® and EMPLURA®. Each quality grade is offered in a variety of volumes, packaging materials, and required documentation. Now, you won't have to search for the right solution for your application.
All you have to do is choose.



# contents




| Regulations | MQ level* | Regulatory support | Purity | Number of specified parameters | |
|---|---|---|---|---|---|
| ACS<br>ISO<br>Reag. Ph Eur | MQ300 | CoA's, MSDS, BSE/TSE or AO certificates, Special documentation on request | 99.7–99.9% | < 70 | Page 22 |
| ACS | MQ200 | CoA's, MSDS, BSE/TSE or AO certificates | 99.0–99.5% | < 10 | Page 32 |
| – | MQ200 | CoA's<br>MSDS | ~ 99% | 4–5 | Page 36 |

* For more information on MQ levels and the M-Clarity™ program see page 30

## Inorganics & Solvents



EMSURE®

EMPARTA®

EMPLURA®

# compliance and documentation

Whether you manufacture products nationally or internationally, you need to comply with a host of regulations. It can be challenging to maintain an overview of requirements – especially when they change. This is where a capable partner can help.

Our Inorganics and Solvents are produced and tested according to multiple international guidelines. This means they can be used worldwide for almost all applications. It also allows our global customers to work with the same standard operating procedures (SOPs), and export to countries with different regulations.

By combining multi-standard compliance with comprehensive documentation, our products make your work both simpler and safer.

# Regulatory environment

Our analytical reagents are available in different grades, which are specified in accordance with various international regulations.

### American Chemical Society (ACS)

EMPARTA® and EMSURE® products are specified according to the monographs published in the "Reagent Chemicals" guidelines of the American Chemical Society (ACS). We follow the most recent online version as the version of record, and regularly check for updates. Our in-depth approach to ACS specifications includes comparison with our own stringent quality control standards.

### United States Pharmacopeia (USP)

The "Reagents" chapter of the U.S. Pharmacopeia and National Formulary defines the quality of reagents required for testing according to USP-NF. In most cases, the USP recommends to "use ACS reagent grade", which is described as a grade meeting the corresponding specifications of the online version of ACS Reagent Chemicals. Since EMPARTA® and EMSURE® products are ACS-compliant, they are also ideal for quality control according to USP-NF.

### Reagents section of the European Pharmacopoeia (Reag. Ph Eur)

Currently in its 11th edition, the European Pharmacopoeia (Ph Eur) is published by the European Directorate for the Quality of Medicines & Health Care (EDQM), and defines requirements for the "qualitative and quantitative composition of medicines, the tests to be carried out on medicines and on substances and materials used in their production". With its chapter 4, it contains a detailed section describing reagents to be used for analysis in accordance with the European Pharmacopoeia. EMSURE® products fulfill these requirements, and bear the designation, "Reag. Ph Eur".

### International Organization for Standardization (ISO)

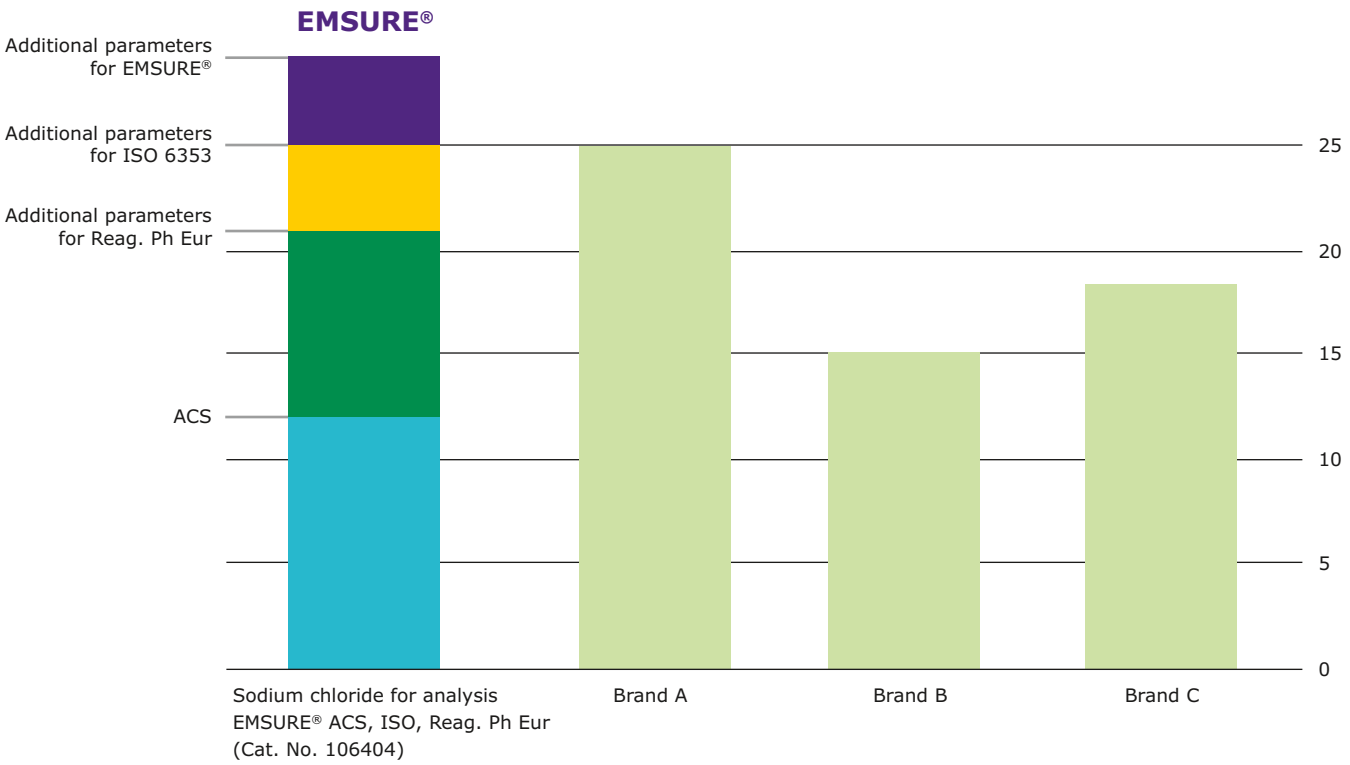
Besides pharmacopoeia regulations, the International Organization for Standardization (ISO) also sets guidelines for analytical reagents. Specifically, ISO 6353 defines the requirements for reagents used in analytical chemistry. All EMSURE® products with the designation "ISO" are compliant with ISO 6353.

# Multi-standard compliance and support

We offer a choice of product grades to suit the regulatory environment you work in. EMPARTA® products are specified according to ACS. Most EMSURE® product specifications not only fulfill ACS, Reag. Ph Eur, and ISO guidelines – but exceed them. That's because we are regularly adding new parameters required by our customers. This is essential as it enables the use of advanced, more sensitive technologies.

## Superior quality

The following graph demonstrates the number of parameters specified for an EMSURE® product versus those required by regulatory organizations (ACS, Reag. Ph Eur and ISO). Clearly, EMSURE® products not only fulfill international guidelines, but surpass them by far. Brand comparisons confirm the advantages of EMSURE® reagents. In this example, the number of specified parameters clearly demonstrates the superior quality of an EMSURE® product.



## Documentation

Complete, correct documentation is vital when working with analytical reagents. That's why we offer product specifications, Certificates of Analysis, and Material Safety Data Sheets (MSDS) for all EMSURE®, EMPARTA® and EMPLURA® products. Available 24/7 on our website, the specifications and Certificates of Analysis prove the superior quality of the chemicals, while the MSDS provides product-specific safety information. The availability of further documentation is connected to the new M-Clarity™ program.

## M-Clarity™ program

With the M-Clarity™ program products from Merck Life Science are allocated to 6 MQ levels from MQ100 to MQ600 defining the quality attributes, documentation and services offered with our products in each level. EMSURE® products are minimum classified into MQ300, while EMPARTA® and EMPLURA® are in MQ200. This means more support and transparency for our EMSURE® products than ever before.

| | MQ level* | Regulatory support |
|---|---|---|
| **EMSURE®** | MQ300 | CoA's<br>MSDS<br>BSE/TSE certificates<br>Special documentation on request |
| **EMPARTA®** | MQ200 | CoA's<br>MSDS<br>BSE/TSE or AO certificates |
| **EMPLURA®** | MQ200 | CoA's<br>MSDS |

▶ **For more information see page 22**

▶ **For more information see page 32**

▶ **For more information see page 36**

* For more information on MQ levels and the M-Clarity™ program see page 30

# pharmaceutical analysis

## With suitable, specified reagents

We supply several hundred Inorganics and Solvents perfectly fitted for pharmaceutical analysis – the most extensive range offered by any manufacturer. Comprising solvents, acids, salts, caustics, bases, indicators and special reagents, our pharmacopoeia portfolio ensures that you work with the most suitable products for your particular needs and that they meet all quality guidelines.

For pharmaceutical analysis, you have the choice of two grades: EMSURE® or EMPARTA®. While both grades comply with ACS standards, EMSURE® products also fulfill the Reagents requirements of the European Pharmacopoeia.

### Fulfill global requirements

Through compliance with these comprehensive global standards, our analytical reagents offer a new level of quality and reliability in pharmaceutical applications. Whether for research and development or routine quality control, they allow you to fulfill the fundamental prerequisites of your scientific work and successfully pass audits.

### Ensure reliable analyses

Reagent quality is decisive in pharmaceutical analysis. The higher and more consistent the quality, the more reproducible the results, and the lower the need for repeat analyses. Due to their exceptional quality and purity, our analytical reagents provide you with greater accuracy and efficiency from the start.

### Soar with our high standards

Our product quality not only complies with international regulations, but also fulfills the Merck KGaA, Darmstadt, Germany rigorous pharmaceutical guidelines – which are even more stringent for most products. Due to our unique, superior quality standards and additional parameters, our reagents offer maximum purity and security.

**Regulations**

| | |
|---|---|
| **EMSURE®** | ACS (Reag. USP)<br>ISO<br>Reag. Ph Eur |

▶ **For more information see page 22**

| | |
|---|---|
| **EMPARTA®** | ACS (Reag. USP) |

▶ **For more information see page 32**

**Specification**

Reag. Ph Eur = Reagents section of the European Pharmacopoeia
ACS = American Chemical Society
ISO = International Organization for Standardization (refers to ISO regulation 6353)
USP = United States Pharmacopoeia (refers to ACS for reagents)

# specifications and purity

## Reliable quality for trusted results

Our reagents and chemicals are renowned for their outstanding quality and purity. We achieve and maintain this reputation through three important measures: validation, accreditation, and compliance with regulations. Every step in our supply chain is subject to the most stringent controls and fully documented to give you complete confidence in your analysis.

### Purity

Decades of experience with highly pure chemicals, combined with cutting-edge production and filling plants, ensure that what you order is what you receive. We only use high-quality raw materials and manufacture under strictly controlled conditions using our advanced methodology. This results in outstanding chemical purity and extremely low limiting values, which makes our products the ideal choice for reliable qualitative and quantitative analyses.

### Quality control

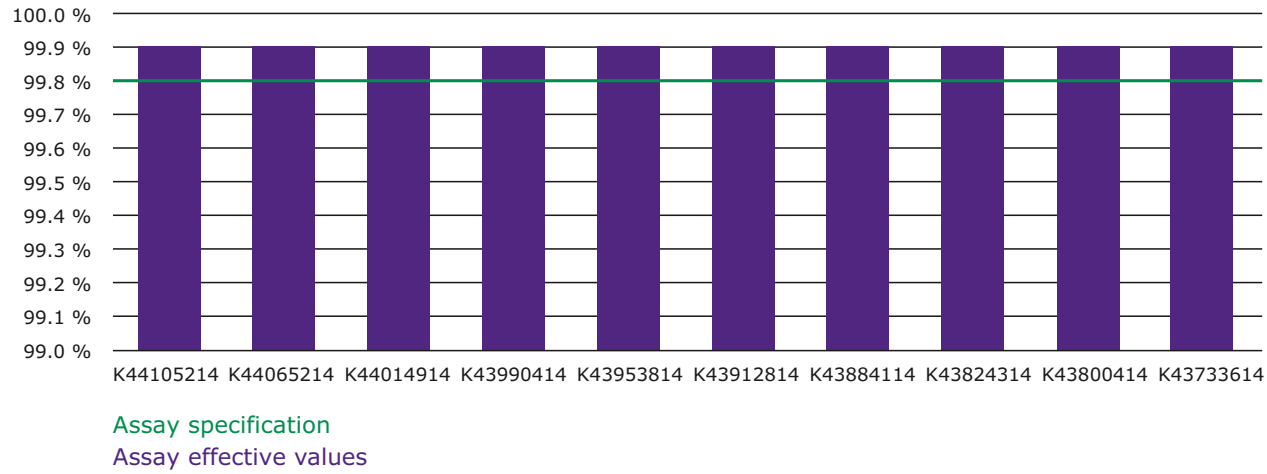
All our Inorganics and Solvents are tested and certified in our own state-of-the-art laboratories under the guidance of highly qualified specialists. We have quality control labs at every production site, which work closely together to ensure comparable test procedures and results. During testing, we always adhere to international standards and legal requirements, and integrate the latest developments in technology and methods. So you can trust on our analytical competence. EMPARTA® and EMPLURA® grade products are tested at one of our own labs close to its production site. EMSURE® grade products are quality controlled at our Merck KGaA, Darmstadt, Germany site.

### Consistency

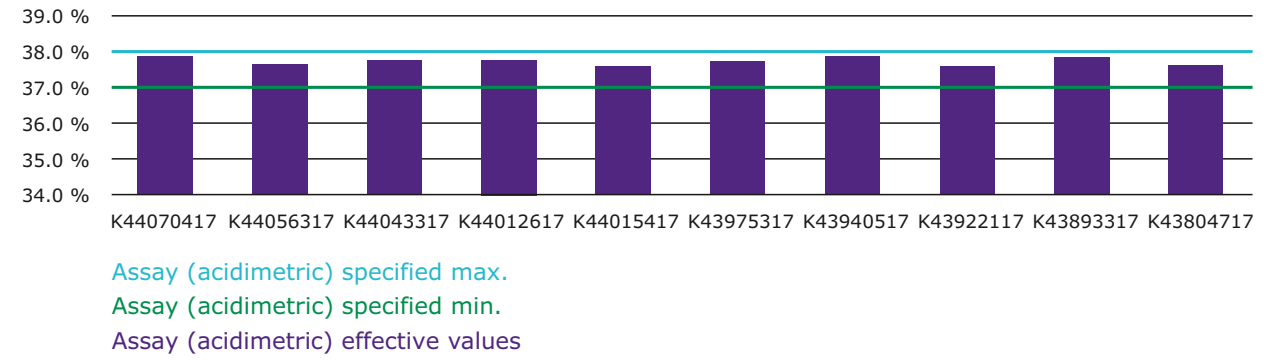
Due to their outstanding batch-to-batch consistency, each time you use our products, you can expect the same excellent quality. This not only ensures reproducible results, but also avoids the costs and complications of repeat analyses. The graphs on the right demonstrate the superior batch-to-batch consistency of some of our products.

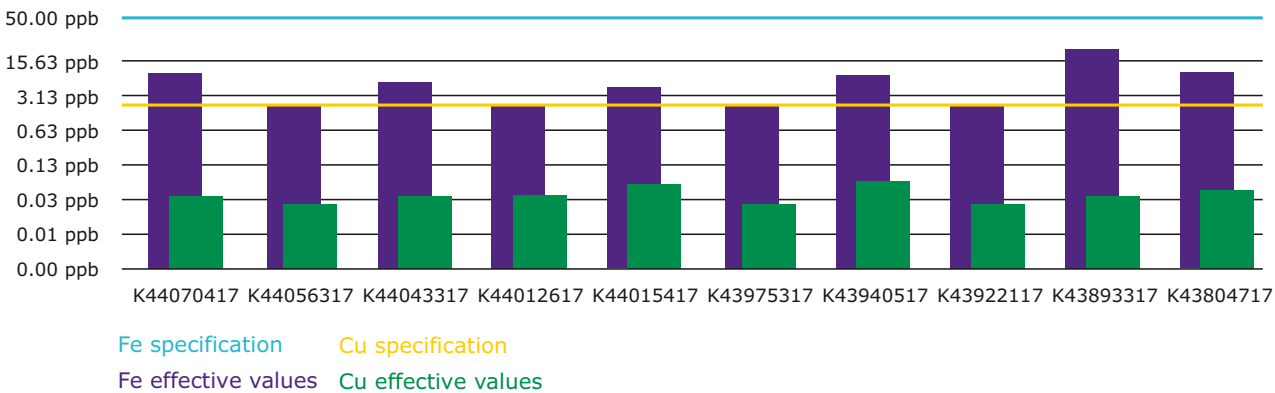
Every step in our supply chain is subject to the most stringent controls and fully documented to give you **complete confidence** in your analysis.

## Acetone for analysis EMSURE® ACS, ISO, Reag. Ph Eur




## Hydrochloric acid fuming 37% for analysis EMSURE® ACS, ISO, Reag. Ph Eur



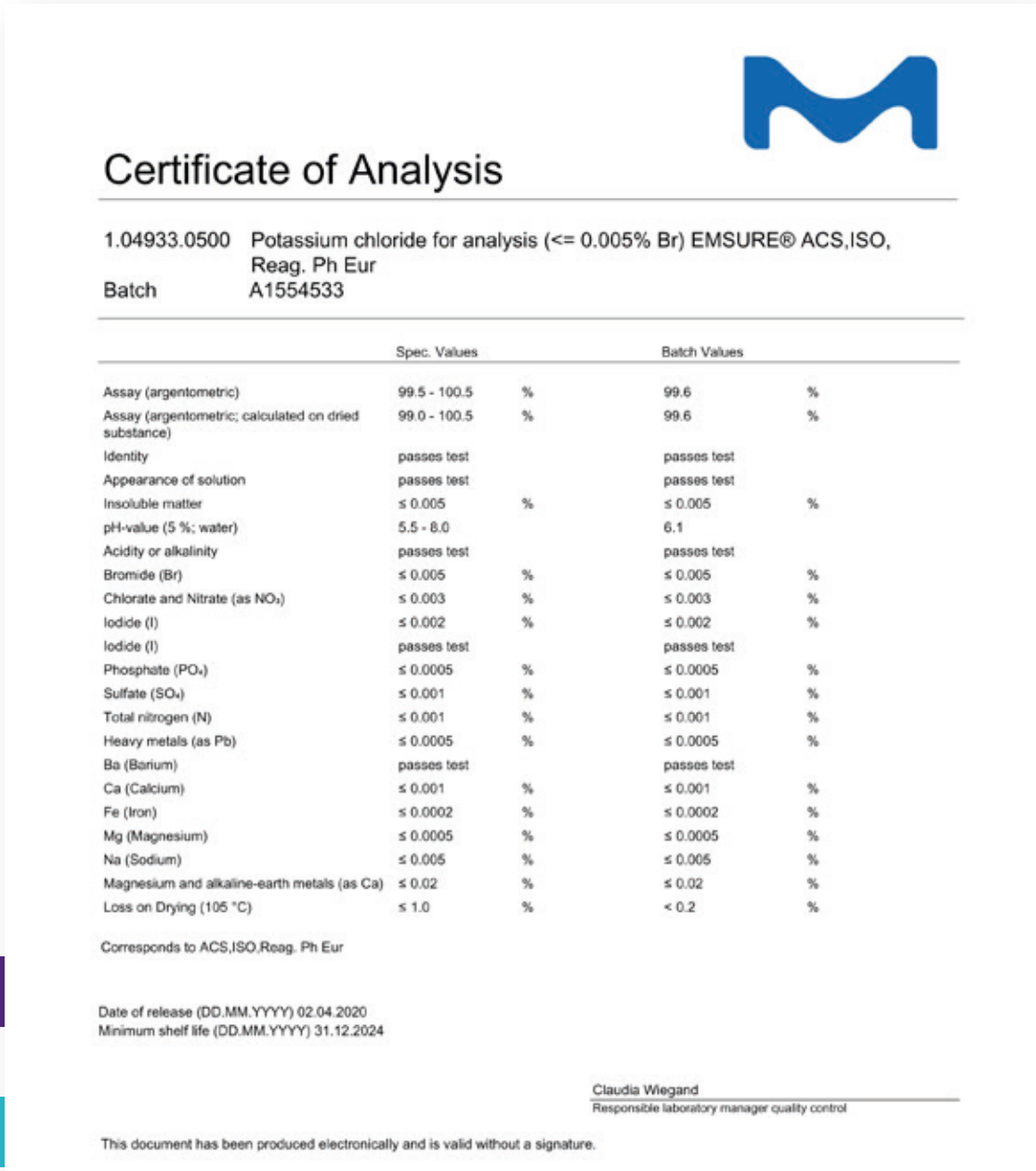
# Our promise of exceptional quality

### Unrivalled specifications
Our reagents and solvents often offer additional specifications beyond those required by international guidelines, such as ISO, ACS and Reag. Ph Eur. Many are measured for up to 70 parameters! Furthermore, thanks to our proven Quality Management System, we are able to continuously improve our specifications.

### Application-optimized
The differences in our quality grades are clearly shown in their individual specifications. Regardless of the grade you choose, you will always receive a product of excellent quality that's perfectly suited to your application.

### Dedicated service
For us, quality encompasses more than product purity and consistency. It also means service that exceeds expectations. Whether you require regulatory support, application advice, or a specific product, our experienced team is always at hand to work closely with you and deliver swift, innovative solutions.

| | Regulatory support | Purity | Number of specified parameters |
|---|---|---|---|
| **EMSURE®** | The most extensive specifications worldwide! | 99.7–99.9% | < 70 |
| **EMPARTA®** | All ACS requirements | 99.0–99.5% | < 10 |
| **EMPLURA®** | All basic parameters | ~ 99% | 4–5 |



# Certificate of Analysis

1.04933.0500 Potassium chloride for analysis (<= 0.005% Br) EMSURE® ACS,ISO, Reag. Ph Eur
Batch A1554533

| | Spec. Values | | Batch Values | |
|---|---|---|---|---|
| Assay (argentometric) | 99.5 - 100.5 | % | 99.6 | % |
| Assay (argentometric; calculated on dried substance) | 99.0 - 100.5 | % | 99.6 | % |
| Identity | passes test | | passes test | |
| Appearance of solution | passes test | | passes test | |
| Insoluble matter | ≤ 0.005 | % | ≤ 0.005 | % |
| pH-value (5 %; water) | 5.5 - 8.0 | | 6.1 | |
| Acidity or alkalinity | passes test | | passes test | |
| Bromide (Br) | ≤ 0.005 | % | ≤ 0.005 | % |
| Chlorate and Nitrate (as $NO_3$) | ≤ 0.003 | % | ≤ 0.003 | % |
| Iodide (I) | ≤ 0.002 | % | ≤ 0.002 | % |
| Iodide (I) | passes test | | passes test | |
| Phosphate ($PO_4$) | ≤ 0.0005 | % | ≤ 0.0005 | % |
| Sulfate ($SO_4$) | ≤ 0.001 | % | ≤ 0.001 | % |
| Total nitrogen (N) | ≤ 0.001 | % | ≤ 0.001 | % |
| Heavy metals (as Pb) | ≤ 0.0005 | % | ≤ 0.0005 | % |
| Ba (Barium) | passes test | | passes test | |
| Ca (Calcium) | ≤ 0.001 | % | ≤ 0.001 | % |
| Fe (Iron) | ≤ 0.0002 | % | ≤ 0.0002 | % |
| Mg (Magnesium) | ≤ 0.0005 | % | ≤ 0.0005 | % |
| Na (Sodium) | ≤ 0.005 | % | ≤ 0.005 | % |
| Magnesium and alkaline-earth metals (as Ca) | ≤ 0.02 | % | ≤ 0.02 | % |
| Loss on Drying (105 °C) | ≤ 1.0 | % | < 0.2 | % |

Corresponds to ACS,ISO,Reag. Ph Eur

Date of release (DD.MM.YYYY) 02.04.2020
Minimum shelf life (DD.MM.YYYY) 31.12.2024

Claudia Wiegand
Responsible laboratory manager quality control

This document has been produced electronically and is valid without a signature.

**EMSURE® products combine maximum specifications with minimum impurities.** Their Certificates of Analysis provide an extended impurity profile for each batch, and detailed batch values for each specification parameter. This avoids misinterpretation of results, and gives you greater control of your analysis, especially when developing new methods.

# safety and packaging

## Protecting people, products and the planet

Besides offering premium chemicals and reagents, we have invested decades into developing the most advanced packaging concepts in the field of chemistry. Our innovative packaging and withdrawal systems are precisely tailored to the contents, and based on sustainable principles to not only protect your personnel and products, but also the environment.


### Ergonomic, unbreakable HDPE bottles for reagents

- Safe and unbreakable
- High pressure stability
- Eco-friendly
- Cost-efficient
- 2.5 L HDPE bottle with convenient integrated handle
- NEW 1 L HDPE bottle with improved design and ergonomic recessed grip

### Robust, PE-coated Safebreak bottles for acids

- Safe handling of acids
- Long shelf-life as with conventional glass bottles
- Easy, eco-friendly disposal (with glass)

### Environmentally friendly, returnable stainless steel drums for solvents

- Safe, easy and convenient handling of solvents
- Ecological, returnable container
- Cost effective solution
- Suitable withdrawal systems available

### Development and testing

Our internal packaging department is exclusively responsible for testing, developing and approving packaging materials. Our package testing facility is accredited by the German Federal Institute for Materials Research and Testing (BAM – Bundesanstalt für Materialforschung und -prüfung), the authority responsible for the packaging of dangerous goods.

### Grades and options

All our products are delivered in sophisticated and suitable packaging. The choice of packaging, however, varies from grade to grade. EMSURE® products are available in a large variety of packaging sizes and materials to suit your particular application and requirements. EMPARTA® and EMPLURA® products are offered in standard pack sizes, for example, 1 kg or 25 kg for solids, and 2.5 L, 4 L, or 25 L for liquids.

## Packaging advantages

- Packaging is always compatible with the product
- Safe and convenient handling, storage and transportation
- Optimal protection of chemicals and reagents from contamination
- Application-oriented packaging
- Wide choice of packaging materials and sizes

▶ **For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

### Well-protected

Our packaging protects products against damage and tampering. Our bottles with S40, S60, S85 thread have an improved tamper evident seal with a ring remaining on the bottle neck.

# smart label

## Easier, faster, better data handling

Enjoy the simplest, quickest way to access data with our smart label which is equipped with a 2D data matrix barcode. It contains all the essential product information you require, such as item code, batch number, shelf life, country of origin and links to documentation like CoA, and SDS – all in digitalized form.

No need to manually search for and enter data into your system. No more typos, repetitions, or lost time. The 2D barcode is programed using Global Standard One (GS1) specifications, so it can be processed directly in your LIMS or ERP system. For even greater convenience, use one of our innovative, intuitive web and mobile apps.

The smart label with a real 2D barcode. It’s precision made simple – for analytical chemists by analytical chemists.


### Features and benefits

- Easy, quick and convenient
- Digitalized, up-to-date product data
- Minimized errors, greater security
- Seamless access to safety data
- 2 mobile apps for smartphones and tablets
- Scan Now web app for use with barcode scanner
- Direct processing in LIMS or ERP system

# 3 smart ways to easy data access

**1. My M Safety mobile app for safety data and tags**
Use your smartphone and our My M Safety app to access product safety data and print safety tags – all in accordance with your local regulations, and in your local language. Discover safety data as easy and convenient as never before. The app is available for iOS and Android systems.

**2. Scan Now web or mobile app for product info and documents**
Access documents, like CoA, MSDS and product related literature, with our Scan Now web app. Simply connect a standard barcode scanner to your PC or laptop, visit **SigmaAldrich.com/ScanNow** and scan the 2D barcode.

For even easier data handling without a barcode scanner, use our Scan Now mobile app and your smartphone camera. The app is available for iOS and Android systems.

**3. LIMS or ERP system for direct scanning of 2D barcode**
Thanks to the universal GS1 data encoding of our 2D barcode, you can insert all product data straight into your application via your LIMS or ERP system.

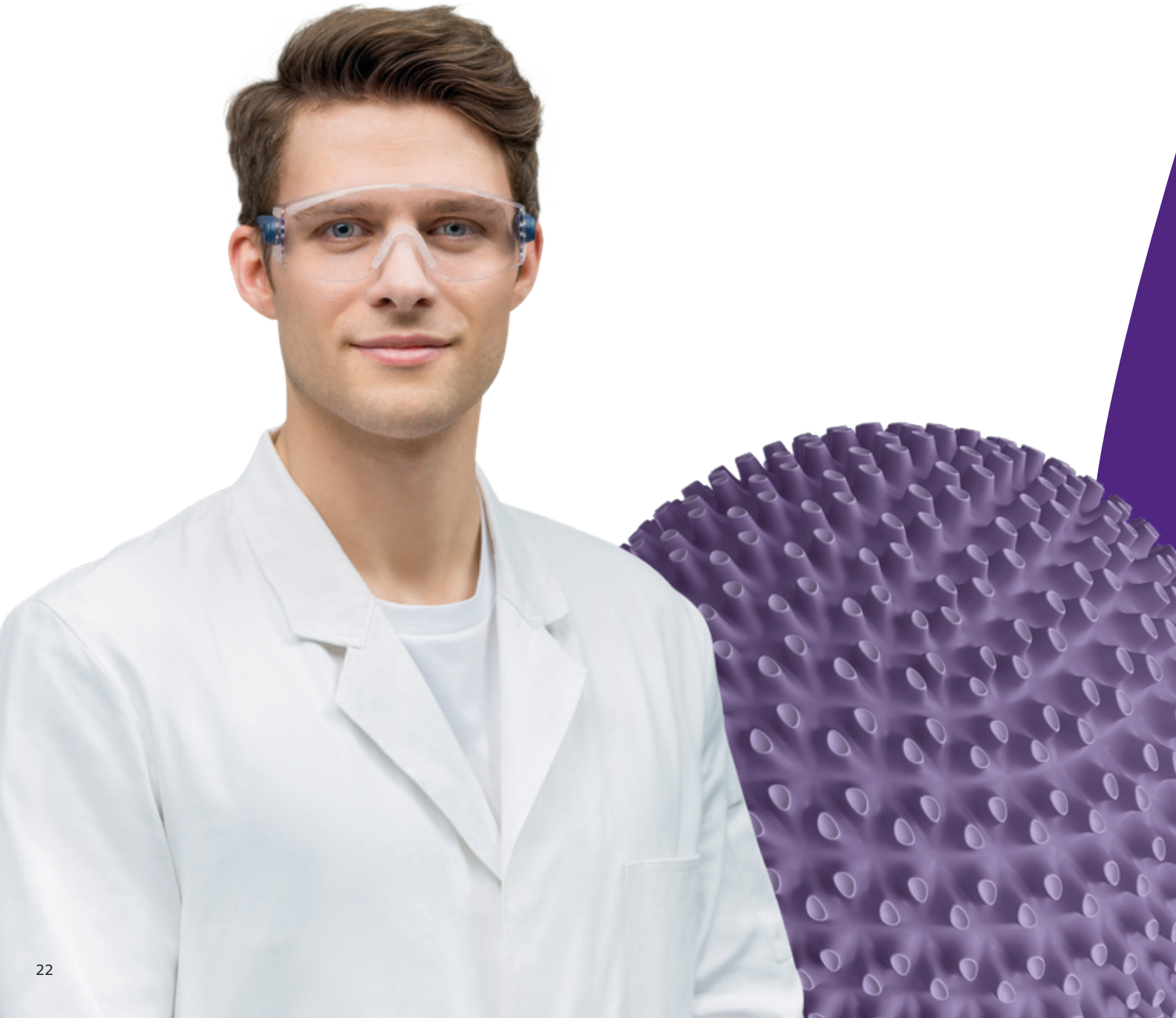
**Learn more about our smart labels:**
**SigmaAldrich.com/smartup**


Scan with
**"My M Safety"** or
**"ScanNow" app**
Available on
Apple App Store &
Google Play

# EMSURE®
## Premium Grade Products

### Inorganics and Solvents – for advanced or regulated analytical applications

The EMSURE® brand designates our premium grade Inorganics and Solvents, which are optimized for regulated analyses and advanced lab applications. These products offer the highest quality and an unmatched scope of specifications to give you complete control of test conditions and eliminate uncertainties. What's more, EMSURE® Inorganics and Solvents are fully compliant with international regulations, and are suitable for an extraordinarily wide range of applications. So when you want to be more than sure: choose EMSURE® products.



**Highest convenience and safety**

▶ Page 26

**Obtain more accurate and reliable results**

▶ Page 24

**Fulfill regulatory requirements**

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**Know your impurity profile**

▶ Page 22

**Worldwide availability**

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**Enhanced documentation and support**

▶ Page 28

# EMSURE®

## Premium Grade Products

# EMSURE®
## Premium Grade Inorganics and Solvents

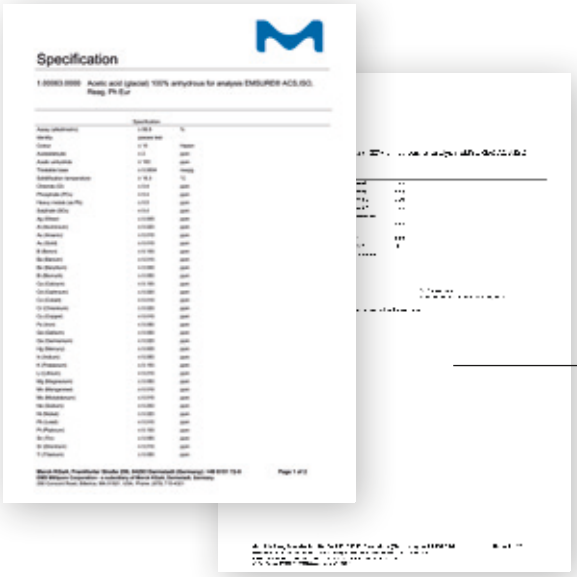
**Extended impurity profile – superior purity and clarity**
New analytical methods have lower detection limits and higher sensitivity. Hence, reagents of greater purity are required. EMSURE® products are the perfect choice. They not only offer superior quality, but also more extensive product information to prepare you for any analytical challenge.

All EMSURE® products are made from high-quality raw materials in our state-of-the-art production facilities, then tested for up to 70 parameters at our stringent quality control labs in Darmstadt, Germany. This results in outstanding chemical purity and extremely low limiting values. Every EMSURE® product comes with a comprehensive Certificate of Analysis, which includes an extended impurity profile for each batch. This gives you absolute analytical security, and prevents misinterpretation of results caused by impurities.

**Your benefits**

- Most extensive specifications worldwide
  - Tested for up to 70 parameters
  - Extraordinary purity
  - Very low limiting values
- Greater accuracy and control of analyses
- Optimized for highly critical and demanding analyses
- Ideal for method development
- No interference or contamination due to unknown impurities

**Acetic acid (glacial) 100% anhydrous for analysis EMSURE®** Premium Grade Inorganics and Solvents, ACS, ISO, Reag. Ph Eur




# Acetic acid (glacial)

100% anhydrous for analysis EMSURE®

| | |
|---|---|
| Water | ≤ 0.2% |
| Zr (Zirconium) | ≤ 0.050 ppm |
| Zn (Zinc) | ≤ 0.030 ppm |
| V (Vanadium) | ≤ 0.010 ppm |
| Tl (Thallium) | ≤ 0.020 ppm |
| Ti (Titanium) | ≤ 0.050 ppm |
| Sr (Strontium) | ≤ 0.010 ppm |
| Sn (Tin) | ≤ 0.050 ppm |
| Pt (Platinum) | ≤ 0.100 ppm |
| Phosphate ($PO_4$) | ≤ 0.4 ppm |
| Ni (Nickel) | ≤ 0.020 ppm |
| Na (Sodium) | ≤ 0.200 ppm |
| Mo (Molybdenum) | ≤ 0.010 ppm |
| Mn (Manganese) | ≤ 0.010 ppm |
| Mg (Magnesium) | ≤ 0.050 ppm |
| Li (Lithium) | ≤ 0.010 ppm |
| K (Potassium) | ≤ 0.100 ppm |
| In (Indium) | ≤ 0.050 ppm |
| Hg (Mercury) | ≤ 0.005 ppm |
| Ge (Germanium) | ≤ 0.020 ppm |
| Ga (Gallium) | ≤ 0.050 ppm |
| Cr (Chromium) | ≤ 0.020 ppm |
| Co (Cobalt) | ≤ 0.010 ppm |
| Cd (Cadmium) | ≤ 0.020 ppm |
| Ca (Calcium) | ≤ 0.100 ppm |
| Bi (Bismuth) | ≤ 0.050 ppm |
| Be (Beryllium) | ≤ 0.005 ppm |
| Ba (Barium) | ≤ 0.010 ppm |
| B (Boron) | ≤ 0.100 ppm |
| Au (Gold) | ≤ 0.010 ppm |
| As (Arsenic) | ≤ 0.010 ppm |
| Al (Aluminium) | ≤ 0.020 ppm |
| Ag (Silver) | ≤ 0.005 ppm |
| Acetaldehyde | ≤ 2 ppm |

Additional parameters for EMSURE® products

| | |
|---|---|
| Pb (Lead) | ≤ 0.010 ppm |
| Cu (Copper) | ≤ 0.010 ppm |

Additional parameters for ISO 6353

| | |
|---|---|
| Solidification temp. | ≥ 16.3 °C |
| Identity | passes test |

Additional parameters for Reag. Ph Eur

ACS

| | |
|---|---|
| Titratable base | ≤ 0.0004 meq/g |
| Substances reducing $KMnO_4$ | ≤ 20 ppm |
| Substances reducing $K_2Cr_2O_7$ | passes test |
| Fe (Iron) | ≤ 0.050 ppm |
| Heavy metals (as Pb) | ≤ 0.5 ppm |
| Sulphate ($SO_4$) | ≤ 0.4 ppm |
| Chloride (Cl) | ≤ 0.4 ppm |
| Acetic anhydride | ≤ 100 ppm |
| Evaporation residue | ≤ 5 ppm |
| Dilution test | passes test |
| Color | ≤ 10 Hazen |
| Assay (alkalimetric) | ≥ 99.8 % |

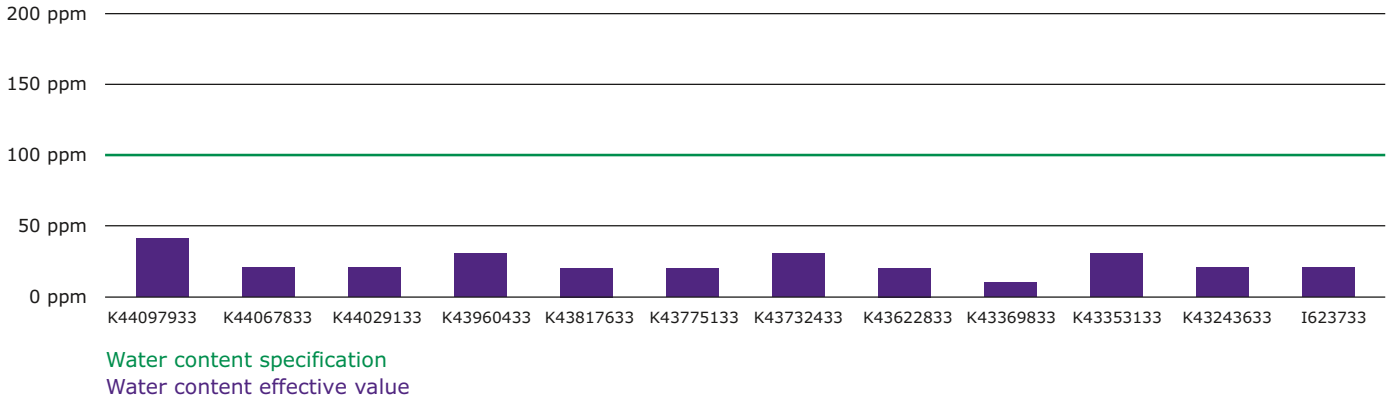
# EMSURE®
## Premium Grade Inorganics and Solvents

**Accuracy and reliability – absolute trust – every time**
Thanks to their outstanding batch-to-batch consistency, each time you use EMSURE® products, you can expect the same excellent quality. This not only ensures reproducible results, but also reduces your analytical costs. Now, you can avoid repeat analyses, and won't need to stock up on specific product batches.

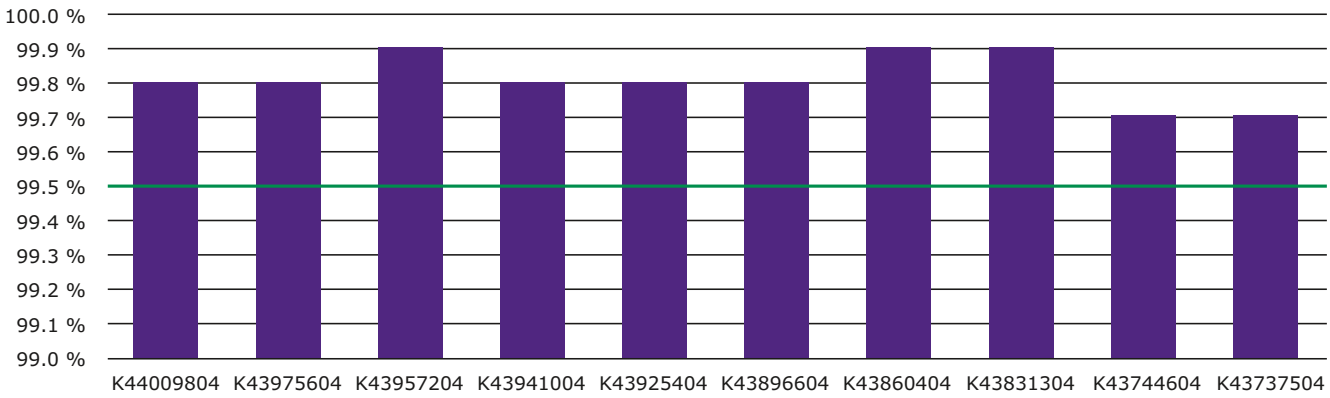
- Unmatched batch-to-batch consistency
- Reliable and reproducible results
- Lower analytical costs
- No repeat analyses

**Lab technician Tom scans the 2D barcode with his mobile phone using the ScanNow app**

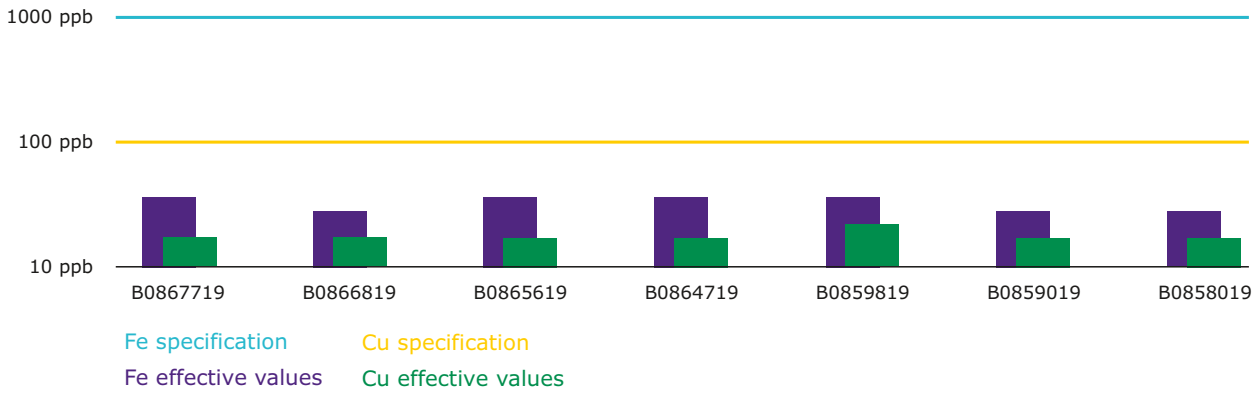
## Chloroform for analysis EMSURE® ACS, ISO, Reag. Ph Eur




## Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur




## Perchloric acid 70–72% for analysis EMSURE® ACS, ISO, Reag. Ph Eur



# EMSURE®
## Premium Grade Inorganics and Solvents

### Convenience and safety – packed with innovation

Most EMSURE® products offer top quality both inside and out. Through continuous innovation, we have developed various packaging and withdrawal systems, which are precisely tailored to the contents. Our solutions offer secure and convenient usage for lab personnel, while being safer for the planet.

- Packaging is always compatible with the product
- Safe and convenient handling, storage and transportation
- Optimal protection of chemicals and reagents from contamination
- Application-oriented packaging
- Wide choice of packaging materials and sizes


**Safebreak bottle for EMSURE® acids and unbreakable HDPE bottles for acids, solvents and bases.**

## Regulatory compliance – specified beyond standards

Most EMSURE® product specifications not only fulfill ACS, Reag. Ph Eur and ISO guidelines – but surpass them. That's because we are regularly adding new parameters required by our customers. As a result, EMSURE® products can be used around the world for almost all applications, including pharmacopoeia analysis. Due to their extensive specifications, EMSURE® products are also suitable for use with the latest technologies, such as detecting concentrations of metals via atomic absorption spectroscopy (AAS).

- Compliance with ACS, ISO and / or Reag. Ph Eur
  (Please see "Compliance and Documentation")
- Most products' specifications exceed international standards
- Suitable for pharmacopoeia analysis
- Can be used internationally

## Global availability – one excellent quality – worldwide

Whenever or wherever you require EMSURE® Inorganics and Solvents, we serve you the same excellent quality all around the world. This, combined with multi-standard compliance, means that our multinational customers can work with the same standard operating procedures (SOPs), and export to countries with different regulations.

- Identical quality worldwide
- Comparable results
- Work with one global SOP
- Suitable for global export

# EMSURE®
## Premium Grade Inorganics and Solvents

### EMSURE® Documents & Support

Advanced applications often require enhanced support regarding supplier quality. For EMSURE® products, we offer comprehensive documents that go far beyond CoA or MSDS, and include important change agreements for critical product modifications.

### Your advantages:

- Streamlined lab work
- Time and cost savings
- Superior comparability of results
- Certainty during product use
- Accuracy regarding impurities
- Confidence in analysis and production
- Transparency & security in demanding processes

## The M-Clarity™ Program

The M-Clarity™ Program includes the majority of our Life Science products classified into 6 MQ levels (MQ100 to MQ600).

- Each level provides specific documentation and services.
- The levels have increasing attributes to meet your application and regulatory requirements.
- Transparency allows you to select the right product for your needs regarding change control notifications and documentation support.

All EMSURE® products are part of the M-Clarity™ program and are classified to a minimum level of MQ300, while EMPARTA® and EMPLURA® are at level MQ200. This means you enjoy even greater support and transparency with EMSURE® products.

## MQ300 – Enhanced Control

EMSURE® products at the MQ300 level offer:

### 1. Documentation support

- Specification/Certificate of analysis
- MSDS
- ISO certificate
- Site self-assessment
- Country of origin statement
- BSE/TSE or AO certificate
- Test methods*

*** Optional purchase**

### 2. Enhanced change control notification support

- Discontinuation of product
- Change of product specification (excluding compendial changes)
- MQ level downgrade
- Change of general shelf life
- Change in test method (non-compendial)
- Change of primary packaging material

**Please contact your customer service for further details.**

# EMPARTA®
## Standard Grade Products

### Inorganics and Solvents – for routine analytical applications

With EMPARTA® products, we offer a range of high-quality, cost-efficient Inorganics and Solvents for routine analytical applications. These standard-grade products offer fewer test parameters than EMSURE® products. Still, EMPARTA® product specifications are fully compliant with ACS requirements and cover all important parameters, thus ensuring reliable and reproducible results.

**Standard quality for routine applications**

▶ Page 35

**Compliant with ACS**

▶ Page 34

**Convenient lab-sized packaging**

▶ Page 35

**Reliable results**

▶ Page 35

**Efficient and cost-effective solution**

▶ Page 35

# EMPARTA®
## Standard Grade Products

# EMPARTA®
## Standard Grade Inorganics and Solvents

### Compliant with ACS
The quality of EMPARTA® Inorganics and Solvents is tested according to the specifications of the monographs published in the “Reagent Chemicals” guidelines of the American Chemical Society (ACS). We follow the most recent online version as the version of record, and regularly check for updates. Our in-depth approach to ACS specifications includes comparison with our own stringent quality control standards.

### Reagents for analysis according to USP
The “Reagents” chapter of the U.S. Pharmacopeia and National Formulary defines the quality of reagents required for testing according to USP-NF. In most cases, the USP recommends to “use ACS reagent grade”, which is described as a grade meeting the corresponding specifications of the current edition of “Reagent Chemicals” published by the ACS. Since EMPARTA® products are fully compliant with ACS guidelines, they are ideal for quality control according to USP-NF.

## Standard quality for routine lab applications

EMPARTA® products offer just the parameters you really need – including all those required by the ACS. Hence, they are the perfect choice for reliable quality control and routine analytical applications in less regulated industries.

## Reliable results

EMPARTA® Inorganics and Solvents feature a high analytical purity of 99.0–99.5%. Thanks to our sophisticated production chain, particulate impurities and cross-contamination from other products are completely ruled out.

## Efficient and cost-effective solution

From raw materials to specifications, packaging and documentation, every aspect of EMPARTA® products is designed to make your analytical lab applications as cost-effective as possible – without sacrificing quality.

## Convenient lab-sized packaging

EMPARTA® Inorganics and Solvents typically come in HDPE or amber glass bottles, which are the perfect size for working in the lab. Our tailor-made packaging offers multiple safety features.

▶ **Learn about them in the chapter "Packaging and Safe Handling" (page 42).**

# EMPLURA®
## Basic Grade Products

### Inorganics and Solvents for preparative lab work, cleaning and production

For many basic applications, you don’t need chemicals of the highest purity – you need a cost-effective solution with reliable quality that is available in large quantities. The EMPLURA® product range is ideal for basic lab work and production applications. These economical Solvents and Inorganics offer adequate specifications with the most common parameters, and are available in small pack sizes as well as in bulk quantities.

**Economical solution**

▶ Page 38

**Adequate specifications with most common parameters**

▶ Page 38

**Suitable for numerous basic applications**

▶ Page 38

**Completely flexible pack sizes**

▶ Page 38

**Greener chemical alternatives**

▶ Page 39

# EMPLURA®

## Basic Grade Products

# EMPLURA®
## Basic Grade Inorganics and Solvents

### Suitable for numerous basic applications
The EMPLURA® product range includes a broad selection of the most important Inorganics and Solvents. Easily find the most suitable solutions for numerous basic applications, such as preparative lab work, cleaning or standard production processes.

### Economical solution
Why pay for high purity when your application only requires basic quality? EMPLURA® Inorganics and Solvents are your economical answer for reliable results at a reasonable price.

### Completely flexible pack sizes
Our standard packaging options vary from 1 L glass bottles to 190 L drums. However, we can offer even larger quantities, such as intermediate bulk containers (IBCs) or tank containers, on request.

### Adequate specifications
EMPLURA® products are mainly tested for preparative lab applications and standard production processes. Hence, we only monitor the basic parameters that are important in these applications, such as purity, identity, density, evaporation residue and water content. In most cases, the purity exceeds 98%.

## Sustainable and safer solvent alternatives

The products we create help our customers improve people's lives every day, but we recognize that every product we make also has an environmental impact. That's why we are committed to continually enhancing the sustainability performance of our products and adopting environmentally friendly chemical processes.

Our advances include bio-based solvents that avoid the use of non-renewable resources, as well as safer substitutes for commonly used solvents that pose health or environmental concerns.

# EMPLURA®
## Basic Grade Inorganics and Solvents

## Bio-Based Solvents

One of the sustainable initiatives we actively pursue is the change from solvents based on synthetic chemicals to those from renewable raw materials. Whenever possible, we favor chemical products which preserve functional efficacy while reducing toxicity and environmental impact. Since their supply risk is independent of petrochemical production, bio-based solvents are also reliably available. Furthermore, production processes are safer for the environment than with fossil-based solvents.

### Bio-Based Ethanol*

Instead of synthetic ethanol, we use bioethanol produced from grain or sugar cane. High quality, affordability, and ready availability make our bioethanol an obvious choice for a sustainable future.

**Benefits**

- Produced from grain or sugar cane, a renewable source
- Less toxic than synthetic ethanol (no toxic by-products)
- Reliable availability
- Production method is safer for the Environment

### Ethyl(-)-L-Lactate

Ethyl lactate is a safer and more sustainable alternative to ethyl acetate and acetone.
It is an ester of natural L-lactic acid, which is produced by fermentation of sugar.

**Benefits**

- Increased user safety due to less toxicity (non-carcinogenic)
- No waste due to 100% biodegradability
- Non-corrosive in contact with metals

### 2-Methyltetrahydrofuran (Methyl THF)

2-Methyltetrahydrofuran is a safer and more sustainable alternative to dichloromethane and tetrahydrofuran. It is derived from renewable resources, such as corncobs and sugarcane bagasse.

**Benefits**

- Less solvent consumption due to more efficient extraction and higher reaction yields
- Lower volatility and higher flash point increase user safety
- Limited miscibility in water reduces waste stream
- Reliable availability (independent of petrochemical production)

*** available in EMSURE®, EMPARTA® & EMPLURA® grade**

# Synthetic-Based Sustainable and Safer Alternatives

### 1-Butylpyrrolidin-2-One

1-Butylpyrrolidin-2-one is a safer alternative to N-Methyl-2-pyrrolidone (NMP), N,N-Dimethyl-acetamide (DMA), Dimethyl sulfoxide (DMSO) and N,N-Dimethylformamide (DMF), which face increasing regulatory pressure. As opposed to NMP, DMF and DMA, 1-Butylpyrrolidin-2-one is not classified as developmentally reprotoxic.

#### Benefits

- Excellent solvency power and water miscibility
- High boiling point
- High chemical and thermal stability
- Not classified as a developmental or geno-toxin
- Inherently bio-degradable
- Lower volatility compared to NMP
- Reliable alternative for REACH-restricted DMA, DMF, NMP

### Cyclopentyl Methyl Ether (CPME)

Cyclopentyl methyl ether is a safer substitute for tetrahydrofuran, tert-butyl methyl ether, 1,4 dioxane and other ether solvents. It is produced by a 100% atomic catalytic reaction without any formation of by-products.

#### Benefits

- Resistance to peroxide formation improves laboratory safety
- One-step reaction saves energy and reduces wastewater
- More stable than tetrahydrofuran
- Higher hydrophobicity increases yields and selectivity
- Limited miscibility in water reduces waste stream

# packaging and safe Handling

## Perfected to protect

▸ For more information about **PE canisters & Fassetts®** see page 61

▸ For more information about **HDPE bottles for solids** see page 58


For us, packaging is not just an empty vessel for products. It is a fundamental aspect of safety, sustainability and reliability. Hence, we pay as much attention to the quality of our outer materials as to their inner contents. This commitment has led to an exceptional range of packaging options that ensure safe transport, storage and handling, while minimizing environmental impact.

▸ For more information about **stainless steel drums** see page 63

▸ For more information about **PE buckets and square boxes** see page 59 & 60

▸ For more information about **steel drums and combi drums** see page 62

▸ For more information about **amber glass bottles** see page 52


▸ For more information about **HDPE bottles for liquids** see page 53

▸ For more information about **Safebreak bottles** see page 56

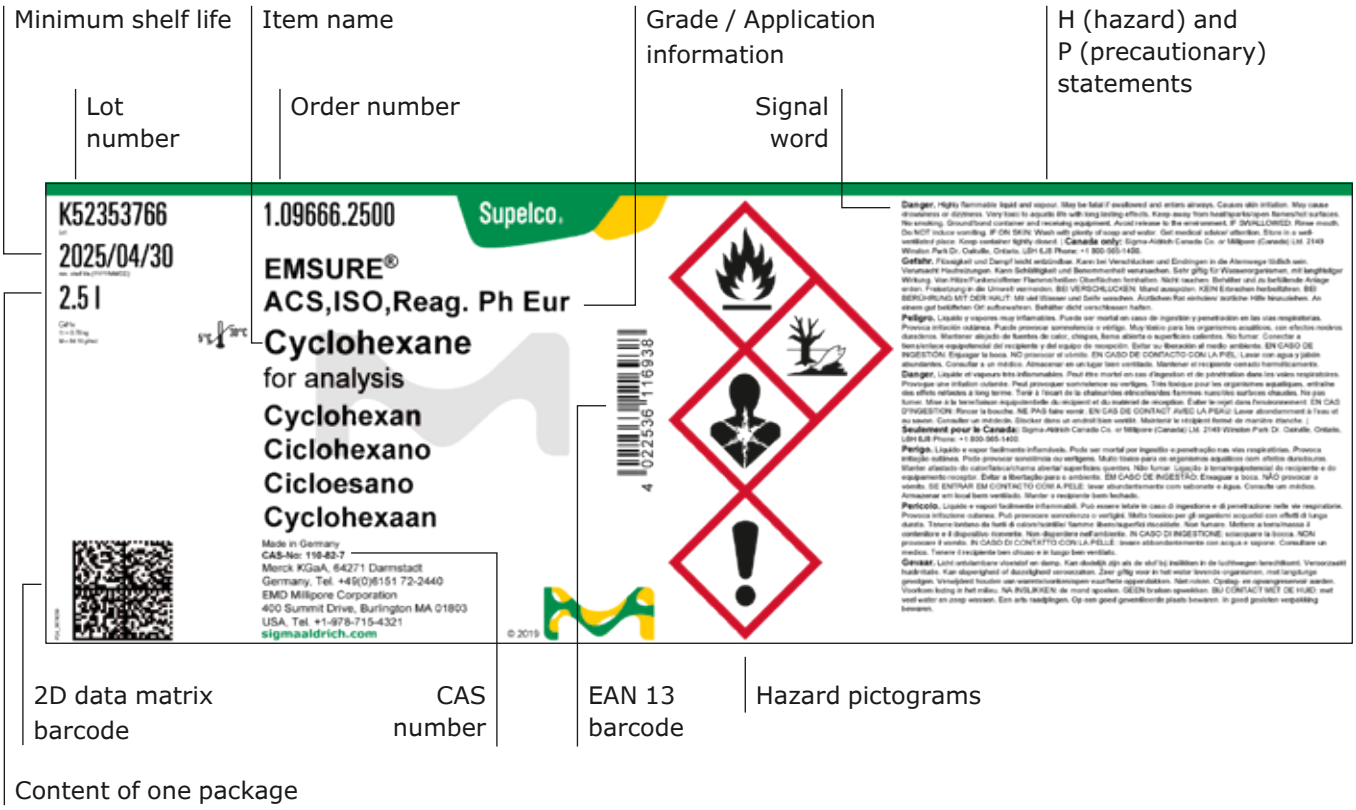
# Every detail – optimized and tested

All our packing materials are tailored to their contents and meticulously tested for quality and permeability to preserve the purity of our products. Not only the container, but also the closure, transportation box and withdrawal systems (for solvents, acids and bases) are optimized as a complete packaging concept. Thanks to our high standards, our package testing facility is accredited by the German Institute for Materials Research and Testing (Bundesanstalt für Materialforschung und -prüfung), the authority responsible for the packaging of dangerous goods.


**Your advantages**

- Application-oriented packaging materials and volumes
- Convenient, safe and contamination-free handling
- Maximum safety through an extensive portfolio of accessories
- Ecological and economical use of returnable containers where suitable
- Individual user installation or other customized solutions possible

# Product label




## Labeling of Hazardous Chemicals

The Merck label for chemical products includes the hazard communication elements according to CLP. Standardized signal words, hazard pictograms and hazard and precautionary statements are a fundamental step towards a worldwide harmonized high safety level. In the European Union the Globally Harmonized System (GHS) has been adopted by the Regulation on classification, labelling and packaging of substances and mixtures (CLP).

Hazard pictograms including the signal word provide a first visual impression for estimating potential risks. H statements describe the type and severity of the hazards posed by a substance or mixture. P statements recommend measures to be taken in order to reduce or avoid negative effects caused by a hazardous substance or mixture.

## Labels that last

Our labels provide essential information for our customers. So their durability is a top priority. We use varnished paper labels that are resistant to most chemicals, or apply PE labels wherever necessary. All labels are resistant to abrasion, forgery proof, and adhered with glue that is specially developed for use in the chemicals sector.

# Packaging overview
## from bottles to tanks


500 mL


1 L


2.5 L


4 L

### Glass bottles for acids, bases and solvents

- Safe and convenient handling, storage and transportation
- Special shape of the opening allows optimum pouring
- Secure S40 screw cap with tamperproof seal
- Premium amber blank glass remains inert even to aggressive chemicals
- High pressure resistance
- Pulp packaging for safe transport of glass bottles

  Strong yet light in weight, our molded fiber trays ensure that chemical bottles are optimally protected during transportation and storage. All our pulp packaging is made from recyclable materials, so it also protects the environment.

1 L


2.5 L


5 L

### HDPE bottles for acids, bases and solvents

- Made from high-density polyethylene (HDPE)
- Convenient handling and dosage with ergonomic grip for 1 L and integrated handle for 2.5 and 5 L bottles
- Narrow base for efficient use of lab space
- Low tare weight facilitates handling and reduces transport costs
- Secure S40 screw cap with tamperproof seal
- High pressure resistance (particularly for 2.5 L bottle with special base geometry)


500 g

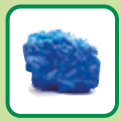

1 kg


2.5 kg


5 kg

## HDPE bottles for caustic alkalis and salts

- Made from high-density polyethylene (HDPE)
- Wide opening for easy withdrawal
- Square base allows efficient use of storage space in labs and during transportation
- Compatible with S38 to S85 closure systems



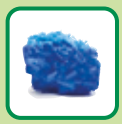

12 kg


25 kg / 50 kg


25 kg / 50 kg

## Large packaging for caustic alkalis and salts

- Special packaging for higher volume requirements
- PE inliner is produced in clean room conditions to protect contents
- Corrugated board boxes are glued in a water-resistant manner acc. to DIN 53133 to remain stable even under damp conditions
- Robust construction allows stacking
- PE bucket and boxes for moisture-sensitive and hygroscopic products



# Packaging overview
## from bottles to tanks


10 L


25 L


190 L

**Stainless steel drums for solvents**

- Optimum material characteristics avoid interactions with solvents
- Returnable drums reduce costs and environmental waste
- Compatible with a variety of withdrawal systems and level sensors
- Optimum emptying characteristics
- Stackable for efficient use of space


10 L


25 L


180 / 190 L

**Steel drums and combi drums for solvents and acids**

- Steel drums (10, 25 or 180 / 190 L) with option of PE inliner and special coating depending on contents

25 L

200 L


1,000 L

## Other drums and containers

- Special packaging for higher volume requirements
- PE drums (up to 200 L)
- PE canisters
- 1,000 L intermediate bulk containers (IBCs)
- Larger sizes (up to tank containers or tank trucks) also available

**Exemplary packaging. Offering depends on suitability with content.**

# Quantity Guide
## Safety comes in many sizes

Our extensive variety of packaging types and sizes is unrivaled in the industry. With volumes from 0.05 L to 20,000 L, and materials from glass and HDPE to metal and stainless steel, we can easily cater to your individual requirements. The guide below will help you select the size and material that best suits your application. Whichever you choose, extraordinary safety comes standard.

**Bottles**

**Metal drums**


**PE drums, canisters etc.**


| | | |
|---|---|---|
| **Pack sizes** | **0.5 L – 5 L** | **10 L – 200 L** |
| **Annual consumption** | **0.5 L – 100 L** | **> 100 L** |
| | Standard packaging | Standard packaging range one-way packaging<br><br>Stainless steel drums optional returnable packaging in Europe<br>• Advantage: no rinsing / cleaning / disposing<br>• Return unrinsed with original labels and tightly closed |

**Stainless steel drums**


**Intermediate bulk containers (IBC)**

**Tank trucks**

**> 200 L – 20,000 L**

**> 1,000 L**

- Customized products and containers
- Individual processes with rental agreements

# Amber glass bottles
## for acids, bases and solvents

Pack sizes: 0.5 L to 4 L

**Specially developed S40 thread**
withstands higher contact pressure and ensures tighter seals

**Specially formed, sharp thread lip**
for safe drip free pouring

**Specially treated high quality glass**
with extreme durability due to constant wall thickness for highest safety and product quality


**S40 screw cap**
Tamper proof closure will remain as ring on the bottle neck

**Long shelf life of contents**
due to bottle's impermeability to air and water vapor as well as protection against light

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**Broad and stable base**
for safe stand with low point of gravity

### Technical data

Material:
Amber glass, hydrolytic class 3

Available packaging size:
0.5 L, 1 L, 2.5 L and 4 L

Height, diameter and net weight (bottle size):
180 mm, ø 83 mm, ~ 450 g (0.5 L)
222 mm, ø 101 mm, ~ 600 g (1 L)
258 mm, ø 151 mm, ~ 1140 g (2.5 L)
350 mm, ø 162 mm, ~ 1525 g (4 L)

### Safety accessories

| | |
|---|---|
| Adapter with integrated level sensor for our bottles with S40 thread (supply) | 9.67100.2001 |
| Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal) | 9.67100.2002 |
| Bottle adapter (PTFE), S40 (bottle thread) to GL45 (outer thread) | 1.67206.0001 |
| Bottle opening key S40 / S28 | 1.08801.0001 |
| Display for level sensor | 9.67100.2004 |
| Label set for self-labeling lab-mixtures according to GHS, DIN EN ISO & GLP | 1.00801.0001 |
| Pouring aid for 1 L and 2.5 L glass bottles with S40 thread (for single-use) | 1.02547.0005 |
| Reducer (PE) from S40 to GL45 | 9.67206.0001 |
| Safety carrier for bottles up to 2.5 L | 9.20078.0001 |
| Safety carrier for 4 L bottles | 1.40140.0001 |
| Withdrawal system for solvents with manual pressure build-up in S40 bottles | 1.78178.0001 |

# HDPE bottles for liquids
## for acids, bases and solvents

Pack sizes: 0.25 L to 5 L

**Reduced packaging waste (no additional protection material necessary inside cardboard boxes)** to protect the environment and to benefit from economical advantages

**Specially developed S40 thread**
withstands higher contact pressure and ensures tighter seals

**Specially formed, sharp thread lip**
for safe drip free pouring

**New ergonomic design**

**Ergonomic grip**
Optimal handling and pouring

**UV protection**
for certain chemicals, bottles are colored to protect against UV light


1 L 2.5 L

**Low bottle weight**
Easy, safe and economical handling and transportation

**Ergonomic integrated handle**
Optimal handling and pouring

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**Special base geometry**
Ensures high pressure stability and prevents bulging

## Technical data

Material: HDPE

Available packaging size:
0.25 L, 0.5 L, 1 L, 2.5 L and 5 L

Height, diameter, net weight (bottle size):
134 mm, ø 64 mm, ~26 g (250 mL)
153 mm, ø 82 mm, ~50 g (500 mL)
206 mm, ø 101 mm, ~ 66 g (1 L)
322 mm, ø 125 mm, ~ 145 g (2.5 L)
330 mm, ø 178 mm, ~ 335 g (5 L)

## Safety accessories

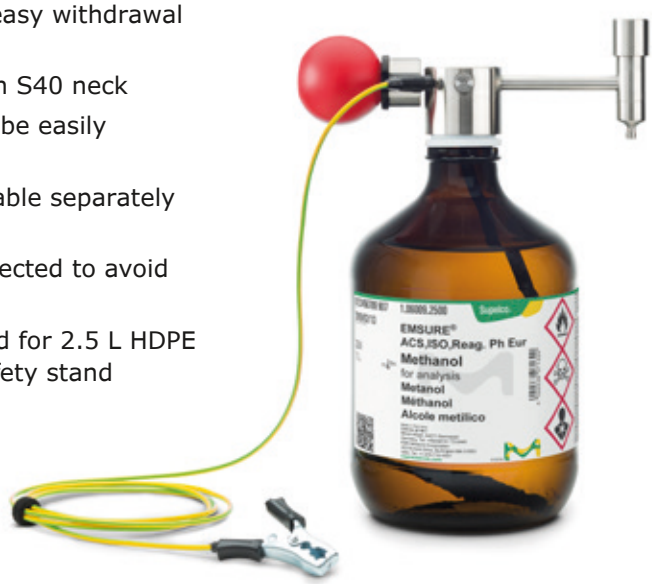
| | |
|---|---|
| Adapter with integrated level sensor for our bottles with S40 thread (supply) | 9.67100.2001 |
| Adapter with integrated level sensor for our bottles with S40 thread (solvent disposal) | 9.67100.2002 |
| Bottle opening key S40 / S28 | 1.08801.0001 |
| Display for level sensor | 9.67100.2004 |
| Label set for self-labeling lab-mixtures according to GHS, DIN EN ISO & GLP | 1.00801.0001 |
| Safety stand for 2.5 L HDPE bottles | 9.67213.0001 |
| Withdrawal system for solvents with manual pressure build-up in S40 bottles | 1.78178.0001 |

# Safety accessories for bottles

To further protect you during daily lab work, we offer several safety accessories specially designed for Merck KGaA, Darmstadt, Germany bottles.

### Withdrawal system for solvents (1.78178.0001)

- Manual pump system for safe and easy withdrawal of solvents (!) from glass bottles
- Specially designed to fit bottles with S40 neck
- Conductive dip tube (included) can be easily adjusted to the size of the bottle
- Conductive dip tubes are also available separately in packs of 5 (1.78179.0001)
- Grounding cable can be easily connected to avoid the risks of static electricity
- Withdrawal system can also be used for 2.5 L HDPE bottles when combined with the safety stand (9.67213.0001)




### Safety carrier for glass bottles up to 2.5 L (9.20078.0001) and up to 4 L (1.40140.0001)

- Secure transport of broken glass bottles and contents
- High-quality PE foam buffer ensures optimal protection
- Additional time for disposal due to chemical resistant materials
- Robust material avoids risk of cuts by glass splinters
- Leak-proof top cover prevents exposure to liquids and vapors
- Stable, broad handle for convenient handling

### Bottle key (1.08801.0001)

- Convenient opening and closing of bottles with S40 and S28 screw caps
- Perfectly tailored to our bottles
- Maximum safety when working with hazardous liquids

### Pouring aid for 1 L and 2.5 L glass bottles with S40 thread for single-use (1.02547.0005)

- Can be clipped on the bottle neck
- Convenient handling of 1 L and 2.5 L glass bottles
- Suitable for all liquids like acids, bases and solvents
- Is only for single-use and is disposed of with the bottle

### Label set acc. to GHS, DIN EN ISO and GLP (1.00801.0001)

- Comprehensive label compliant with GHS, DIN EN ISO and GLP standards
- Complete safety information at a glance with adhesive pictograms and signal words
- Non-permanent adhesive for easy, residue-free removal
- Robust plastic label, resistant to chemicals

### Adapter with integrated level sensor for Merck bottles with S40 thread for solvent supply (9.67100.2001) and for solvent disposal (9.67100.2002)

- Suitable for solvents (!) in all S40 bottles
- The level sensor is pre-assembled in a S40 screw cap
- Equipped with a clamping screw, the sensor can be adjusted to several bottle sizes or also to the desired level
- Needs to be connected to an alarm display for optical and acoustic signalling (9.67100.2004)

# Specials for acids

## Safebreak bottles for acids – Just in case

### When accidents happen

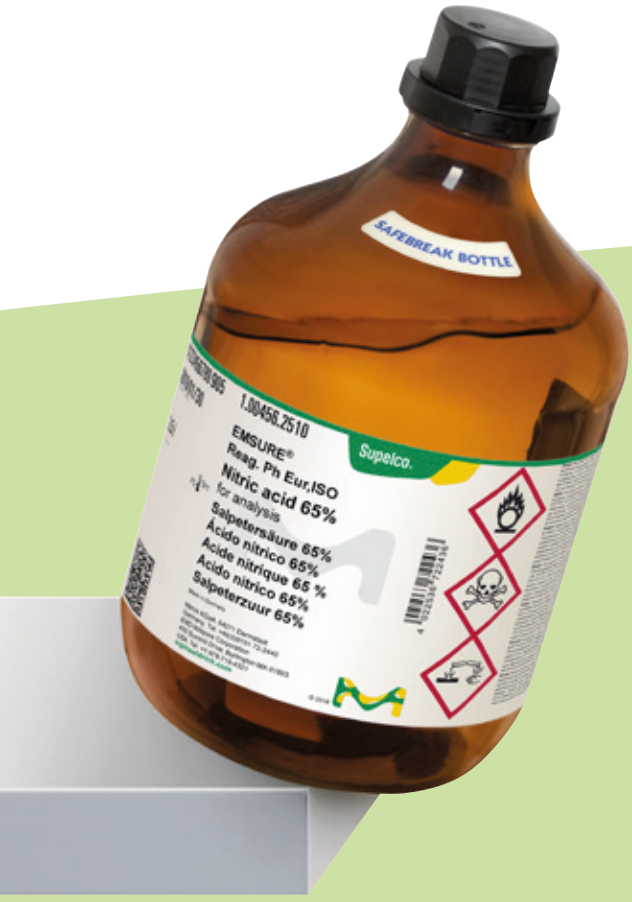
As containers for many types of reagents, glass bottles offer numerous advantages. They are inert to most chemicals, highly impermeable, easy to sterilize, and reusable. There's just one problem: glass can break. Depending on the contents, this could pose serious health risks for lab personnel.

### We have you covered

Fortunately, we have developed an effective and protective solution: the Safebreak bottle. This unique glass bottle is coated with polyethylene (PE), and can withstand considerable impact force. But should the bottle break, all liquid acid (!) and glass splinters are reliably contained within the PE coating, thereby protecting users from cuts or exposure to harmful chemicals.

### Additional protective features

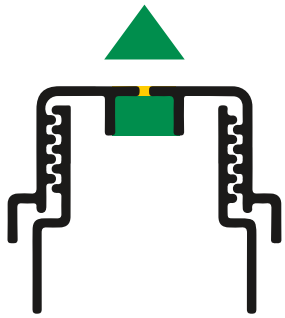
Every Safebreak bottle is fitted with a S40 screw cap made of polypropylene that has an integrated PTFE component. Even after frequent opening and closing, the cap keeps the bottle absolutely airtight so that no liquid or vapor can escape. Our Safebreak bottle also protects the planet. It can be reused and ecologically disposed of, just as conventional glass. During incineration, the PE is burnt off without affecting the environment.




- **Available in 0.5 L, 1 L and 2.5 L bottle size** (See ordering information page 72 ff.)
- **Robust:** Able to withstand considerable impact force
- **Safe:** In case of breakage, all acid and glass splinters are contained in the PE coating
- **Durable:** Screw cap remains perfectly intact despite frequent use
- **Ecological:** Environment protected from contamination
- **Economical:** Long shelf life as with conventional glass bottles
- **Convenient:** S40 thread lip ensures drip-free pouring
- **Eco-friendly:** Can be recycled with conventional glass bottles

# SafetyCap for reagents that build pressure

Certain reagents, such as sodium hypochlorite solution or hydrogen peroxide, are capable of generating excess pressure through chemical reactions. To help avoid contamination, we supply all such reagents in bottles fitted with the SafetyCap.

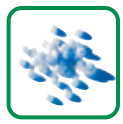


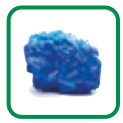
This innovative cap has a valve that allows excess gas to be released, hence preventing the build-up of pressure. It is also absolutely leak-proof – even if the bottle is tipped.

Furthermore, the PTFE membrane incorporated in the SafetyCap allows neither gas nor liquid to enter the bottle, thus protecting the contents from contamination. For additional safety, all bottles with such reagents are packed in PE bags.

- Allows gas to be released, thereby reducing internal pressure
- Absolutely leak-proof, protects users and the environment from contamination
- Prevents gas and liquid from entering bottle, protects contents from contamination

# HDPE bottles
## for solids





Pack sizes: 0.1 kg to 5 kg

**Carrier for 5 kg packaging**
available separately

**Wide opening (S60 or S85 thread)**
for easy withdrawal

**Specially treated, high-quality HDPE**
with extreme durability, inertness and shock resistance ensures maximum safety and maintains product quality


**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**Square base**
allows optimum use of storage space in the laboratory and during transportation

## Technical data

Material: HDPE

Available packaging size: 0.1 kg to 5 kg (volume dependent on bulk density of the product)

| Volume | Height | Width | Depth | Net weight |
|---|---|---|---|---|
| 0.25 L | 111.5 mm | 59 mm | 59 mm | 26 g |
| 0.45 L | 142 mm | 70.5 mm | 70.5 mm | 50 g |
| 0.75 L | 142 mm | 90 mm | 90 mm | min. 49 g |
| 1.10 L | 176 mm | 90 mm | 90 mm | min. 55 g |
| 1.25 L | 207 mm | 90 mm | 90 mm | min. 65 g |
| 1.80 L | 170.5 mm | 121 mm | 121 mm | min. 103 g |
| 2.50 L | 219 mm | 121 mm | 121 mm | min. 103 g |
| 6.00 L | 281 mm | 180 mm | 180 mm | min. 237 g |

## Safety accessories

| | |
|---|---|
| Wire carrier for widenecked PE bottles (4 L to 10 L volume) | 9.79490.0001 |

# Corrugated board box
## with PE inliner for solids

Pack sizes: 25 kg and 50 kg


**PE inliner**
is produced in clean room conditions to protect contents from contamination

**Glued in a water-resistant manner acc. to DIN 53133**
to remain stable even under damp conditions

**Stackable**

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**Robust construction**
for convenient and secure packing

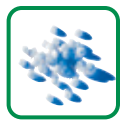
## Technical data

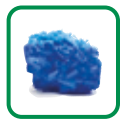
Material: Corrugated cardboard, PE bag

Available packaging size: 25 kg and 50 kg (volume dependent on bulk density of the product)

| Volume | Height | Width | Depth |
|---|---|---|---|
| 26 L | 310 mm | 370 mm | 275 mm |
| 36 L | 420 mm | 370 mm | 275 mm |
| 40 L | 330 mm | 379 mm | 379 mm |
| 44 L | 500 mm | 370 mm | 275 mm |
| 50 L | 413 mm | 374 mm | 374 mm |
| 57 L | 640 mm | 370 mm | 275 mm |
| 60 L | 488 mm | 374 mm | 374 mm |
| 80 L | 648 mm | 369 mm | 369 mm |

# PE buckets & square boxes
## for solids





Pack sizes: 12 kg, 25 kg and 50 kg

**Protective lids**
with tamper evident seal

**Perfectly protected**
against contaminations and humidity
thanks to High-quality HDPE with PE inliner

**Safe and easy handling due to 2 large handles**

**Stackable & robust**
Thanks to their shape boxes and buckets can easily be stacked


**Engraved UN-code**
Includes important safety information and provides packaging certificates

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**Paper-free packaging**
for less particle contamination and dust formation

## Technical data

| Parameter | PE bucket 12 kg | Square box 25 kg | Square box 50 kg |
|---|---|---|---|
| Height | 29.2 cm | 32.9 cm | 47.0 cm |
| Diameter / Width | 33.8 cm | 37.8 cm | 37.8 cm |
| Depth | - | 37.8 cm | 37.8 cm |
| Volume | 15 L | 35 L | 52 L |
| Filling quantity | 12 kg | 25 kg | 50 kg |
| Weight (empty) | 0.86 kg | 1.39 kg | 2.06 kg |
| Number per pallet | 21 | 18 | 12 |
| Material | HDPE (Lid: PE) | HDPE (Lid: PP) | HDPE (Lid: PP) |

# PE canisters, Fassetts® & drums
## for acids, bases and solvents

Pack sizes: 5 L and 25 L

**Fassett®**
specially designed for chemicals which build pressure

**Safe and easy usage**
due to convenient handles on top

**Standard opening**
to ensure maximum compatibility

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**High quality PE**
for maximum safety and product quality

200 L PE drum

**Blue canisters**
available for light-sensitive chemicals

▶ **Withdrawal systems for acids and bases see page 66**

## Technical data

| Parameter | Canister 5 L | 25 L | Fassett® 25 L | Drum 200 L |
|---|---|---|---|---|
| Height | 24.1 cm | 48.8 cm | 50 cm | 93.5 cm |
| Width | 16.5 cm | 24.2 cm | 28.5 cm | 58.1 cm |
| Depth | 19.5 cm | 29.5 cm | 32.9 cm | 58.1 cm |
| Volume | 5.6 L | 27 L | 30 L | 222 L |
| Filling quantity | 5 L | 25 L | 25 L | 200 L |
| Weight (empty) | 0.28 kg | 1.25 kg | 1.5 kg | 8.5 kg |
| Number per pallet | 72 (4 / cardboard) | 11 | 8 | 2 |
| Openings | S 60 x 6 | KS 60 x 6 | CCS 60 x 6 | S70x6, S56x4 |
| Material | PE | PE | PE | PE |

## Safety accessories

| | |
|---|---|
| Container key for opening containers with KS 60 x 6 screw cap | 1.08804.0001 |
| Tap (PE) attachable, self-venting, for 5 L, 10 L and 25 L PE canisters with KS 60x6 external thread | 1.12937.0001 |

# Steel drums and combi drums
## for acids and solvents

Pack sizes: 10 L to 190 L

**Special formed rims**
for best stackability

**Standard openings**
to ensure highest interoperability

**Special resistant varnish**
is applied on the upper side for nitric acid

**Protective cap**
with originality sealing

**Printed / engraved UN-code**
includes important safety information and provides packaging certificates

**Safe and easy handling due to 2 large handles**

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**High quality metal**
with extreme durability, inertness and shock resistance for highest safety and product quality


**one-way packaging**

Metal drums are used as one-way packaging

**Important notice:**
Must not be pressurized with inert gas!

**Bottom reservoir**
for optimal emptying

## Technical data

▶ **Withdrawal systems for acids see page 67; for solvents see page 68**

| Parameter | 10 L | 25 L | 25 L with PE | 180 / 190 L | 180 / 190 L with PE |
|---|---|---|---|---|---|
| Height | 32.5 cm | 52 cm | 52 cm | 88 cm | 88.5 cm |
| Diameter | 23.5 cm | 29 cm | 29 cm | 59.5 cm | 58.8 cm |
| Volume | 12.4 L | 28 L | 28 L | 216.5 L | 203 L |
| Filling quantity | 10 L | 25 L | 25 L | 180 / 190 L | 180 / 190 L |
| Weight (empty) | 1.6 kg | 3.6 kg | 3.4 kg | 22 kg | 22 kg |
| Number per pallet | 13 | 11 | 11 | 2 | 2 |
| Openings | 2" decentrally located | 2" centrally and 3/4" decentrally located | S56 x 4 (PP) | 2" centrally and 3/4" decentrally located (steel, galvanized) | 2 x S56x4 (PP) |
| Material | steel | steel | steel with PE | steel | steel with PE |

# Stainless steel drums
## for solvents

Pack sizes: 10 L to 190 L

**Protective cap**
with originality sealing

**Special formed rims**
for best stackability

**Standard openings**
to ensure highest interoperability


**Printed / engraved UN-code**
includes important safety information and provides packaging certificates

**Safe and easy handling due to 2 large handles**

**Smart label**
Unique, clear and complete labeling with all relevant hazard declarations and 2D data matrix barcode

**High quality stainless steel**
with extreme durability, inertness and shock resistance for highest safety and product quality

returnable packaging

**Cost effectiveness and environmental protection**
by using the drum returning process (Europe only)

**Bottom reservoir**
for optimal emptying

## Technical data

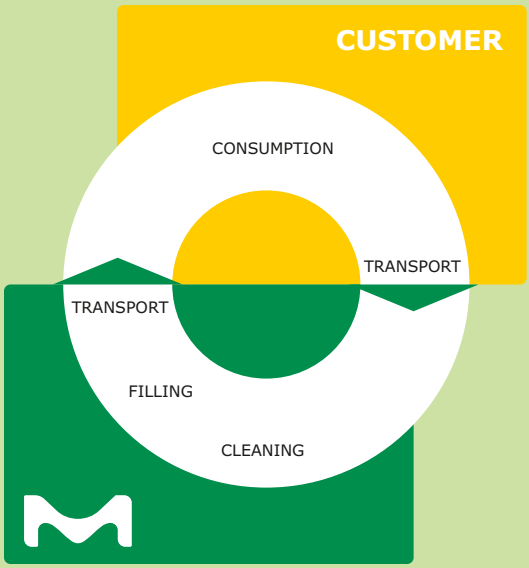
▶ **Withdrawal systems for solvents see page 68**

| Parameter | 10 L | 25 L | 190 L |
|---|---|---|---|
| Height | 35 cm | 52 cm | 88 cm |
| Diameter | 24 cm | 29 cm | 59.5 cm |
| Volume | 12 L | 28 L | 215 L |
| Filling quantity | 10 L | 25 L | 190 L |
| Weight (empty) | 1.9 kg | 3.8 kg | 18 kg |
| Number per pallet | 15 | 11 | 2 |
| Openings | 2" decentrally located | 2" decentrally located | 2" decentrally located<br>3/4" decentrally located |
| Material | stainless steel | stainless steel | stainless steel |

# Important information
## for safety and returnable system for solvents

### The returnable system and process

In Europe Merck KGaA, Darmstadt, Germany stainless steel drums for solvents are part of a returnable process. Their use means that the user no longer has to cope with the topics of complete emptying, rinsing, disposing of the rinsing liquid and even disposing of the packaging itself in the proper manner. After consumption of the solvents on user site the empty drums are returned to us, unrinsed and with their original labels still attached. On their return, we will ensure that they are properly cleaned, checked and refilled. Clear advantages for a time saving and cost effective way of daily solvent handling.




**Easy detection**
Symbols for easy detection which packaging material can be returned:

returnable packaging

Stainless steel drums are part of a returnable process (in Europe) – optional returnable packaging.

one-way packaging

Metal drums are used as one-way packaging.

### Measures to discharge static electricity

If flammable liquids (e.g. solvents) are used, the container (10 L or more) must be properly earthed according to **valid local safety regulations** to avoid the risk of explosion and fire.

- General warnings and safety instructions must be observed
- All components (e.g. container and withdrawal system) must be grounded separately
- Grounding clamps must have metallic contact with both the container and the withdrawal system, and a safe ground connection
- The grounding must be installed before opening the container
- The user must always wear conductive personal protective equipment (e.g. shoes and gloves)
- The floor must be conductive
- Use sampling vessels made of insulating material with a volume not greater than 1 liter
- Ensure that there are no additional ignition hazards caused by process-specific parameters, such as increased ignitability of the substances due to changed environmental conditions or when sampling in combination with highly charge-generating processes

## Suitable withdrawal systems for improved safety

To further significantly increase personnel safety when handling hazardous chemicals, we offer tailor-made withdrawal systems. Our broad range of withdrawal systems and accessories includes everything you need to ensure safe and easy handling and contamination-free withdrawal of inorganics and solvents. All recommended applications are tested in accordance to the properties and specifications of the chemical.

Our products provide essential safety features required by safety regulations – from self-closing nozzles to safety accessories with pressure relief mechanisms and anti-static devices. Systems for manual pressure build-up and inert gas pressurizing are supplemented by a comprehensive selection of reducers, adapters and couplings that allow easy interconnection of all components. This way you can precisely manage your individual chemical flow and thus optimize your processes – and at the same time minimize risks for your employees and the environment.

### Important safety advice

Our withdrawal systems have been developed and optimized for the use with containers and chemicals from us. We therefore disclaim any warranty or liability for the operability of our withdrawal systems in connection with containers or chemicals from other manufacturers.

We reserve the right to refrain from the delivery of withdrawal systems if the respective order does not indicate that each withdrawal system will be used in combination with appropriate chemicals and containers from us.

We inform and advise our customers to the best of our knowledge and ability but without any engagement or liability on our part. Our customers must obey all existing laws and regulations. This also applies in respect of any protected rights of third parties. Our information and advice does not eliminate the need for our customers to check, on their own responsibility, that our products are suitable for the purpose envisaged.

# Manual withdrawal systems
## for acids and bases

The need for greater volumes of acids or bases may require a switch from bottles to larger containers, which increases the risk of spills and accidents. The best way to protect yourself from unintended contact with harmful and often corrosive liquids is through the use of suitable withdrawal systems. Our unique solutions allow you to safely and easily dispense harmful chemicals from large containers into other, typically smaller, reaction vessels, thereby minimizing risks.

- Unique concept allows safe and easy withdrawal of chemicals, preventing accidental contact with contents and vapors
- Flexible, lightweight withdrawal systems with integrated outlet valve and individual pressurizing options
- Integrated check valve protects the pump ball from chemical vapors
- Integrated venting system avoids vacuum development
- No operating supplies required: manual pressure buildup by hand or foot pump ball
- Lower costs through use of larger volumes of 10 L or more

### Manual withdrawal system for acids and bases (PE)

- Made of specially tested high purity polyethylene (PE)
- Suitable for use with all acids and bases (except $HNO_3$ and $H_2SO_4$)


### Examples for individual compilations

| 25 L Fassett® e.g. 25 L Hydrochloric acid 37% EMSURE® (1.00317.9026) | | 25 L PE canisters e.g. 25 L Sodium hydroxide solution about 32% EMSURE® (1.05590.9025) | |
|---|---|---|---|
| Dispense head (PE) for acids and bases, manual pressure build-up | 1.67500.0001 | Dispense head (PE) for acids and bases, manual pressure build-up | 1.67500.0001 |
| Hand pump ball for withdrawal systems | 9.67114.0000 | Hand pump ball for withdrawal systems | 9.67114.0000 |
| Dip tube (PE) for acids and bases in 25 L fassetts | 1.67526.0001 | Dip tube (PE) for acids and bases in 25 L canisters | 1.67525.0001 |

## Manual withdrawal system especially for Nitric acid and Sulfuric acid (PVDF)

- Made of specially tested high purity polyvinylidene fluoride (PVDF)
- Developed specifically for use with aggressive acids, e.g. $HNO_3$ and $H_2SO_4$

### Safe withdrawal in 8 simple steps

1. **Check proper operation**
2. **Open the container***
3. **Insert dip tube and tighten***
4. **Check outlet valve is closed**
5. **Screw in dispensing head and thighten**
6. **Place receptacle under the outlet and open the outlet valve**
7. **Pressurize by squeezing the red pump ball and fill the receptacle**
8. **Close outlet valve**

* use drum key 1.67503.0001

(Always follow local safety regulations and the detailed instructions provided in the manual of the withdrawal system in use.)

## Examples for individual compilations

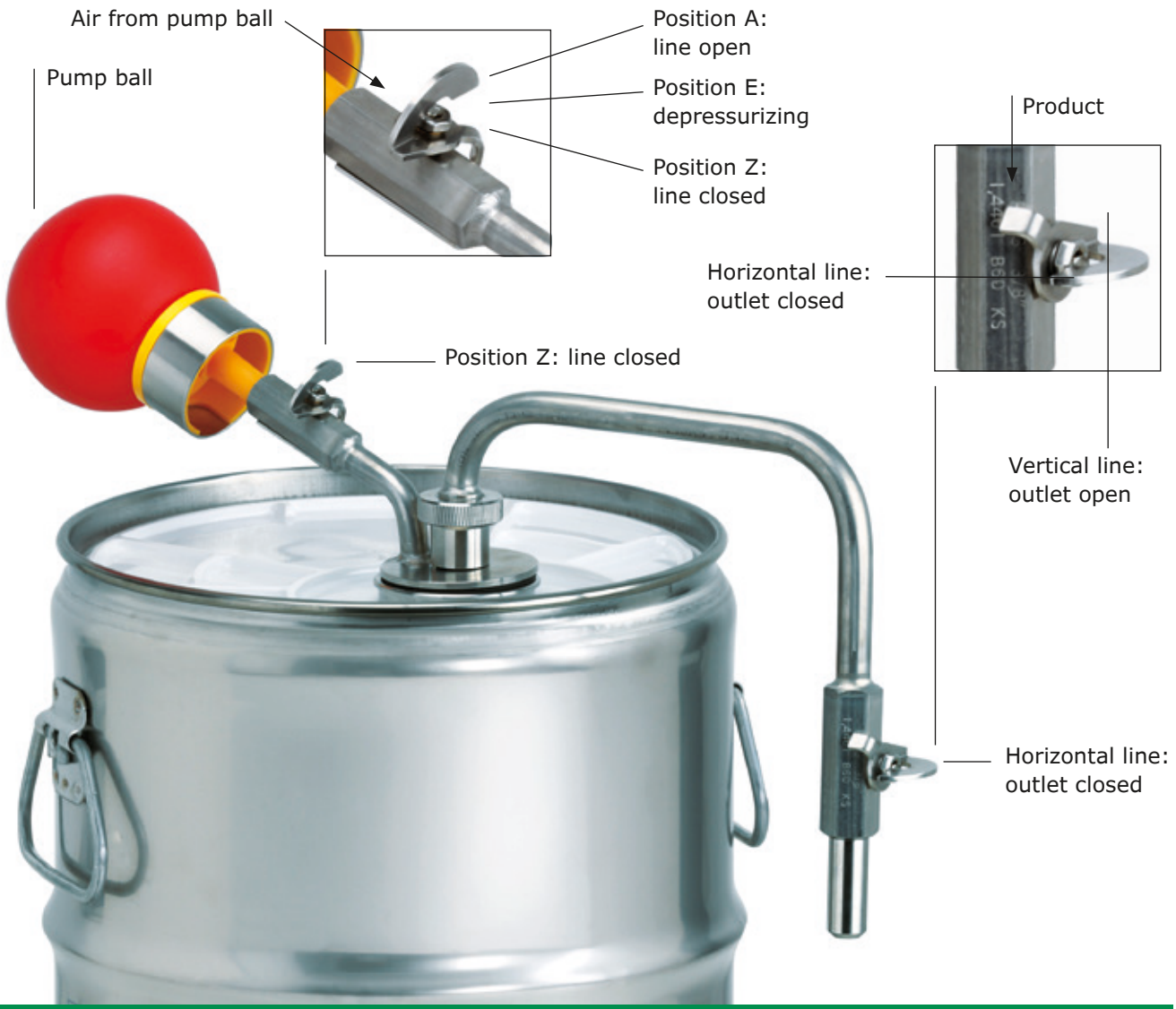
▶ **Please see brochure "Inorganics on tap" for further system compilations**

| **25 L combi containers e.g. 25 L Nitric acid 65% EMSURE® (1.00456.9026)** | | **180 L combi containers e.g. 180 L Nitric acid 65% EMSURE® (1.00456.9180)** | |
|---|---|---|---|
| Dispense head (PVDF) for Nitric acid and Sulfuric acid, manual pressure build-up | 1.67501.0001 | Dispense head (PVDF) for Nitric acid and Sulfuric acid, manual pressure build-up | 1.67501.0001 |
| Hand pump ball for withdrawal systems | 9.67114.0000 | Foot pump ball for dispense heads | 1.67502.0001 |
| Dip tube (PVDF) for Nitric acid and Sulfuric acid in 25 L combi containers | 1.67527.0001 | Dip tube (PVDF) for Nitric acid in 180 L combi containers | 1.67585.0001 |

# Withdrawal Systems
## for solvent drums

### Manual pressure build-up

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- High flexibility due to independence on gas supply
- Suitable for solvents in 10 L and 25 L metal and stainless steel drums




## System at a glance

| | | | | |
|---|---|---|---|---|
| Order number | 1.01114.0001 | Necessary completive products | 9.67100.1026 Dip tube for 25 L composite drum (steel/PE) | |
| Suitability | 10 L and 25 L metal and stainless steel drums | Recommended safety products | Antistatic set (3 cables) | 1.07070.0001 |
| Operation mode | Manual pressure build-up by pump ball | | Drum opening key | 1.08803.0001 |
| Set components | Withdrawal system body with 2" clamp, Hand pump ball with rapid action connector, 10 L dip tube, 25 L dip tube | Spare parts | Dip tube for 10 L drums<br>Dip tube for 25 L drums<br>Hand pump ball | 9.67100.1012<br>9.67100.1028<br>9.67114.0000 |

## Pressurizing with inert gas [only for stainless steel drums]

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- Construction of a central supply system, direct connection to instruments or individual installations as options

**Self closing tear off connections**
for quick connection and disconnection

**9.67100.9051**
Spiral gas feeding tube

**9.67100.9002**
Threaded adapter with vertical connections

Two different connectors for avoiding mismatch of gas and product

**9.67106.0001**
Stainless steel clamp

Nozzle can be hanged directly on the drum with the clamp

**Safety hook**
to avoid unintended solvent supply
(push safety hook first to unblock the supply handle)

**9.67100.9090**
Filling nozzle with stainless steel coated PTFE-tube

**Integrated swivel joints**
to avoid tube tensions

## System at a glance

| | | |
|---|---|---|
| Order number | 1.06710.0001 | |
| Suitability | 10 L, 25 L and 190 L stainless steel drums | |
| Operation mode | Pressurizing with inert gas (house gas / gas bottle) | |
| Set components | Filling nozzle with stainless steel coated, flexible PTFE-tube (80 cm) | 9.67100.9090 |
| | Gas feeding tube | 9.67100.9051 |
| | Threaded adapter with vertical connections | 9.67100.9002 |

| | | |
|---|---|---|
| Necessary completive products | Dip tube for 10 L stainless steel drums | 9.67100.1010 |
| | Dip tube for 25 L stainless steel drums | 9.67100.1025 |
| | Dip tube for 190 L stainless steel drums | 9.67100.1190 |
| | Stainless steel clamp for filling nozzle attachment to drums | 9.67106.0001 |
| Recommended safety products | Antistatic set (3 cables) | 1.07070.0001 |
| | Drum opening key | 1.08803.0001 |
| Spare parts | Filling nozzle with stainless steel coated, flexible PTFE-tube (80 cm) | 9.67100.9090 |
| | Gas feeding tube | 9.67100.9051 |
| | Threaded adapter with horizontal connections | 9.67100.9003 |
| | Threaded adapter with vertical connections | 9.67100.9002 |

# Withdrawal Systems
## for solvent drums

**Manual pressure build-up for high volumes**

- Safe, easy and convenient solvent handling
- Usage of tested high quality materials to ensure a reliable, contamination free and safe handling of our solvents
- High flexibility due to independence on gas supply


## System at a glance

| | | | | | |
|---|---|---|---|---|---|
| Order number | 1.19171.0001 | | Necessary completive products | Reducer (PE) from S56 x 4 to 2" thread (for combi drum) | 9.67202.0000 |
| Suitability | 180 L / 190 L / 200 L metal and stainless steel drums | | Recommended safety products | Antistatic set (3 cables)<br>Drum opening key | 1.07070.0001<br>1.08803.0001 |
| Operation mode | Manual pressure build-up by foot pump ball | | | | |
| Set components | Withdrawal system body with 2" thread<br>Foot pump ball with flexible tube and rapid action connector<br>Adjustable dip tube | | Spare parts | – | |

# Ordering information
## Inorganics & Solvents



EMSURE®

EMPARTA®

EMPLURA®

# Acids

**EMSURE® | EMPARTA® | EMPLURA® acids** offer the highest possible quality, greatest safety and optimized packaging – for a multitude of analytical applications. Every product undergoes strict quality checks using the most sensitive instruments and methods.

| | |
|---|---|
| **EMSURE®** Acids | Premium Grade |

▶ For more information please have a look at page 22

| | |
|---|---|
| **EMPARTA®** Acids | Standard Grade |

▶ For more information please have a look at page 32

| | |
|---|---|
| **EMPLURA®** Acids | Basic Grade |

▶ For more information please have a look at page 36

# Ordering information
## Acids

### Acids A-B

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| A | Acetic acid 30% for analysis EMSURE® Reag. Ph Eur | | | 500 mL | Glass bottle | 1.59166.0500 |
| | Acetic acid 60% EMPLURA® | | | 25 L | PE canister | 4.80362.9025 |
| | Acetic acid 96% for analysis EMSURE® | | | 1 L | Glass bottle | 1.00062.1000 |
| | | | | 1 L | HDPE bottle | 1.00062.1011 |
| | | | | 2.5 L | Glass bottle | 1.00062.2500 |
| | | | | 2.5 L | HDPE bottle | 1.00062.2511 |
| | | | | 25 L | PE canister | 1.00062.9025 |
| | | | | 200 L | PE drum | 1.00062.9200 |
| | Acetic acid (glacial) 100% anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 64-19-7 | $CH_3COOH$ | 500 mL | Safebreak bottle | 1.00063.0510 |
| | | | | 1 L | Glass bottle | 1.00063.1000 |
| | | | | 1 L | Safebreak bottle | 1.00063.1010 |
| | | | | 1 L | HDPE bottle | 1.00063.1011 |
| | | | | 2.5 L | Glass bottle | 1.00063.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00063.2510 |
| | | | | 2.5 L | HDPE bottle | 1.00063.2511 |
| | | | | 25 L | PE canister | 1.00063.9026 |
| | | | | 200 L | PE drum | 1.00062.9200 |
| | Acetic acid (glacial) 100% for analysis EMPARTA® ACS | 64-19-7 | $CH_3COOH$ | 2.5 L | HDPE bottle | 1.01830.2500 |
| | | | | 25 L | PE canister | 1.01830.9025 |
| | Acetic anhydride for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 108-24-7 | $(CH_3CO)_2O$ | 1 L | Glass bottle | 1.00042.1000 |
| | | | | 2.5 L | Glass bottle | 1.00042.2500 |
| | | | | 25 L | PE canister | 1.00042.9025 |
| | Amidosulfuric acid for analysis EMSURE® | 5329-14-6 | $H_2NSO_3H$ | 100 g | HDPE bottle | 1.00103.0100 |
| | | | | 250 g | HDPE bottle | 1.00103.0250 |
| | Amidosulfuric acid EMPLURA® | 5329-14-6 | $H_2NSO_3H$ | 2.5 kg | HDPE bottle | 1.00219.2500 |
| | | | | 25 kg | Fibre carton | 1.00219.9025 |
| | L(+)-Ascorbic acid for analysis EMSURE® ACS, Reag. Ph Eur | 50-81-7 | $C_6H_8O_6$ | 100 g | HDPE bottle | 1.00468.0100 |
| | | | | 500 g | HDPE bottle | 1.00468.0500 |
| | | | | 1 kg | HDPE bottle | 1.00468.1000 |
| B | Barbituric acid for analysis EMSURE® | 67-52-7 | $C_4H_4N_2O_3$ | 25 g | HDPE bottle | 1.00132.0025 |
| | | | | 100 g | HDPE bottle | 1.00132.0100 |
| | Benzoic acid for analysis EMSURE® ACS, Reag. Ph Eur | 65-85-0 | $C_6H_5COOH$ | 100 g | HDPE bottle | 1.00136.0100 |
| | | | | 250 g | HDPE bottle | 1.00136.0250 |
| | | | | 1 kg | HDPE bottle | 1.00136.1000 |
| | | | | 25 kg | Fibre carton | 1.00136.9025 |
| | Boric acid for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 10043-35-3 | $H_3BO_3$ | 100 g | HDPE bottle | 1.00165.0100 |
| | | | | 500 g | HDPE bottle | 1.00165.0500 |
| | | | | 1 kg | HDPE bottle | 1.00165.1000 |
| | | | | 5 kg | HDPE bottle | 1.00165.5000 |
| | | | | 12 kg | PE bucket | 1.00165.9012 |
| | | | | 25 kg | Fibre carton | 1.00165.9025 |



EMSURE® EMPARTA® EMPLURA®

## Acids C-H

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| C | Citric acid monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 5949-29-1 | $C_6H_8O_7 * H_2O$ | 500 g | HDPE bottle | 1.00244.0500 |
| | | | | 1 kg | HDPE bottle | 1.00244.1000 |
| | | | | 5 kg | HDPE bottle | 1.00244.5000 |
| | | | | 12 kg | PE bucket | 1.00244.9012 |
| | | | | 25 kg | Fibre carton | 1.00244.9026 |
| F | Formic acid 89–91% for analysis EMSURE® ACS | | | 1 L | Glass bottle | 1.00253.1000 |
| | Formic acid 90% for determination of viscosity acc. to DIN EN ISO 307 | | | 2.5 L | Glass bottle | 1.10854.2500 |
| | Formic acid 98–100% for analysis EMSURE® ACS, Reag. Ph Eur | 64-18-6 | HCOOH | 100 mL | Glass bottle | 1.00264.0100 |
| | | | | 1 L | Glass bottle | 1.00264.1000 |
| | | | | 2.5 L | Glass bottle | 1.00264.2500 |
| | | | | 25 L | PE canister | 1.00264.9026 |
| | | | | 200 L | PE drum | 1.00264.9200 |
| G | Glycolic acid for analysis EMSURE® | 79-14-1 | $HOCH_2COOH$ | 100 g | HDPE bottle | 1.04106.0100 |
| H | Hydrobromic acid 47% for analysis EMSURE® ACS, ISO | | | 1 L | Glass bottle | 1.00307.1000 |
| | Hydrobromic acid 47% EMPLURA® | | | 500 mL | Glass bottle | 1.00304.0500 |
| | | | | 2.5 L | Glass bottle | 1.00304.2500 |
| | | | | 20 L | Carboy | 1.00304.9020 |
| | Hydrochloric acid 25% for analysis EMSURE® | | | 1 L | Glass bottle | 1.00316.1000 |
| | | | | 1 L | HDPE bottle | 1.00316.1011 |
| | | | | 2.5 L | Glass bottle | 1.00316.2500 |
| | | | | 2.5 L | HDPE bottle | 1.00316.2511 |
| | | | | 25 L | PE canister | 1.00316.9025 |
| | Hydrochloric acid 32% for analysis EMSURE® | | | 1 L | Glass bottle | 1.00319.1000 |
| | | | | 1 L | HDPE bottle | 1.00319.1011 |
| | | | | 2.5 L | Glass bottle | 1.00319.2500 |
| | | | | 2.5 L | HDPE bottle | 1.00319.2511 |
| | | | | 25 L | PE canister | 1.00319.9025 |
| | | | | 200 L | PE drum | 1.00319.9200 |
| | Hydrochloric acid 32% EMPLURA® | | | 2.5 L | Glass bottle | 1.00313.2500 |
| | | | | 25 L | PE canister | 1.00313.9025 |
| | | | | 180 L | PE drum | 1.00313.9180 |
| | Hydrochloric acid fuming 37% for analysis max. 0.001 ppm Hg EMSURE® | | | 2.5 L | Glass bottle | 1.13386.2500 |
| | Hydrochloric acid fuming 37% for analysis EMSURE® ACS, ISO, Reag. Ph Eur | | | 500 mL | Safebreak bottle | 1.00317.0510 |
| | | | | 1 L | Glass bottle | 1.00317.1000 |
| | | | | 1 L | Safebreak bottle | 1.00317.1010 |
| | | | | 1 L | HDPE bottle | 1.00317.1011 |
| | | | | 2 L | HDPE bottle | 1.00317.2011 |
| | | | | 2.5 L | Glass bottle | 1.00317.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00317.2510 |
| | | | | 25 L | PE canister | 1.00317.9026 |
| | | | | 200 L | PE drum | 1.00317.9200 |

# Ordering information
## Acids

### Acids H-N

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| H | Hydrochloric acid fuming 37% for analysis EMPARTA® ACS | | | 2 L | HDPE bottle | 1.01834.2011 |
| | | | | 2.5 L | Glass bottle | 1.01834.2502 |
| | Hydrofluoric acid 38–40% EMPLURA® | | | 1 L | HDPE bottle | 1.00337.1000 |
| | | | | 2.5 L | HDPE bottle | 1.00337.2500 |
| | Hydrofluoric acid 40% for analysis EMSURE® ISO, Reag. Ph Eur | | | 500 mL | HDPE bottle | 1.00338.0500 |
| | | | | 1 L | HDPE bottle | 1.00338.1000 |
| | | | | 2.5 L | HDPE bottle | 1.00338.2500 |
| | Hydrofluoric acid 48% for analysis EMSURE® ACS, ISO, Reag. Ph Eur | | | 500 mL | HDPE bottle | 1.00334.0500 |
| | | | | 1 L | HDPE bottle | 1.00334.1000 |
| | | | | 2.5 L | HDPE bottle | 1.00334.2500 |
| | | | | 5 L | PE canister | 1.00334.5000 |
| | Hydrogen peroxide 30% (Perhydrol™) (stabilized for higher storage temp.) for analysis EMSURE® ISO | | | 250 mL | HDPE bottle | 1.07210.0250 |
| | | | | 1 L | HDPE bottle | 1.07210.1000 |
| | | | | 2.5 L | HDPE bottle | 1.07210.2500 |
| | | | | 25 L | PE canister | 1.07210.9025 |
| | Hydrogen peroxide 30% (Perhydrol™) for analysis EMSURE® ISO | | | 250 mL | HDPE bottle | 1.07209.0250 |
| | | | | 500 mL | HDPE bottle | 1.07209.0500 |
| | | | | 1 L | HDPE bottle | 1.07209.1000 |
| | | | | 2.5 L | HDPE bottle | 1.07209.2500 |
| | Hydrogen peroxide 35% EMPLURA® | | | 25 L | PE canister | 1.08556.9025 |
| | Hydroiodic acid 57% for analysis EMSURE® | | | 250 mL | Glass bottle | 1.00344.0250 |
| | | | | 1 L | Glass bottle | 1.00344.1000 |
| | Hydroiodic acid 57% EMPLURA® | | | 250 mL | Glass bottle | 1.00341.0250 |
| | | | | 22 L | Carboy | 1.00341.9022 |
| | Hydroiodic acid 67% for analysis EMSURE® | | | 250 mL | Glass bottle | 1.00345.0250 |
| | Hypophosphorous acid 50% for analysis EMSURE® | | | 500 mL | Glass bottle | 1.04633.0500 |
| M | Molybdatophosphoric acid hydrate for analysis EMSURE® ACS, Reag. Ph Eur | 51429-74-4 | $H_3[P(Mo_3O_{10})_4]$ * x $H_2O$ | 25 g | Glass bottle | 1.00532.0025 |
| | | | | 100 g | Glass bottle | 1.00532.0100 |
| | Molybdic acid about 85% $MoO_3$ (containing ammonium molybdate) EMPLURA® | 7782-91-4 | $H_2MoO_4$ | 1 kg | HDPE bottle | 1.00400.1000 |
| N | Nitric acid 65% for analysis (max. 0.005 ppm Hg) EMSURE® Reag. Ph Eur, ISO | | | 1 L | Glass bottle | 1.00452.1000 |
| | | | | 2.5 L | Glass bottle | 1.00452.2500 |
| | | | | 180 L | PE / Metal drum | 1.00452.9180 |
| | Nitric acid 65% for analysis EMSURE® Reag. Ph Eur, ISO | | | 500 mL | Safebreak bottle | 1.00456.0510 |
| | | | | 1 L | Glass bottle | 1.00456.1000 |
| | | | | 1 L | Safebreak bottle | 1.00456.1010 |
| | | | | 2.5 L | Glass bottle | 1.00456.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00456.2510 |
| | | | | 25 L | PE / Metal drum | 1.00456.9026 |
| | | | | 180 L | PE / Metal drum | 1.00456.9180 |



EMSURE® EMPARTA® EMPLURA®

## Acids N-P

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| N | Nitric acid 65% EMPLURA® | | | 1 L | Glass bottle | 1.00443.1000 |
| | | | | 2.5 L | Glass bottle | 1.00443.2500 |
| | | | | 25 L | PE / Metal drum | 1.00443.9025 |
| | | | | 180 L | PE / Metal drum | 1.00443.9180 |
| | Nitric acid 69%<br>for analysis EMSURE® ACS, Reag. Ph Eur | | | 500 mL | Safebreak bottle | 1.01799.0510 |
| | | | | 1 L | Glass bottle | 1.01799.1000 |
| | | | | 1 L | Safebreak bottle | 1.01799.1010 |
| | | | | 2.5 L | Glass bottle | 1.01799.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.01799.2510 |
| | | | | 180 L | PE / Metal drum | 1.01799.9180 |
| | Nitric acid 69% for analysis EMPARTA® ACS | | | 2.5 L | Glass bottle | 1.01832.2500 |
| | | | | 25 L | PE / Metal drum | 1.01832.9025 |
| | Nitric acid fuming 100%<br>for analysis EMSURE® Reag. Ph Eur | 7697-37-2 | $HNO_3$ | 1 L | Glass btl. pl. coat. | 1.00455.1000 |
| O | Oxalic acid dihydrate<br>for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 6153-56-6 | $(COOH)_2 * 2 H_2O$ | 100 g | HDPE bottle | 1.00495.0100 |
| | | | | 500 g | HDPE bottle | 1.00495.0500 |
| | | | | 1 kg | HDPE bottle | 1.00495.1000 |
| | | | | 25 kg | Fibre carton | 1.00495.9025 |
| | Oxalic acid dihydrate EMPLURA® | 6153-56-6 | $(COOH)_2 * 2 H_2O$ | 1 kg | HDPE bottle | 1.00492.1000 |
| | | | | 5 kg | HDPE bottle | 1.00492.5000 |
| | | | | 50 kg | Fibre carton | 1.00492.9050 |
| P | Perchloric acid 60%<br>for analysis EMSURE® ACS | | | 1 L | Glass bottle | 1.00518.1001 |
| | | | | 6 x 1 L | Glass bottle | 1.00518.1016 |
| | | | | 2.5 L | Glass bottle | 1.00518.2501 |
| | | | | 4 x 2.5 L | Glass bottle | 1.00518.2514 |
| | Perchloric acid 70% for analysis<br>(max. 0.0000005% Hg) EMSURE® ACS, ISO,<br>Reag. Ph Eur | | | 1 L | Glass bottle | 1.00514.1000 |
| | | | | 6 x 1 L | Glass bottle | 1.00514.1006 |
| | Perchloric acid 70–72%<br>for analysis EMSURE® ACS, ISO, Reag. Ph Eur | | | 500 mL | Safebreak bottle | 1.00519.0510 |
| | | | | 1 L | Glass bottle | 1.00519.1001 |
| | | | | 6 x 1 L | Glass bottle | 1.00519.1016 |
| | | | | 1 L | Safebreak bottle | 1.00519.1010 |
| | | | | 2.5 L | Glass bottle | 1.00519.2501 |
| | | | | 4 x 2.5 L | Glass bottle | 1.00519.2514 |
| | | | | 2.5 L | Safebreak bottle | 1.00519.2510 |
| | Periodic acid for analysis EMSURE® ACS | 10450-60-9 | $H_5IO_6$ | 25 g | Glass bottle | 1.00524.0025 |
| | | | | 100 g | Glass bottle | 1.00524.0100 |
| | meta-Phosphoric acid pieces for analysis<br>(stabilized with sodium metaphosphate) EMSURE® | | | 100 g | Metal can | 1.00546.0100 |
| | | | | 500 g | Metal can | 1.00546.0500 |
| | ortho-Phosphoric acid 85% for analysis<br>EMSURE® ACS, ISO, Reag. Ph Eur | | | 500 mL | Safebreak bottle | 1.00573.0510 |
| | | | | 1 L | HDPE bottle | 1.00573.1000 |
| | | | | 2.5 L | HDPE bottle | 1.00573.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00573.2510 |
| | | | | 25 L | PE canister | 1.00573.9025 |
| | | | | 200 L | PE drum | 1.00573.9200 |

# Ordering information
## Acids

### Acids O-S

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| O | ortho-Phosphoric acid 99% cryst. for analysis EMSURE® | 7664-38-2 | $H_3PO_4$ | 500 g | HDPE bottle | 1.00565.0500 |
| S | Succinic acid for analysis EMSURE® ACS | 110-15-6 | $HOOCCH_2CH_2COOH$ | 250 g | HDPE bottle | 1.00682.0250 |
| | | | | 500 g | HDPE bottle | 1.00682.0500 |
| | | | | 25 kg | Fibre carton | 1.00682.9025 |
| | Sulfuric acid 25% for analysis EMSURE® | | | 1 L | HDPE bottle | 1.00716.1000 |
| | | | | 25 L | PE canister | 1.00716.9025 |
| | Sulfuric acid 40% for determination of gas metabolism acc. to knipping | | | 2.5 L | Glass bottle | 1.09286.2500 |
| | Sulfuric acid 62% for analysis EMSURE®, for the determination of fat in cheese (d 1.52) | | | 1 L | HDPE bottle | 4.80531.1000 |
| | | | | 2.5 L | HDPE bottle | 4.80531.2500 |
| | Sulfuric acid 90–91% for Gerber fat determination and determination of nitrates in milk | | | 500 mL | Glass bottle | 1.00729.0500 |
| | | | | 2.5 L | Glass bottle | 1.00729.2500 |
| | | | | 25 L | PE canister | 1.00729.9025 |
| | Sulfuric acid 95–97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS, ISO, Reag. Ph Eur | 7664-93-9 | $H_2SO_4$ | 500 mL | Safebreak bottle | 1.00732.0510 |
| | | | | 1 L | Glass bottle | 1.00732.1000 |
| | | | | 2.5 L | Glass bottle | 1.00732.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00732.2510 |
| | Sulfuric acid 95–97% for analysis EMSURE® ISO | 7664-93-9 | $H_2SO_4$ | 500 mL | Safebreak bottle | 1.00731.0510 |
| | | | | 1 L | Glass bottle | 1.00731.1000 |
| | | | | 1 L | Safebreak bottle | 1.00731.1010 |
| | | | | 1 L | HDPE bottle | 1.00731.1011 |
| | | | | 2.5 L | Glass bottle | 1.00731.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.00731.2510 |
| | | | | 2.5 L | HDPE bottle | 1.00731.2511 |
| | | | | 25 L | PE canister | 1.00731.9025 |
| | | | | 200 L | PE drum | 1.00731.9201 |
| | Sulfuric acid 95–97 % for analysis EMPARTA® ACS | 7664-93-9 | $H_2SO_4$ | 2.5 L | HDPE bottle | 1.01833.2500 |
| | | | | 25 L | PE canister | 1.01833.9025 |
| | Sulfuric acid 96% for the determination of viscosity acc. to DIN EN ISO 307 | 7664-93-9 | $H_2SO_4$ | 1 L | HDPE bottle | 1.08131.1000 |
| | | | | 2.5 L | HDPE bottle | 1.08131.2500 |
| | Sulfuric acid 98% for analysis EMSURE® | 7664-93-9 | $H_2SO_4$ | 500 mL | Safebreak bottle | 1.12080.0510 |
| | | | | 1 L | Glass bottle | 1.12080.1000 |
| | | | | 2.5 L | Glass bottle | 1.12080.2500 |
| | | | | 2.5 L | Safebreak bottle | 1.12080.2510 |
| | | | | 25 L | PE canister | 1.12080.9025 |
| | Sulfuric acid 98% for the determination of nitrogen | 7664-93-9 | $H_2SO_4$ | 500 mL | Glass bottle | 1.00748.0500 |
| | | | | 2.5 L | Glass bottle | 1.00748.2500 |
| | | | | 25 L | PE canister | 1.00748.9025 |
| | Sulfuric acid fuming 65% $SO_3$ (Oleum) EMPLURA® | 8014-95-7 | $H_2SO_4$ * $SO_3$ (1:2) | 1 L | Glass btl. pl. coat. | 1.00720.1002 |
| | Sulfurous acid 5–6% $SO_2$ for analysis EMSURE® | | | 1 L | Glass bottle | 1.00761.1000 |
| | | | | 2.5 L | Glass bottle | 1.00761.2500 |



EMSURE® EMPARTA® EMPLURA®

## Acids T-Z

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| T | L(+)-Tartaric acid for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 87-69-4 | HOOCCH(OH)CH(OH)COOH | 250 g | HDPE bottle | 1.00804.0250 |
| | | | | 1 kg | HDPE bottle | 1.00804.1000 |
| | | | | 5 kg | HDPE bottle | 1.00804.5000 |
| | | | | 50 kg | Fibre carton | 1.00804.9050 |
| | Toluene-4-sulfonic acid monohydrate for analysis EMSURE® ACS | 6192-52-5 | $CH_3C_6H_4SO_3H * H_2O$ | 100 g | HDPE bottle | 1.09613.0100 |
| | | | | 500 g | HDPE bottle | 1.09613.0500 |
| | Trichloroacetic acid for analysis EMSURE® ACS, Reag. Ph Eur | 76-03-9 | $CCl_3COOH$ | 100 g | Glass bottle | 1.00807.0100 |
| | | | | 250 g | Glass bottle | 1.00807.0250 |
| | | | | 1 kg | Glass bottle | 1.00807.1000 |
| | Tungstophosphoric acid hydrate for analysis EMSURE® | 12501-23-4 | $H_3[P(W_3O_{10})_4] * x H_2O$ | 100 g | HDPE bottle | 1.00583.0100 |
| | | | | 250 g | HDPE bottle | 1.00583.0250 |
| | Tungstophosphoric acid hydrate cryst. EMPLURA® | 12501-23-4 | $H_3[P(W_3O_{10})_4] * x H_2O$ | 100 g | HDPE bottle | 1.00582.0100 |
| | | | | 25 kg | Fibre carton | 1.00582.9025 |
| | Tungstosilicic acid hydrate for analysis EMSURE® | 12027-43-9 | $H_4[Si(W_3O_{10})_4] * x H_2O$ | 100 g | HDPE bottle | 1.00659.0100 |


**For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

# caustic alkalis and bases

**EMSURE® | EMPLURA®**

Our high-quality caustic alkalis and bases are produced using specially selected raw materials. The range includes sodium and potassium hydroxide pellets and corresponding solutions, as well as ammonia solutions in various concentrations and grades. Simply choose the right product for your application.

**EMSURE®** Caustic alkalis and bases | Premium Grade

▶ For more information please have a look at page 22

**EMPLURA®** Caustic alkalis and bases | Basic Grade

▶ For more information please have a look at page 36

# Ordering information
## Caustic alkalis and bases

### Caustics and bases A-S

| | Product | CAS No. | Chemical formula | | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|
| A | Ammonia solution 25% for analysis EMSURE® ISO, Reag. Ph Eur | | | | 1 L | HDPE bottle | 1.05432.1011 |
| | | | | NEW | 2.5 L | HDPE bottle | 1.05432.2511 |
| | | | | | 5 L | HDPE bottle | 1.05432.5000 |
| | | | | | 25 L | PE canister | 1.05432.9025 |
| | | | | | 180 L | PE / Metal drum | 1.05432.9181 |
| | Ammonia solution 28–30% for analysis EMSURE® ACS, Reag. Ph Eur | | | NEW | 1 L | HDPE bottle | 1.05423.1011 |
| | | | | NEW | 2.5 L | HDPE bottle | 1.05423.2511 |
| | | | | | 25 L | PE canister | 1.05423.9025 |
| | | | | | 180 L | PE / Metal drum | 1.05423.9180 |
| | Ammonia solution 32% EMPLURA® | | | NEW | 1 L | HDPE bottle | 1.05426.1011 |
| | | | | NEW | 2.5 L | HDPE bottle | 1.05426.2511 |
| P | Potassium hydroxide pellets for analysis max. 0.05% Na) EMSURE® ACS, Reag. Ph Eur | 1310-58-3 | KOH | | 1 kg | HDPE bottle | 1.05029.1000 |
| | | | | | 12 kg | PE bucket | 1.05029.9012 |
| | | | | | 50 kg | HDPE box | 1.05029.9050 |
| | Potassium hydroxide pellets for analysis EMSURE® | 1310-58-3 | KOH | | 500 g | HDPE bottle | 1.05033.0500 |
| | | | | | 1 kg | HDPE bottle | 1.05033.1000 |
| | | | | | 5 kg | HDPE bottle | 1.05033.5000 |
| | | | | | 25 kg | HDPE box | 1.05033.9025 |
| | | | | | 50 kg | HDPE box | 1.05033.9050 |
| | Potassium hydroxide pellets EMPLURA® | 1310-58-3 | KOH | | 1 kg | HDPE bottle | 1.05012.1000 |
| | | | | | 5 kg | HDPE bottle | 1.05012.5000 |
| | | | | | 50 kg | HDPE box | 1.05012.9050 |
| | Potassium hydroxide solution 47% for analysis EMSURE® | | | | 1 L | HDPE bottle | 1.05545.1000 |
| | | | | | 25 L | PE canister | 1.05545.9025 |
| S | Sodium hydroxide pellets for analysis (max. 0.02% K) EMSURE® ACS, ISO, Reag. Ph Eur | 1310-73-2 | NaOH | | 1 kg | HDPE bottle | 1.06469.1000 |
| | | | | | 5 kg | HDPE bottle | 1.06469.5000 |
| | | | | | 12 kg | PE bucket | 1.06469.9012 |
| | | | | | 50 kg | HDPE box | 1.06469.9050 |
| | Sodium hydroxide pellets for analysis EMSURE® | 1310-73-2 | NaOH | | 500 g | HDPE bottle | 1.06498.0500 |
| | | | | | 1 kg | HDPE bottle | 1.06498.1000 |
| | | | | | 5 kg | HDPE bottle | 1.06498.5000 |
| | | | | | 25 kg | HDPE box | 1.06498.9025 |
| | | | | | 50 kg | HDPE box | 1.06498.9050 |
| | Sodium hydroxide pellets EMPLURA® | 1310-73-2 | NaOH | | 1 kg | HDPE bottle | 1.06462.1000 |
| | | | | | 5 kg | HDPE bottle | 1.06462.5000 |
| | | | | | 50 kg | HDPE box | 1.06462.9050 |
| | Sodium hydroxide granulated EMPLURA® | 1310-73-2 | NaOH | | 10 kg | HDPE bottle | 1.06467.9010 |
| | | | | | 50 kg | Fibre carton | 1.06467.9050 |



EMSURE® EMPLURA®

## Caustics and bases S-Z

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| S | Sodium hydroxide solution min. 10% (1.11) for analysis EMSURE® | | | 1 L | HDPE bottle | 1.05588.1000 |
| | | | | 10 L | PE canister | 1.05588.9010 |
| | Sodium hydroxide solution 21% for analysis EMSURE® | | | 25 L | PE canister | 1.05593.9025 |
| | Sodium hydroxide solution min. 27% (1.30) for analysis (for the determination of nitrogen) EMSURE® | | | 2.5 L | HDPE bottle | 1.05591.2500 |
| | | | | 25 L | PE canister | 1.05591.9025 |
| | Sodium hydroxide solution about 32% (for the determination of nitrogen) for analysis EMSURE® | | | 2.5 L | HDPE bottle | 1.05590.2500 |
| | | | | 25 L | PE canister | 1.05590.9025 |
| | | | | 200 L | PE drum | 1.05590.9200 |
| | Sodium hydroxide solution about 32% EMPLURA® | | | 2.5 L | HDPE bottle | 1.05587.2500 |
| | | | | 5 L | HDPE bottle | 1.05587.5000 |
| | | | | 25 L | PE canister | 1.05587.9025 |
| | | | | 200 L | PE drum | 1.05587.9200 |
| | Sodium hydroxide solution about 36% for analysis EMSURE® | | | 5 L | HDPE bottle | 1.05596.5000 |
| | Sodium hydroxide solution min. 45% for analysis EMSURE® | | | 2.5 L | HDPE bottle | 1.11360.2500 |
| | | | | 25 L | PE canister | 1.11360.9025 |
| | Sodium hydroxide solution 50% for analysis EMSURE® | | | 1 L | HDPE bottle | 1.58793.1000 |
| | | | | 5 L | HDPE bottle | 1.58793.5000 |
| | | | | 25 L | PE canister | 1.58793.9025 |
| | | | | 200 L | PE drum | 1.58793.9200 |

▶ **For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

# Metals and Metal oxides

**EMSURE® | EMPLURA®** metal salts, metals and noble metals are renowned for their high quality and purity. We offer a diverse range of products suitable for a multitude of applications in R&D, production and quality control.

## **EMSURE®** Metals and metal oxides

Premium Grade

▶ For more information please have a look at page 22

## **EMPLURA®** Metals and metal oxides

Basic Grade

▶ For more information please have a look at page 36

# Ordering information
## Metals and metal oxides

### Metals and metal oxides A-H

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| A | Aluminium fine powder, stabilized about 2% fat | 7429-90-5 | Al | 250 g | Metal can | 1.01056.0250 |
| | | | | 1 kg | Metal can | 1.01056.1000 |
| | Aluminium (foil) for analysis 0.3 mm thickness, 30 mm width EMSURE® | 7429-90-5 | Al | 250 g | Fibre case | 1.01057.0250 |
| | | | | 1 kg | Fibre case | 1.01057.1000 |
| | Antimony(III) chloride for analysis EMSURE® ACS | 10025-91-9 | $SbCl_3$ | 250 g | Glass bottle | 1.07838.0250 |
| | | | | 1 kg | Glass bottle | 1.07838.1000 |
| | Antimony(III) oxide for analysis EMSURE® | 1309-64-4 | $Sb_2O_3$ | 100 g | HDPE bottle | 1.07836.0100 |
| | | | | 1 kg | HDPE bottle | 1.07836.1000 |
| | Antimony(III) oxide EMPLURA® | 1309-64-4 | $Sb_2O_3$ | 2.5 kg | HDPE bottle | 1.07835.2500 |
| | | | | 50 kg | Fibre carton | 1.07835.9050 |
| B | Bismuth(III) oxide EMPLURA® | 1304-76-3 | $Bi_2O_3$ | 1 kg | HDPE bottle | 1.01862.1000 |
| | | | | 25 kg | Fibre carton | 1.01862.9025 |
| | Bromine for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7726-95-6 | $Br_2$ | 50 mL | Glass btl. pl. coat. | 1.01948.0050 |
| | | | | 250 mL | Glass bottle | 1.01948.0250 |
| | | | | 1 L | Glass btl. pl. coat. | 1.01948.1000 |
| | Bromine EMPLURA® | 7726-95-6 | $Br_2$ | 250 mL | Glass bottle | 1.01945.0250 |
| | | | | 1 L | Glass btl. pl. coat. | 1.01945.1000 |
| C | Cadmium coarse powder, for analysis and for filling reductors particle size about 0.3–1.6 mm EMSURE® | 7440-43-9 | Cd | 250 g | Metal can | 1.02001.0250 |
| | | | | 1 kg | Metal can | 1.02001.1000 |
| | Cadmium granular, for analysis particle size about 3–6 mm EMSURE® | 7440-43-9 | Cd | 250 g | Metal can | 1.02004.0250 |
| | Cesium chloride for analysis EMSURE® | 7647-17-8 | CsCl | 25 g | Glass bottle | 1.02038.0025 |
| | | | | 100 g | HDPE bottle | 1.02038.0100 |
| | Cesium chloride EMPLURA® | 7647-17-8 | CsCl | 1 kg | HDPE bottle | 1.02041.1000 |
| | Cesium nitrate 99+ for analysis EMSURE® | 7789-18-6 | $CsNO_3$ | 25 g | Glass bottle | 1.02856.0025 |
| | | | | 1 kg | HDPE bottle | 1.02856.1000 |
| | Chromium(VI) oxide for analysis EMSURE® | 1333-82-0 | $CrO_3$ | 250 g | Glass bottle | 1.00229.0250 |
| | Copper fine powder particle size < 63 MYm (> 230 mesh ASTM) EMSURE® | 7440-50-8 | Cu | 250 g | HDPE bottle | 1.02703.0250 |
| | | | | 1 kg | HDPE bottle | 1.02703.1000 |
| | Copper foil about 0.1 mm thickness for analysis EMSURE® | 7440-50-8 | Cu | 250 g | Fibre case | 1.02700.0250 |
| | Copper(II) oxide powder for analysis EMSURE® ACS | 1317-38-0 | CuO | 100 g | HDPE bottle | 1.02766.0100 |
| | | | | 500 g | HDPE bottle | 1.02766.0500 |
| | | | | 25 kg | Fibre carton | 1.02766.9025 |
| | Copper(II) oxide powder EMPLURA® | 1317-38-0 | CuO | 500 g | HDPE bottle | 1.02761.0500 |
| | | | | 25 kg | PE bucket | 1.02761.9025 |
| D | Devarda's alloy for analysis EMSURE® | 8049-11-4 | Cu / Al / Zn | 250 g | HDPE bottle | 1.05341.0250 |
| | | | | 1 kg | HDPE bottle | 1.05341.1000 |



EMSURE® EMPLURA®

## Metals and metal oxides I-R

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| I | Iron for analysis reduced, particle size 10 µm EMSURE® | 7439-89-6 | Fe | 100 g | HDPE bottle | 1.03819.0100 |
| | | | | 500 g | HDPE bottle | 1.03819.0500 |
| | di-Iodine pentoxide for analysis granular 0.5-2.5 mm EMSURE® | 12029-98-0 | $I_2O_5$ | 100 g | Glass bottle | 1.00358.0100 |
| | Iodine sublimated for analysis EMSURE® ACS, ISO, Reag. Ph Eur. | 7553-56-2 | $I_2$ | 100 g | Glass bottle | 1.04761.0100 |
| | | | | 500 g | Glass bottle | 1.04761.0500 |
| L | Lanthanum(III) oxide EMPLURA® | 1312-81-8 | $La_2O_3$ | 100 g | HDPE bottle | 1.12220.0100 |
| | | | | 500 g | HDPE bottle | 1.12220.0500 |
| | Lead foil for analysis about 0.25 mm thick EMSURE® | 7439-92-1 | Pb | 500 g | Fibre case | 1.07365.0500 |
| | Lead(II) oxide for analysis EMSURE® | 1317-36-8 | PbO | 250 g | HDPE bottle | 1.07401.0250 |
| | | | | 1 kg | HDPE bottle | 1.07401.1000 |
| | Lead(II) oxide EMPLURA® | 1317-36-8 | PbO | 5 kg | HDPE bottle | 1.05658.5000 |
| | | | | 50 kg | PE drum | 1.05658.9050 |
| | Lithium hydroxide 98% + for analysis EMSURE® | 1310-65-2 | LiOH | 100 g | HDPE bottle | 1.05691.0100 |
| | | | | 1 kg | HDPE bottle | 1.05691.1000 |
| M | Magnesium foil | 7439-95-4 | Mg | 1 roll (~ 25 g) | Fibre case | 1.05812.0001 |
| | Magnesium powder particle size about 0.06–0.3 mm | 7439-95-4 | Mg | 1 kg | Metal can | 1.05815.1000 |
| | Magnesium oxide for analysis (max. 0.001% $SO_4$) EMSURE® ACS | 1309-48-4 | MgO | 100 g | HDPE bottle | 1.05866.0100 |
| | | | | 500 g | HDPE bottle | 1.05866.0500 |
| | Magnesium oxide for analysis EMSURE® | 1309-48-4 | MgO | 100 g | HDPE bottle | 1.05865.0100 |
| | | | | 500 g | HDPE bottle | 1.05865.0500 |
| | Manganese(IV) oxide powder EMPLURA® | 1313-13-9 | $MnO_2$ | 1 kg | Glass bottle | 1.05957.1000 |
| | | | | 25 kg | Fibre carton | 1.05957.9025 |
| | Molybdenum(VI) oxide for analysis EMSURE® | 1313-27-5 | $MoO_3$ | 100 g | HDPE bottle | 1.00403.0100 |
| | | | | 500 g | HDPE bottle | 1.00403.0500 |
| P | Palladium powdered 99+ for analysis EMSURE® | 7440-05-3 | Pd | 1 g | Glass bottle | 1.19225.0001 |
| | | | | 5 g | Glass bottle | 1.19225.0005 |
| | Platinum black 98+ for analysis EMSURE® | 7440-06-4 | Pt | 5 g | Glass bottle | 1.19233.0005 |
| | | | | 50 g | HDPE bottle | 1.19233.0050 |
| R | Rubidium chloride for analysis EMSURE® | 7791-11-9 | RbCl | 25 g | Glass bottle | 1.07615.0025 |

# Ordering information
## Metals and metal oxides

**Metals and metal oxides S-Y**

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| **S** | Selenium black 99+ for analysis EMSURE® | 7782-49-2 | Se | 50 g | HDPE bottle | 1.07714.0050 |
| | | | | 250 g | HDPE bottle | 1.07714.0250 |
| | | | | 1 kg | HDPE bottle | 1.07714.1000 |
| | Silver chloride 99+ for analysis EMSURE® | 7783-90-6 | AgCl | 25 g | HDPE bottle | 1.19203.0025 |
| | | | | 100 g | HDPE bottle | 1.19203.0100 |
| | | | | 1 kg | HDPE bottle | 1.19203.1000 |
| | Silver diethyldithiocarbamate for analysis EMSURE® Reag. Ph Eur | 1470-61-7 | $C_5H_{10}AgNS_2$ | 5 g | Glass bottle | 1.01515.0005 |
| | Silver oxide 99+ for analysis EMSURE® | 20667-12-3 | $Ag_2O$ | 25 g | HDPE bottle | 1.19208.0025 |
| | | | | 100 g | HDPE bottle | 1.19208.0100 |
| | Sodium rod diameter 2.5 cm (protective liquid: paraffin oil) | 7440-23-5 | Na | 250 g | Glass bottle | 1.06260.0250 |
| **T** | Tetrachloroauric(III) acid trihydrate 99% for analysis EMSURE® | 16961-25-4 | $AuCl_4H*3H_2O$ | 1 g | Glass ampoule | 1.01582.0001 |
| | | | | 5 g | Glass ampoule | 1.01582.0005 |
| | Tin fine powder EMPLURA® (particle size < 71 µm) | 7440-31-5 | Sn | 250 g | HDPE bottle | 1.07807.0250 |
| | Tin foil about 0.04 mm thick | 7440-31-5 | Sn | 200 strips | Plastic box | 1.07826.0001 |
| | Tin granulated for analysis (particle size about 4 mm) EMSURE® Reag. Ph Eur | 7440-31-5 | Sn | 250 g | HDPE bottle | 1.07806.0250 |
| | | | | 1 kg | HDPE bottle | 1.07806.1000 |
| | Tin(IV) oxide EMPLURA® | 18282-10-5 | $SnO_2$ | 250 g | HDPE bottle | 1.07818.0250 |
| | | | | 25 kg | Fibre carton | 1.07818.9025 |
| | Titanium(IV) oxide for analysis EMSURE® Reag. Ph Eur | 13463-67-7 | $TiO_2$ | 1 kg | HDPE bottle | 1.00808.1000 |
| | | | | 25 kg | Fibre carton | 1.00808.9025 |
| | | | | 50 kg | Fibre carton | 1.00808.9050 |
| **V** | Vanadium(V) oxide EMPLURA® | 1314-62-1 | $V_2O_5$ | 250 g | HDPE bottle | 1.00824.0250 |
| | | | | 1 kg | HDPE bottle | 1.00824.1000 |
| **Y** | Yttrium oxide 99+ for analysis EMSURE® | 1314-36-9 | $Y_2O_3$ | 25 g | HDPE bottle | 1.12412.0025 |



EMSURE® EMPLURA®

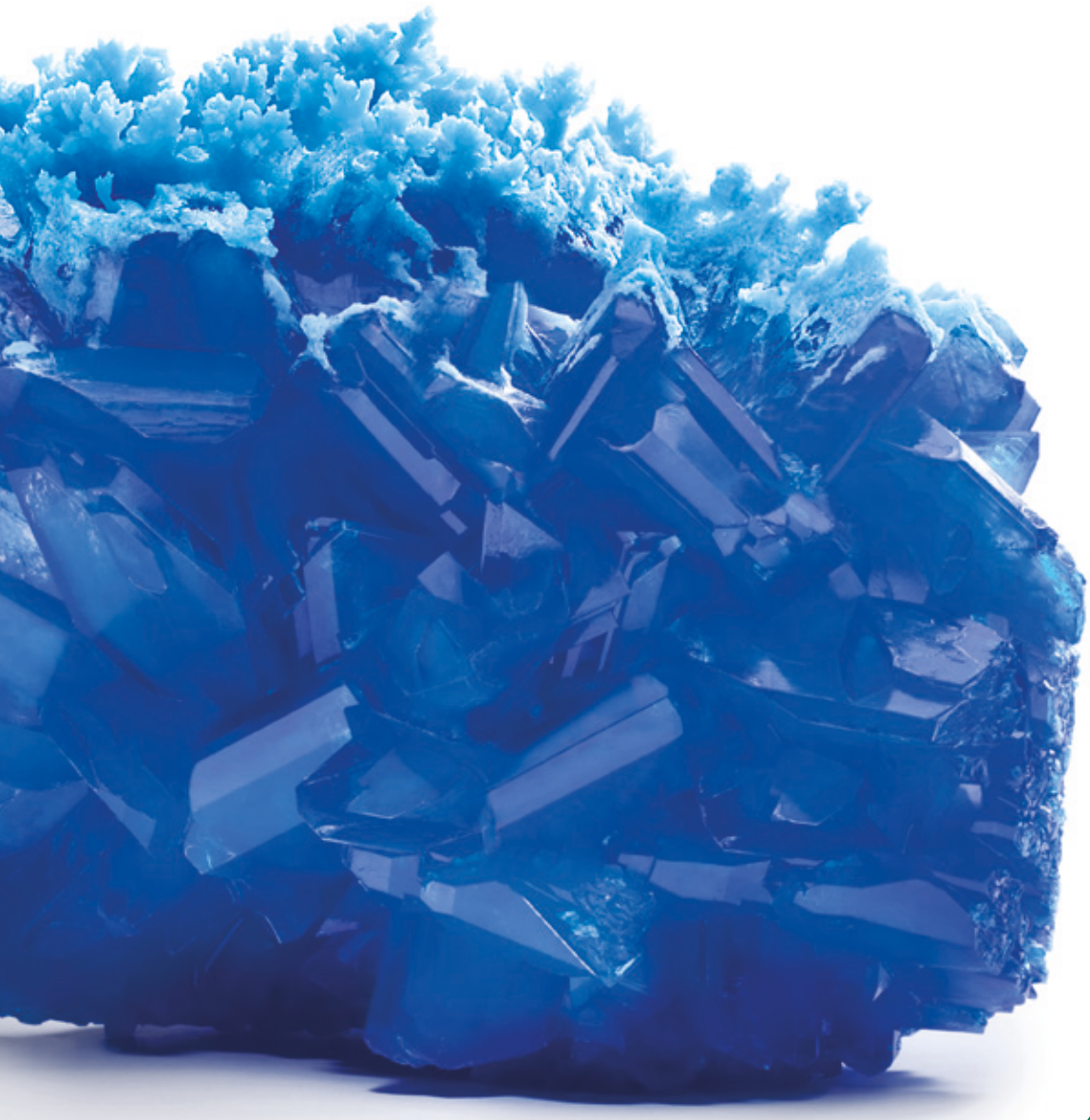
## Metals and metal oxides Z

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| Z | Zinc coarse powder for analysis suitable for filling of reductors, particle size about 0.3 – 1.5 mm (14 – 50 mesh ASTM) EMSURE® Reag. Ph Eur | 7440-66-6 | Zn | 250 g | Metal can | 1.08756.0250 |
| | | | | 1 kg | Metal can | 1.08756.1000 |
| | Zinc dust particle size < 63 µm EMPLURA® | 7440-66-6 | Zn | 1 kg | HDPE bottle | 1.08774.1000 |
| | | | | 50 kg | Steel drum | 1.08774.9050 |
| | Zinc granular for analysis, particle size about 3–8 mm EMSURE® ISO | 7440-66-6 | Zn | 500 g | HDPE bottle | 1.08780.0500 |
| | | | | 1 kg | HDPE bottle | 1.08780.1000 |
| | Zinc powder for analysis particle size < 45 µm EMSURE® | 7440-66-6 | Zn | 500 g | Metal can | 1.08789.0500 |
| | | | | 1 kg | Metal can | 1.08789.1000 |
| | Zinc sticks, triangular cross section about 8 mm for analysis EMSURE® | 7440-66-6 | Zn | 500 g | Fibre case | 1.08782.0500 |
| | Zinc oxide for analysis EMSURE® ACS, Reag. Ph Eur | 1314-13-2 | ZnO | 500 g | HDPE bottle | 1.08849.0500 |
| | | | | 1 kg | HDPE bottle | 1.08849.1000 |
| | | | | 25 kg | Fibre carton | 1.08849.9025 |
| | Zirconium(IV) oxide chloride octahydrate for analysis EMSURE® | 13520-92-8 | $ZrOCl_2 * 8 H_2O$ | 100 g | HDPE bottle | 1.08917.0100 |


▶ **For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

**Zinc**

# salts



**EMSURE® | EMPLURA® Salts.**
We offer an extensive range of inorganic salts for qualitative and quantitative analysis. At our facilities in Darmstadt, our salts are manufactured under strictly controlled conditions with state-of-the-art production technologies and equipment, to ensure outstanding analytical purity.

## EMSURE® Salts

Premium Grade

▶ For more information please have a look at page 22

## EMPLURA® Salts

Basic Grade

▶ For more information please have a look at page 36

# Ordering information
## Salts

### Salts A

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| A | Aluminium ammonium sulfate dodecahydrate for analysis EMSURE® ACS | 7784-26-1 | $NH_4Al(SO_4)_2 * 12\ H_2O$ | 500 g | HDPE bottle | 1.01031.0500 |
| | Aluminium hydroxide powder EMPLURA® hydrargillite | 21645-51-2 | $Al(OH)_3 * x\ H_2O$ | 1 kg | HDPE bottle | 1.01091.1000 |
| | | | | 50 kg | Fibre carton | 1.01091.9050 |
| | Aluminium nitrate nonahydrate for analysis EMSURE® | 7784-27-2 | $Al(NO_3)_3 * 9\ H_2O$ | 500 g | HDPE bottle | 1.01063.0500 |
| | | | | 50 kg | Fibre carton | 1.01063.9050 |
| | Aluminium nitrate nonahydrate EMPLURA® | 7784-27-2 | $Al(NO_3)_3 * 9\ H_2O$ | 1 kg | HDPE bottle | 1.01086.1000 |
| | | | | 50 kg | PE canister | 1.01086.9050 |
| | Aluminium potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7784-24-9 | $KAl(SO_4)_2 * 12\ H_2O$ | 1 kg | HDPE bottle | 1.01047.1000 |
| | | | | 25 kg | Fibre carton | 1.01047.9025 |
| | Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur | 631-61-8 | $CH_3COONH_4$ | 500 g | HDPE bottle | 1.01116.0500 |
| | | | | 1 kg | HDPE bottle | 1.01116.1000 |
| | | | | 5 kg | HDPE bottle | 1.01116.5000 |
| | | | | 12 kg | PE bucket | 1.01116.9012 |
| | | | | 25 kg | Fibre carton | 1.01116.9025 |
| | Ammonium acetate EMPLURA® | 631-61-8 | $CH_3COONH_4$ | 1 kg | HDPE bottle | 1.01115.1000 |
| | | | | 5 kg | HDPE bottle | 1.01115.5000 |
| | Ammonium amidosulfonate for analysis (for detection of sulfonamide in blood) EMSURE® ACS, Reag. Ph Eur | 7773-06-0 | $H_2NSO_3NH_4$ | 100 g | HDPE bottle | 1.01220.0100 |
| | Ammonium bromide for analysis EMSURE® ACS | 12124-97-9 | $NH_4Br$ | 1 kg | HDPE bottle | 1.01125.1000 |
| | | | | 25 kg | Fibre carton | 1.01125.9025 |
| | Ammonium carbamate for analysis EMSURE® | 1111-78-0 | $H_2NCOONH_4$ | 500 g | HDPE bottle | 1.01134.0500 |
| | Ammonium carbonate for analysis EMSURE® ACS, Reag. Ph Eur | 10361-29-2 | | 250 g | HDPE bottle | 1.59504.0250 |
| | | | | 1 kg | HDPE bottle | 1.59504.1000 |
| | Ammonium cerium(IV) nitrate for analysis EMSURE® ACS, Reag. Ph Eur | 16774-21-3 | $(NH_4)_2[Ce(NO_3)_6]$ | 100 g | HDPE bottle | 1.02276.0100 |
| | | | | 1 kg | HDPE bottle | 1.02276.1000 |
| | Ammonium cerium(IV) sulfate dihydrate for analysis EMSURE® ACS | 10378-47-9 | $(NH_4)_4Ce(SO_4)_4 * 2\ H_2O$ | 100 g | HDPE bottle | 1.02273.0100 |
| | Ammonium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 12125-02-9 | $NH_4Cl$ | 500 g | HDPE bottle | 1.01145.0500 |
| | | | | 1 kg | HDPE bottle | 1.01145.1000 |
| | | | | 5 kg | HDPE bottle | 1.01145.5000 |
| | | | | 25 kg | Fibre carton | 1.01145.9025 |
| | | | | 50 kg | Fibre carton | 1.01145.9050 |
| | Ammonium dihydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur | 7722-76-1 | $(NH_4)H_2PO_4$ | 500 g | HDPE bottle | 1.01126.0500 |
| | | | | 5 kg | HDPE bottle | 1.01126.5000 |
| | | | | 50 kg | Fibre carton | 1.01126.9050 |
| | Ammonium fluoride for analysis EMSURE® ACS | 12125-01-8 | $NH_4F$ | 250 g | HDPE bottle | 1.01164.0250 |
| | | | | 1 kg | HDPE bottle | 1.01164.1000 |
| | | | | 25 kg | Fibre carton | 1.01164.9025 |



EMSURE® EMPLURA®

## Salts A–B

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| A | di-Ammonium hydrogen citrate for analysis EMSURE® ACS, Reag. Ph Eur | 3012-65-5 | $C_6H_8O_7 * 2\ NH_3$ | 500 g | HDPE bottle | 1.01154.0500 |
| | | | | 2.5 kg | HDPE bottle | 1.01154.2500 |
| | | | | 25 kg | Fibre carton | 1.01154.9025 |
| | di-Ammonium hydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur | 7783-28-0 | $(NH_4)_2HPO_4$ | 500 g | HDPE bottle | 1.01207.0500 |
| | | | | 25 kg | Fibre carton | 1.01207.9025 |
| | | | | 50 kg | Fibre carton | 1.01207.9050 |
| | Ammonium hydrogen difluoride EMPLURA® | 1341-49-7 | $NH_4HF_2$ | 5 kg | HDPE bottle | 1.01160.5000 |
| | Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7783-83-7 | $(NH_4)Fe(SO_4)_2 * 12\ H_2O$ | 500 g | HDPE bottle | 1.03776.0500 |
| | | | | 1 kg | HDPE bottle | 1.03776.1000 |
| | | | | 5 kg | HDPE bottle | 1.03776.5000 |
| | | | | 12 kg | PE bucket | 1.03776.9012 |
| | | | | 50 kg | Fibre carton | 1.03776.9050 |
| | Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO | 7783-85-9 | $(NH_4)_2Fe(SO_4)_2 * 6\ H_2O$ | 500 g | HDPE bottle | 1.03792.0500 |
| | | | | 1 kg | HDPE bottle | 1.03792.1000 |
| | | | | 5 kg | HDPE bottle | 1.03792.5000 |
| | | | | 50 kg | Fibre carton | 1.03792.9050 |
| | Ammonium nitrate for analysis EMSURE® ACS | 6484-52-2 | $NH_4NO_3$ | 500 g | HDPE bottle | 1.01188.0500 |
| | | | | 1 kg | HDPE bottle | 1.01188.1000 |
| | | | | 5 kg | HDPE bottle | 1.01188.5000 |
| | Ammonium nitrate EMPLURA® | 6484-52-2 | $NH_4NO_3$ | 1 kg | HDPE bottle | 1.01187.1000 |
| | | | | 5 kg | HDPE bottle | 1.01187.5000 |
| | di-Ammonium oxalate monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 6009-70-7 | $(NH_4)_2C_2O_4 * H_2O$ | 250 g | HDPE bottle | 1.01192.0250 |
| | | | | 1 kg | HDPE bottle | 1.01192.1000 |
| | di-Ammonium oxalate monohydrate EMPLURA® | 6009-70-7 | $(NH_4)_2C_2O_4 * H_2O$ | 1 kg | HDPE bottle | 1.01190.1000 |
| | | | | 50 kg | Fibre carton | 1.01190.9050 |
| | Ammonium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur | 7727-54-0 | $(NH_4)_2S_2O_8$ | 500 g | HDPE bottle | 1.01201.0500 |
| | | | | 1 kg | HDPE bottle | 1.01201.1000 |
| | | | | 5 kg | HDPE bottle | 1.01201.5000 |
| | | | | 12 kg | PE bucket | 1.01201.9012 |
| | Ammonium peroxodisulfate EMPLURA® | 7727-54-0 | $(NH_4)_2S_2O_8$ | 1 kg | HDPE bottle | 1.01200.1000 |
| | | | | 5 kg | HDPE bottle | 1.01200.5000 |
| | | | | 25 kg | PE bucket | 1.01200.9025 |
| | Ammonium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7783-20-2 | $(NH_4)_2SO_4$ | 100 g | HDPE bottle | 1.01217.0100 |
| | | | | 1 kg | HDPE bottle | 1.01217.1000 |
| | | | | 5 kg | HDPE bottle | 1.01217.5000 |
| | | | | 25 kg | Fibre carton | 1.01217.9025 |
| | Ammonium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 1762-95-4 | $NH_4SCN$ | 500 g | HDPE bottle | 1.01213.0500 |
| | | | | 25 kg | Fibre carton | 1.01213.9025 |
| B | Barium acetate for analysis EMSURE® ACS | 543-80-6 | $Ba(CH_3COO)_2$ | 500 g | HDPE bottle | 1.01704.0500 |
| | Barium carbonate for analysis EMSURE® ACS, Reag. Ph Eur | 513-77-9 | $BaCO_3$ | 250 g | HDPE bottle | 1.01714.0250 |
| | | | | 1 kg | HDPE bottle | 1.01714.1000 |
| | | | | 25 kg | Fibre carton | 1.01714.9025 |

# Ordering information
## Salts

### Salts B-C

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| B | Barium chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 10326-27-9 | $BaCl_2 * 2 H_2O$ | 500 g | HDPE bottle | 1.01719.0500 |
| | | | | 1 kg | HDPE bottle | 1.01719.1000 |
| | | | | 5 kg | HDPE bottle | 1.01719.5000 |
| | | | | 50 kg | Fibre carton | 1.01719.9050 |
| | Barium chloride dihydrate EMPLURA® | 10326-27-9 | $BaCl_2 * 2 H_2O$ | 1 kg | HDPE bottle | 1.01717.1000 |
| | Barium hydroxide octahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 12230-71-6 | $Ba(OH)_2 * 8 H_2O$ | 500 g | HDPE bottle | 1.01737.0500 |
| | Barium hydroxide octahydrate EMPLURA® | 12230-71-6 | $Ba(OH)_2 * 8 H_2O$ | 1 kg | HDPE bottle | 1.01735.1000 |
| | Barium nitrate for analysis EMSURE® ACS | 10022-31-8 | $Ba(NO_3)_2$ | 500 g | HDPE bottle | 1.01729.0500 |
| | Barium perchlorate anhydrous for analysis EMSURE® | 13465-95-7 | $Ba(ClO_4)_2$ | 250 g | Metal can | 1.01738.0250 |
| | | | | 1 kg | Metal can | 1.01738.1000 |
| | Bismuth(III) nitrate alkaline for analysis EMSURE® Reag. Ph Eur | 1304-85-4 | $Bi_5O(OH)_9(NO_3)_4$ | 100 g | HDPE bottle | 1.01878.0100 |
| C | Cadmium acetate dihydrate for analysis EMSURE® | 5743-04-4 | $(CH_3COO)_2Cd * 2 H_2O$ | 500 g | HDPE bottle | 1.02003.0500 |
| | Cadmium oxide fine powder EMPLURA® | 1306-19-0 | CdO | 5 kg | Metal can | 1.02015.5000 |
| | Cadmium sulfate hydrate for analysis EMSURE® ACS | 7790-84-3 | $3 CdSO_4 * 8 H_2O$ | 100 g | HDPE bottle | 1.02027.0100 |
| | Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur | 471-34-1 | $CaCO_3$ | 250 g | HDPE bottle | 1.02066.0250 |
| | | | | 1 kg | HDPE bottle | 1.02066.1000 |
| | | | | 50 kg | Fibre carton | 1.02066.9050 |
| | Calcium carbonate precipitated for analysis of silicates EMSURE® | 471-34-1 | $CaCO_3$ | 500 g | HDPE bottle | 1.02067.0500 |
| | Calcium chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10035-04-8 | $CaCl_2 * 2 H_2O$ | 250 g | HDPE bottle | 1.02382.0250 |
| | | | | 500 g | HDPE bottle | 1.02382.0500 |
| | | | | 1 kg | HDPE bottle | 1.02382.1000 |
| | | | | 5 kg | HDPE bottle | 1.02382.5000 |
| | | | | 25 kg | Fibre carton | 1.02382.9025 |
| | Calcium hydroxide for analysis EMSURE® ACS, Reag. Ph Eur | 1305-62-0 | $Ca(OH)_2$ | 500 g | HDPE bottle | 1.02047.0500 |
| | | | | 1 kg | HDPE bottle | 1.02047.1000 |
| | | | | 50 kg | Fibre carton | 1.02047.9050 |
| | Calcium nitrate tetrahydrate for analysis EMSURE® ACS | 13477-34-4 | $Ca(NO_3)_2 * 4 H_2O$ | 500 g | HDPE bottle | 1.02121.0500 |
| | | | | 5 kg | HDPE bottle | 1.02121.5000 |
| | | | | 50 kg | Fibre carton | 1.02121.9050 |
| | Calcium nitrate tetrahydrate EMPLURA® | 13477-34-4 | $Ca(NO_3)_2 * 4 H_2O$ | 5 kg | HDPE bottle | 1.02120.5000 |
| | | | | 50 kg | Fibre carton | 1.02120.9050 |
| | Calcium sulfate dihydrate precipitated for analysis EMSURE® | 10101-41-4 | $CaSO_4 * 2 H_2O$ | 500 g | HDPE bottle | 1.02161.0500 |
| | | | | 25 kg | Fibre carton | 1.02161.9025 |
| | Cerium(IV) sulfate tetrahydrate for analysis EMSURE® | 10294-42-5 | $Ce(SO_4)_2 * 4 H_2O$ | 25 g | HDPE bottle | 1.02274.0025 |
| | | | | 100 g | HDPE bottle | 1.02274.0100 |
| | | | | 250 g | HDPE bottle | 1.02274.0250 |
| | Chromium(III) nitrate nonahydrate for analysis EMSURE® | 7789-02-8 | $Cr(NO_3)_3 * 9 H_2O$ | 250 g | HDPE bottle | 1.02481.0250 |



EMSURE® EMPLURA®

## Salts C-I

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| C | Chromium(III) potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7788-99-0 | $KCr(SO_4)_2 * 12\ H_2O$ | 250 g | HDPE bottle | 1.01036.0250 |
| | Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7791-13-1 | $CoCl_2 * 6\ H_2O$ | 100 g | HDPE bottle | 1.02539.0100 |
| | | | | 250 g | HDPE bottle | 1.02539.0250 |
| | Cobalt(II) chloride hexahydrate EMPLURA® | 7791-13-1 | $CoCl_2 * 6\ H_2O$ | 1 kg | HDPE bottle | 1.02533.1000 |
| | Cobalt(II) nitrate hexahydrate for analysis EMSURE® | 10026-22-9 | $Co(NO_3)_2 * 6\ H_2O$ | 100 g | HDPE bottle | 1.02536.0100 |
| | | | | 250 g | HDPE bottle | 1.02536.0250 |
| | Cobalt(II) sulfate heptahydrate for analysis EMSURE® | 10026-24-1 | $CoSO_4 * 7\ H_2O$ | 100 g | HDPE bottle | 1.02556.0100 |
| | | | | 250 g | HDPE bottle | 1.02556.0250 |
| | Copper(II) acetate monohydrate for analysis EMSURE® ACS | 6046-93-1 | $(CH_3COO)_2Cu * H_2O$ | 250 g | HDPE bottle | 1.02711.0250 |
| | | | | 25 kg | Fibre carton | 1.02711.9025 |
| | Copper(II) acetate monohydrate cryst. EMPLURA® | 6046-93-1 | $(CH_3COO)_2Cu * H_2O$ | 500 g | HDPE bottle | 1.02710.0500 |
| | | | | 50 kg | Fibre carton | 1.02710.9050 |
| | Copper(I) chloride for analysis EMSURE® ACS | 7758-89-6 | CuCl | 250 g | HDPE bottle | 1.02739.0250 |
| | | | | 25 kg | Fibre carton | 1.02739.9025 |
| | Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10125-13-0 | $CuCl_2 * 2\ H_2O$ | 250 g | HDPE bottle | 1.02733.0250 |
| | | | | 1 kg | HDPE bottle | 1.02733.1000 |
| | Copper(II) nitrate trihydrate for analysis EMSURE® | 10031-43-3 | $Cu(NO_3)_2 * 3\ H_2O$ | 250 g | HDPE bottle | 1.02753.0250 |
| | | | | 1 kg | HDPE bottle | 1.02753.1000 |
| | | | | 25 kg | Fibre carton | 1.02753.9025 |
| | Copper(II) sulfate anhydrous for analysis EMSURE® | 7758-98-7 | $CuSO_4$ | 250 g | HDPE bottle | 1.02791.0250 |
| | | | | 1 kg | HDPE bottle | 1.02791.1000 |
| | Copper(II) sulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7758-99-8 | $CuSO_4 * 5\ H_2O$ | 250 g | HDPE bottle | 1.02790.0250 |
| | | | | 1 kg | HDPE bottle | 1.02790.1000 |
| | | | | 5 kg | HDPE bottle | 1.02790.5000 |
| | | | | 50 kg | Fibre carton | 1.02790.9050 |
| | Copper(II) sulfate pentahydrate very fine crystals EMPLURA® | 7758-99-8 | $CuSO_4 * 5\ H_2O$ | 5 kg | HDPE bottle | 1.02780.5000 |
| | | | | 50 kg | Fibre carton | 1.02780.9050 |
| I | Iron(III) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10025-77-1 | $FeCl_3 * 6\ H_2O$ | 250 g | HDPE bottle | 1.03943.0250 |
| | | | | 1 kg | HDPE bottle | 1.03943.1000 |
| | | | | 25 kg | PE drum | 1.03943.9025 |
| | Iron(III) chloride solution (10% Fe) for analysis EMSURE® | | | 250 mL | HDPE bottle | 1.05512.0250 |
| | Iron(II) chloride tetrahydrate for analysis EMSURE® | 13478-10-9 | $FeCl_2 * 4\ H_2O$ | 250 g | HDPE bottle | 1.03861.0250 |
| | | | | 1 kg | HDPE bottle | 1.03861.1000 |
| | | | | 50 kg | PE drum | 1.03861.9050 |
| | Iron(II) chloride tetrahydrate EMPLURA® | 13478-10-9 | $FeCl_2 * 4\ H_2O$ | 1 kg | HDPE bottle | 1.02459.1000 |
| | | | | 12.5 kg | PE bucket | 1.02459.9012 |
| | Iron(III) nitrate nonahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7782-61-8 | $Fe(NO_3)_3 * 9\ H_2O$ | 250 g | HDPE bottle | 1.03883.0250 |
| | | | | 1 kg | HDPE bottle | 1.03883.1000 |

# Ordering information
## Salts

### Salts I-M

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| I | Iron(II) sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7782-63-0 | $FeSO_4 * 7 H_2O$ | 100 g | HDPE bottle | 1.03965.0100 |
| | | | | 500 g | HDPE bottle | 1.03965.0500 |
| | | | | 1 kg | HDPE bottle | 1.03965.1000 |
| | | | | 5 kg | HDPE bottle | 1.03965.5000 |
| | | | | 25 kg | PE drum | 1.03965.9025 |
| L | Lead(II) acetate trihydrate for analysis EMSURE® ACS, Reag. Ph Eur | 6080-56-4 | $(CH_3COO)_2Pb * 3 H_2O$ | 250 g | HDPE bottle | 1.07375.0250 |
| | | | | 1 kg | HDPE bottle | 1.07375.1000 |
| | Lead(II) carbonate for analysis EMSURE® ACS | 598-63-0 | $PbCO_3$ | 250 g | HDPE bottle | 1.07381.0250 |
| | Lead(II) hydroxide acetate anhydrous for the analysis of sugar acc. to Horne EMSURE® | 51404-69-4 | $(CH_3COO)_2Pb * Pb(OH)_2$ | 1 kg | HDPE bottle | 1.07414.1000 |
| | | | | 30 kg | Fibre carton | 1.07414.9030 |
| | Lead(II) nitrate for analysis EMSURE® ACS, Reag. Ph Eur | 10099-74-8 | $Pb(NO_3)_2$ | 100 g | HDPE bottle | 1.07398.0100 |
| | | | | 1 kg | HDPE bottle | 1.07398.1000 |
| | Lithium bromide EMPLURA® | 7550-35-8 | LiBr | 1 kg | HDPE bottle | 1.05669.1000 |
| | Lithium carbonate for analysis EMSURE® ACS, Reag. Ph Eur | 554-13-2 | $Li_2CO_3$ | 250 g | HDPE bottle | 1.05680.0250 |
| | Lithium carbonate EMPLURA® | 554-13-2 | $Li_2CO_3$ | 1 kg | HDPE bottle | 1.05670.1000 |
| | | | | 50 kg | Fibre carton | 1.05670.9050 |
| | Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur | 7447-41-8 | LiCl | 100 g | HDPE bottle | 1.05679.0100 |
| | | | | 250 g | HDPE bottle | 1.05679.0250 |
| | | | | 12 kg | PE bucket | 1.05679.9012 |
| | Lithium sulfate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10102-25-7 | $Li_2SO_4 * H_2O$ | 250 g | HDPE bottle | 1.05694.0250 |
| M | Magnesium acetate tetrahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 16674-78-5 | $(CH_3COO)_2Mg * 4 H_2O$ | 250 g | HDPE bottle | 1.05819.0250 |
| | | | | 1 kg | HDPE bottle | 1.05819.1000 |
| | | | | 50 kg | Fibre carton | 1.05819.9050 |
| | Magnesium chloride hexahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7791-18-6 | $MgCl_2 * 6 H_2O$ | 250 g | HDPE bottle | 1.05833.0250 |
| | | | | 1 kg | HDPE bottle | 1.05833.1000 |
| | | | | 5 kg | HDPE bottle | 1.05833.5000 |
| | | | | 25 kg | Fibre carton | 1.05833.9025 |
| | Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 13446-18-9 | $Mg(NO_3)_2 * 6 H_2O$ | 500 g | HDPE bottle | 1.05853.0500 |
| | | | | 25 kg | PE drum | 1.05853.9025 |
| | Magnesium perchlorate hydrate [about 83% $Mg(ClO_4)_2$] for analysis EMSURE® | 64010-42-0 | $Mg(ClO_4)_2 * x H_2O$ | 100 g | Metal can | 1.05874.0100 |
| | | | | 500 g | Metal can | 1.05874.0500 |
| | Magnesium sulfate anhydrous for analysis EMSURE® | 7487-88-9 | $MgSO_4$ | 1 kg | Glass bottle | 1.06067.1000 |
| | | | | 25 kg | PE drum | 1.06067.9025 |
| | Magnesium sulfate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10034-99-8 | $MgSO_4 * 7 H_2O$ | 500 g | HDPE bottle | 1.05886.0500 |
| | | | | 1 kg | HDPE bottle | 1.05886.1000 |
| | | | | 5 kg | HDPE bottle | 1.05886.5000 |
| | | | | 50 kg | Fibre carton | 1.05886.9050 |
| | Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS | 13446-34-9 | $MnCl_2 * 4 H_2O$ | 100 g | HDPE bottle | 1.05927.0100 |
| | | | | 1 kg | HDPE bottle | 1.05927.1000 |



EMSURE® EMPLURA®

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| M | Manganese(II) nitrate tetrahydrate for analysis EMSURE® | 20694-39-7 | $Mn(NO_3)_2 * 4 H_2O$ | 500 g | HDPE bottle | 1.05940.0500 |
| | | | | 1 kg | HDPE bottle | 1.05940.1000 |
| | | | | 25 kg | Metal drum | 1.05940.9025 |
| | Manganese(II) sulfate monohydrate spray-dried for analysis EMSURE® ACS, Reag. Ph Eur | 10034-96-5 | $MnSO_4 * H_2O$ | 250 g | HDPE bottle | 1.05941.0250 |
| | | | | 25 kg | Fibre carton | 1.05941.9025 |
| | Mercury for analysis and for polarography EMSURE® | 7439-97-6 | Hg | 250 g | HDPE bottle | 1.04403.0250 |
| | | | | 1 kg | HDPE bottle | 1.04403.1000 |
| | Mercury EMPLURA® | 7439-97-6 | Hg | 250 g | HDPE bottle | 1.04401.0250 |
| | Mercury(II) acetate for analysis EMSURE® ACS, Reag. Ph Eur | 1600-27-7 | $Hg(CH_3COO)_2$ | 50 g | HDPE bottle | 1.04410.0050 |
| | | | | 250 g | HDPE bottle | 1.04410.0250 |
| | Mercury(II) bromide for analysis EMSURE® ACS | 7789-47-1 | $HgBr_2$ | 50 g | HDPE bottle | 1.04421.0050 |
| | | | | 250 g | HDPE bottle | 1.04421.0250 |
| | Mercury(II) chloride for analysis EMSURE® Reag. Ph Eur, ACS | 7487-94-7 | $HgCl_2$ | 50 g | HDPE bottle | 1.04419.0050 |
| | | | | 250 g | HDPE bottle | 1.04419.0250 |
| | | | | 1 kg | HDPE bottle | 1.04419.1000 |
| | Mercury(II) chloride fine cryst. EMPLURA® | 7487-94-7 | $HgCl_2$ | 100 g | HDPE bottle | 1.04417.0100 |
| | Mercury(II) iodide red, for analysis EMSURE® ACS, Reag. Ph Eur | 7774-29-0 | $HgI_2$ | 50 g | HDPE bottle | 1.04428.0050 |
| | | | | 250 g | HDPE bottle | 1.04428.0250 |
| | Mercury(II) iodide red EMPLURA® | 7774-29-0 | $HgI_2$ | 100 g | HDPE bottle | 1.04420.0100 |
| | | | | 1 kg | HDPE bottle | 1.04420.1000 |
| | Mercury(II) nitrate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7783-34-8 | $Hg(NO_3)_2 * H_2O$ | 50 g | HDPE bottle | 1.04439.0050 |
| | | | | 250 g | HDPE bottle | 1.04439.0250 |
| | Mercury(II) oxide red, for analysis EMSURE® | 21908-53-2 | HgO | 50 g | HDPE bottle | 1.04466.0050 |
| | | | | 250 g | HDPE bottle | 1.04466.0250 |
| | Mercury(II) sulfate for analysis EMSURE® ACS | 7783-35-9 | $HgSO_4$ | 50 g | HDPE bottle | 1.04480.0050 |
| | | | | 250 g | HDPE bottle | 1.04480.0250 |
| | Mercury(II) sulfate EMPLURA® | 7783-35-9 | $HgSO_4$ | 100 g | HDPE bottle | 1.04481.0100 |
| | | | | 250 g | HDPE bottle | 1.04481.0250 |
| | | | | 1 kg | HDPE bottle | 1.04481.1000 |
| | Mercury(II) thiocyanate for analysis EMSURE® Reag. Ph Eur | 592-85-8 | $Hg(SCN)_2$ | 25 g | HDPE bottle | 1.04484.0025 |
| | | | | 100 g | HDPE bottle | 1.04484.0100 |
| N | Nickel(II) chloride hexahydrate for analysis EMSURE® ACS | 7791-20-0 | $NiCl_2 * 6 H_2O$ | 250 g | HDPE bottle | 1.06717.0250 |
| | | | | 1 kg | HDPE bottle | 1.06717.1000 |
| | Nickel(II) nitrate hexahydrate for analysis EMSURE® ACS | 13478-00-7 | $Ni(NO_3)_2 * 6 H_2O$ | 100 g | HDPE bottle | 1.06721.0100 |
| | | | | 250 g | HDPE bottle | 1.06721.0250 |
| | | | | 1 kg | HDPE bottle | 1.06721.1000 |
| | Nickel(II) sulfate hexahydrate for analysis EMSURE® ACS | 10101-97-0 | $NiSO_4 * 6 H_2O$ | 100 g | HDPE bottle | 1.06727.0100 |
| | | | | 250 g | HDPE bottle | 1.06727.0250 |
| | | | | 1 kg | HDPE bottle | 1.06727.1000 |
| | Nickel(II) sulfate hexahydrate EMPLURA® | 10101-97-0 | $NiSO_4 * 6 H_2O$ | 1 kg | HDPE bottle | 1.06726.1000 |

# Ordering information
## Salts

### Salts N-P

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| P | Potassium antimony(III) oxide tartrate trihydrate EMPLURA® | 28300-74-5 | $K_2(SbO)_2C_8H_4O_{10} * 3\ H_2O$ | 250 g | HDPE bottle | 1.08092.0250 |
| | | | | 1 kg | HDPE bottle | 1.08092.1000 |
| | Potassium bromate for analysis (max 0,000001% Hg) EMSURE® ACS, ISO, Reag. Ph Eur | 7758-01-2 | $KBrO_3$ | 100 g | Metal can | 1.04912.0100 |
| | | | | 250 g | Metal can | 1.04912.0250 |
| | | | | 25 kg | Metal drum | 1.04912.9025 |
| | Potassium bromide for analysis (max. 0.000001% Hg) EMSURE®ACS, Reag. Ph Eur | 7758-02-3 | KBr | 500 g | HDPE bottle | 1.04905.0500 |
| | Potassium carbonate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 584-08-7 | $K_2CO_3$ | 500 g | HDPE bottle | 1.04928.0500 |
| | | | | 1 kg | HDPE bottle | 1.04928.1000 |
| | | | | 50 kg | Fibre carton | 1.04928.9050 |
| | Potassium carbonate special grade | 584-08-7 | $K_2CO_3$ | 25 kg | Fibre carton | 1.10614.9025 |
| | Potassium chlorate for analysis EMSURE® ACS, Reag. Ph Eur | 3811-04-9 | $KClO_3$ | 100 g | Metal can | 1.04944.0100 |
| | | | | 500 g | Metal can | 1.04944.0500 |
| | | | | 12 kg | PE bucket | 1.04944.9012 |
| | Potassium chloride for analysis (≤ 0.005% Br) EMSURE® ACS, ISO, Reag. Ph Eur | 7447-40-7 | KCl | 500 g | HDPE bottle | 1.04933.0500 |
| | | | | 25 kg | Fibre carton | 1.04933.9025 |
| | Potassium chloride for analysis EMSURE® | 7447-40-7 | KCl | 250 g | HDPE bottle | 1.04936.0250 |
| | | | | 500 g | HDPE bottle | 1.04936.0500 |
| | | | | 1 kg | HDPE bottle | 1.04936.1000 |
| | | | | 5 kg | HDPE bottle | 1.04936.5000 |
| | | | | 10 kg | Fibre carton | 1.04936.9010 |
| | | | | 50 kg | Fibre carton | 1.04936.9050 |
| | Potassium chromate for analysis EMSURE® ACS, Reag. Ph Eur | 7789-00-6 | $K_2CrO_4$ | 250 g | HDPE bottle | 1.04952.0250 |
| | | | | 1 kg | HDPE bottle | 1.04952.1000 |
| | Potassium cyanide for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 151-50-8 | KCN | 100 g | HDPE bottle | 1.04967.0100 |
| | | | | 250 g | HDPE bottle | 1.04967.0250 |
| | | | | 1 kg | HDPE bottle | 1.04967.1000 |
| | Potassium cyanide EMPLURA® | 151-50-8 | KCN | 1 kg | HDPE bottle | 1.04965.1000 |
| | Potassium dichromate for analysis (max. 0.000001% Hg) EMSURE® ACS, ISO | 7778-50-9 | $K_2Cr_2O_7$ | 500 g | Glass bottle | 1.04865.0500 |
| | Potassium dichromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7778-50-9 | $K_2Cr_2O_7$ | 500 g | HDPE bottle | 1.04864.0500 |
| | | | | 1 kg | HDPE bottle | 1.04864.1000 |
| | Potassium dihydrogen phosphate for analysis (≤ 0.005% Na) EMSURE® ACS, ISO, Reag. Ph Eur | 7778-77-0 | $KH_2PO_4$ | 1 kg | HDPE bottle | 1.04877.1000 |
| | | | | 12 kg | PE bucket | 1.04877.9012 |
| | | | | 25 kg | Fibre carton | 1.04877.9025 |
| | Potassium dihydrogen phosphate for analysis EMSURE® ISO | 7778-77-0 | $KH_2PO_4$ | 250 g | HDPE bottle | 1.04873.0250 |
| | | | | 1 kg | HDPE bottle | 1.04873.1000 |
| | | | | 5 kg | HDPE bottle | 1.04873.5000 |
| | | | | 25 kg | Fibre carton | 1.04873.9025 |
| | | | | 50 kg | Fibre carton | 1.04873.9050 |



EMSURE® EMPLURA®

## Salts P

| Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|
| Potassium disulfate (potassium pyrosulfate) for analysis EMSURE® ACS | 7790-62-7 | $K_2S_2O_7$ | 1 kg | HDPE bottle | 1.05107.1000 |
| | | | 5 kg | HDPE bottle | 1.05107.5000 |
| | | | 50 kg | PE drum | 1.05107.9050 |
| Potassium disulfite for analysis EMSURE® | 16731-55-8 | $K_2S_2O_5$ | 500 g | HDPE bottle | 1.05057.0500 |
| | | | 1 kg | HDPE bottle | 1.05057.1000 |
| | | | 2.5 kg | HDPE bottle | 1.05057.2500 |
| Potassium fluoride for analysis EMSURE® ACS | 7789-23-3 | KF | 250 g | HDPE bottle | 1.04994.0250 |
| | | | 1 kg | HDPE bottle | 1.04994.1000 |
| Potassium hexacyanoferrate(III) for analysis EMSURE® ACS, Reag. Ph Eur | 13746-66-2 | $K_3[Fe(CN)_6]$ | 100 g | HDPE bottle | 1.04973.0100 |
| | | | 250 g | HDPE bottle | 1.04973.0250 |
| | | | 1 kg | HDPE bottle | 1.04973.1000 |
| Potassium hexacyanoferrate(III) EMPLURA® | 13746-66-2 | $K_3[Fe(CN)_6]$ | 1 kg | HDPE bottle | 1.04971.1000 |
| Potassium hexacyanoferrate(II) trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 14459-95-1 | $K_4[Fe(CN)_6] * 3\ H_2O$ | 100 g | HDPE bottle | 1.04984.0100 |
| | | | 500 g | HDPE bottle | 1.04984.0500 |
| | | | 50 kg | Fibre carton | 1.04984.9050 |
| Potassium hexacyanoferrate(II) trihydrate EMPLURA® | 14459-95-1 | $K_4[Fe(CN)_6] * 3\ H_2O$ | 1 kg | HDPE bottle | 1.04982.1000 |
| | | | 25 kg | Fibre carton | 1.04982.9025 |
| Potassium hexahydroxoantimonate(V) cryst. for analysis EMSURE® | 12208-13-8 | $K[Sb(OH)_6]$ | 100 g | HDPE bottle | 1.05110.0100 |
| Potassium hydrogen carbonate for analysis EMSURE® ACS | 298-14-6 | $KHCO_3$ | 500 g | HDPE bottle | 1.04854.0500 |
| | | | 25 kg | Fibre carton | 1.04854.9025 |
| di-Potassium hydrogen phosphate anhydrous for analysis EMSURE® | 7758-11-4 | $K_2HPO_4$ | 1 kg | HDPE bottle | 1.05104.1000 |
| | | | 25 kg | Fibre carton | 1.05104.9025 |
| | | | 50 kg | Fibre carton | 1.05104.9050 |
| di-Potassium hydrogen phosphate trihydrate for analysis EMSURE® | 16788-57-1 | $K_2HO_4P * 3\ H_2O$ | 250 g | HDPE bottle | 1.05099.0250 |
| | | | 1 kg | HDPE bottle | 1.05099.1000 |
| | | | 5 kg | HDPE bottle | 1.05099.5000 |
| | | | 25 kg | Fibre carton | 1.05099.9025 |
| | | | 50 kg | Fibre carton | 1.05099.9050 |
| Potassium hydrogen phthalate for analysis EMSURE® Reag. Ph Eur | 877-24-7 | $C_8H_5KO_4$ | 250 g | HDPE bottle | 1.04874.0250 |
| | | | 1 kg | HDPE bottle | 1.04874.1000 |
| | | | 12 kg | PE bucket | 1.04874.9012 |
| Potassium hydrogen sulfate for analysis EMSURE® Reag. Ph Eur | 7646-93-7 | $KHSO_4$ | 500 g | HDPE bottle | 1.04885.0500 |
| | | | 2.5 kg | HDPE bottle | 1.04885.2500 |
| | | | 25 kg | Fibre carton | 1.04885.9025 |
| Potassium iodate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7758-05-6 | $KIO_3$ | 100 g | HDPE bottle | 1.05051.0100 |
| | | | 500 g | HDPE bottle | 1.05051.0500 |
| | | | 25 kg | PE drum | 1.05051.9025 |

# Ordering information
## Salts

### Salts P-R

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| P | Potassium iodide<br>for analysis EMSURE® ISO, Reag. Ph Eur | 7681-11-0 | KI | 250 g | HDPE bottle | 1.05043.0250 |
| | | | | 500 g | HDPE bottle | 1.05043.0500 |
| | | | | 1 kg | HDPE bottle | 1.05043.1000 |
| | | | | 2.5 kg | HDPE bottle | 1.05043.2500 |
| | | | | 50 kg | Fibre carton | 1.05043.9050 |
| | Potassium nitrate<br>for analysis EMSURE® ISO, Reag. Ph Eur | 7757-79-1 | $KNO_3$ | 500 g | HDPE bottle | 1.05063.0500 |
| | | | | 1 kg | HDPE bottle | 1.05063.1000 |
| | | | | 5 kg | HDPE bottle | 1.05063.5000 |
| | | | | 25 kg | Fibre carton | 1.05063.9025 |
| | Potassium nitrite cryst. for analysis EMSURE® ACS | 7758-09-0 | $KNO_2$ | 250 g | HDPE bottle | 1.05067.0250 |
| | di-Potassium oxalate monohydrate<br>for analysis EMSURE® ACS | 6487-48-5 | $K_2C_2O_4 * H_2O$ | 250 g | HDPE bottle | 1.05073.0250 |
| | | | | 1 kg | HDPE bottle | 1.05073.1000 |
| | Potassium perchlorate for analysis EMSURE® ACS | 7778-74-7 | $KClO_4$ | 250 g | Metal can | 1.05076.0250 |
| | | | | 1 kg | Metal can | 1.05076.1000 |
| | Potassium permanganate for analysis<br>(max. 0.000005% Hg) EMSURE® ACS | 7722-64-7 | $KMnO_4$ | 1 kg | Glass bottle | 1.05084.1000 |
| | Potassium permanganate<br>for analysis EMSURE® ACS, Reag. Ph Eur | 7722-64-7 | $KMnO_4$ | 250 g | Glass bottle | 1.05082.0250 |
| | | | | 1 kg | Glass bottle | 1.05082.1000 |
| | Potassium permanganate cryst. EMPLURA® | 7722-64-7 | $KMnO_4$ | 1 kg | Glass bottle | 1.05080.1000 |
| | | | | 5 kg | Metal can | 1.05080.5000 |
| | | | | 50 kg | Steel drum | 1.05080.9050 |
| | Potassium peroxodisulfate for analysis<br>(≤ 0.001% N) EMSURE® ACS, Reag. Ph Eur | 7727-21-1 | $K_2S_2O_8$ | 250 g | HDPE bottle | 1.05092.0250 |
| | Potassium peroxodisulfate for analysis EMSURE® | 7727-21-1 | $K_2S_2O_8$ | 250 g | HDPE bottle | 1.05091.0250 |
| | | | | 1 kg | HDPE bottle | 1.05091.1000 |
| | Potassium sodium tartrate tetrahydrate<br>for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 6381-59-5 | $C_4H_4KNaO_6 * 4\ H_2O$ | 500 g | HDPE bottle | 1.08087.0500 |
| | | | | 1 kg | HDPE bottle | 1.08087.1000 |
| | | | | 5 kg | HDPE bottle | 1.08087.5000 |
| | | | | 12 kg | PE bucket | 1.08087.9012 |
| | | | | 50 kg | Fibre carton | 1.08087.9050 |
| | Potassium sulfate<br>for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7778-80-5 | $K_2SO_4$ | 500 g | HDPE bottle | 1.05153.0500 |
| | | | | 1 kg | HDPE bottle | 1.05153.1000 |
| | | | | 5 kg | HDPE bottle | 1.05153.5000 |
| | | | | 25 kg | Fibre carton | 1.05153.9025 |
| | Potassium sulfide small lumps<br>for analysis EMSURE® | 39365-88-3 | | 250 g | HDPE bottle | 1.05134.0250 |
| | | | | 1 kg | HDPE bottle | 1.05134.1000 |
| | Potassium thiocyanate<br>for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 333-20-0 | KSCN | 250 g | HDPE bottle | 1.05125.0250 |
| | | | | 1 kg | HDPE bottle | 1.05125.1000 |
| | | | | 50 kg | Fibre carton | 1.05125.9050 |
| | Potassium thiocyanate EMPLURA® | 333-20-0 | KSCN | 1 kg | HDPE bottle | 1.05124.1000 |



EMSURE® EMPLURA®

## Salts S

| Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|
| Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7761-88-8 | $AgNO_3$ | 25 g | HDPE bottle | 1.01512.0025 |
| | | | 100 g | HDPE bottle | 1.01512.0100 |
| | | | 250 g | HDPE bottle | 1.01512.0250 |
| | | | 1 kg | HDPE bottle | 1.01512.1000 |
| Sodium acetate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur | 127-09-3 | $CH_3COONa$ | 250 g | HDPE bottle | 1.06268.0250 |
| | | | 1 kg | HDPE bottle | 1.06268.1000 |
| | | | 2.5 kg | HDPE bottle | 1.06268.2500 |
| | | | 12 kg | PE bucket | 1.06268.9012 |
| | | | 25 kg | Fibre carton | 1.06268.9025 |
| Sodium acetate trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 6131-90-4 | $CH_3COONa * 3\ H_2O$ | 500 g | HDPE bottle | 1.06267.0500 |
| | | | 1 kg | HDPE bottle | 1.06267.1000 |
| | | | 5 kg | HDPE bottle | 1.06267.5000 |
| | | | 12 kg | PE bucket | 1.06267.9012 |
| | | | 50 kg | Fibre carton | 1.06267.9050 |
| Sodium ammonium hydrogen phosphate tetrahydrate for analysis EMSURE® | 7783-13-3 | $NaNH_4HPO_4 * 4\ H_2O$ | 1 kg | HDPE bottle | 1.06682.1000 |
| Sodium carbonate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 497-19-8 | $Na_2CO_3$ | 1 kg | HDPE bottle | 1.06393.1000 |
| | | | 50 kg | Fibre carton | 1.06393.9050 |
| Sodium carbonate anhydrous for analysis EMSURE® ISO | 497-19-8 | $Na_2CO_3$ | 500 g | HDPE bottle | 1.06392.0500 |
| | | | 1 kg | HDPE bottle | 1.06392.1000 |
| | | | 5 kg | HDPE bottle | 1.06392.5000 |
| | | | 25 kg | Fibre carton | 1.06392.9025 |
| Sodium carbonate decahydrate for analysis EMSURE® ISO, Reag. Ph Eur | 6132-02-1 | $Na_2CO_3 * 10\ H_2O$ | 1 kg | HDPE bottle | 1.06391.1000 |
| | | | 5 kg | HDPE bottle | 1.06391.5000 |
| | | | 25 kg | Fibre carton | 1.06391.9025 |
| Sodium chlorate EMPLURA® | 7775-09-9 | $NaClO_3$ | 1 kg | HDPE bottle | 1.06420.1000 |
| | | | 50 kg | PE drum | 1.06420.9050 |
| Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7647-14-5 | NaCl | 500 g | HDPE bottle | 1.06404.0500 |
| | | | 1 kg | HDPE bottle | 1.06404.1000 |
| | | | 5 kg | HDPE bottle | 1.06404.5000 |
| | | | 12 kg | PE bucket | 1.06404.9012 |
| | | | 25 kg | Fibre carton | 1.06404.9025 |
| | | | 50 kg | Fibre carton | 1.06404.9050 |
| tri-Sodium citrate dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 6132-04-3 | $C_6H_5Na_3O_7 * 2\ H_2O$ | 500 g | HDPE bottle | 1.06448.0500 |
| | | | 1 kg | HDPE bottle | 1.06448.1000 |
| | | | 5 kg | HDPE bottle | 1.06448.5000 |
| | | | 25 kg | Fibre carton | 1.06448.9025 |
| Sodium cyanide EMPLURA® | 143-33-9 | NaCN | 1 kg | HDPE bottle | 1.06437.1000 |
| Sodium dichromate dihydrate for analysis EMSURE® ACS | 7789-12-0 | $Na_2Cr_2O_7 * 2\ H_2O$ | 250 g | HDPE bottle | 1.06336.0250 |
| | | | 1 kg | HDPE bottle | 1.06336.1000 |

# Ordering information
## Salts

### Salts S

| Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|
| **S** | | | | | |
| Sodium dihydrogen phosphate dihydrate for analysis EMSURE® Reag. Ph Eur | 13472-35-0 | $NaH_2PO_4 * 2\ H_2O$ | 250 g | HDPE bottle | 1.06342.0250 |
| | | | 1 kg | HDPE bottle | 1.06342.1000 |
| | | | 2.5 kg | HDPE bottle | 1.06342.2500 |
| | | | 25 kg | Fibre carton | 1.06342.9025 |
| Sodium dihydrogen phosphate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10049-21-5 | $NaH_2PO_4 * H_2O$ | 500 g | HDPE bottle | 1.06346.0500 |
| | | | 1 kg | HDPE bottle | 1.06346.1000 |
| | | | 12 kg | PE bucket | 1.06346.9012 |
| | | | 25 kg | Fibre carton | 1.06346.9025 |
| | | | 50 kg | Fibre carton | 1.06346.9050 |
| tetra-Sodium diphosphate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 13472-36-1 | $Na_4P_2O_7 * 10\ H_2O$ | 500 g | HDPE bottle | 1.06591.0500 |
| | | | 2.5 kg | HDPE bottle | 1.06591.2500 |
| | | | 50 kg | Fibre carton | 1.06591.9050 |
| Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS, Reag. Ph Eur | 7681-57-4 | $Na_2S_2O_5$ | 100 g | HDPE bottle | 1.06528.0100 |
| | | | 500 g | HDPE bottle | 1.06528.0500 |
| | | | 1 kg | HDPE bottle | 1.06528.1000 |
| | | | 5 kg | HDPE bottle | 1.06528.5000 |
| | | | 50 kg | Fibre carton | 1.06528.9050 |
| Sodium dithionite EMPLURA® | 7775-14-6 | $Na_2S_2O_4$ | 1 kg | Metal can | 1.06505.1000 |
| | | | 50 kg | Steel drum | 1.06505.9050 |
| Sodium fluoride for analysis EMSURE® Reag. Ph Eur | 7681-49-4 | NaF | 250 g | HDPE bottle | 1.06449.0250 |
| | | | 1 kg | HDPE bottle | 1.06449.1000 |
| | | | 50 kg | Fibre carton | 1.06449.9050 |
| Sodium formate for analysis EMSURE® ACS, Reag. Ph Eur | 141-53-7 | HCOONa | 500 g | HDPE bottle | 1.06443.0500 |
| | | | 50 kg | Fibre carton | 1.06443.9050 |
| Sodium hexanitrocobaltate(III) [sodium cobalt(III) nitrite] for analysis EMSURE® ACS, Reag. Ph Eur | 13600-98-1 | $Na_3[Co(NO_2)_6]$ | 25 g | HDPE bottle | 1.02521.0025 |
| | | | 100 g | HDPE bottle | 1.02521.0100 |
| Sodium hydrogen carbonate for analysis EMSURE® ACS, Reag. Ph Eur | 144-55-8 | $NaHCO_3$ | 500 g | HDPE bottle | 1.06329.0500 |
| | | | 1 kg | HDPE bottle | 1.06329.1000 |
| | | | 5 kg | HDPE bottle | 1.06329.5000 |
| | | | 12 kg | PE bucket | 1.06329.9012 |
| | | | 25 kg | PE drum | 1.06329.9025 |
| | | | 50 kg | Fibre carton | 1.06329.9050 |
| di-Sodium hydrogen phosphate anhydrous particle size about 0.2 - 1 mm (~18–80 mesh ASTM) EMSURE® | 7558-79-4 | $Na_2HPO_4$ | 500 g | HDPE bottle | 1.06559.0500 |
| | | | 25 kg | Fibre carton | 1.06559.9025 |
| di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur | 7558-79-4 | $Na_2HPO_4$ | 500 g | HDPE bottle | 1.06586.0500 |
| | | | 1 kg | HDPE bottle | 1.06586.1000 |
| | | | 2.5 kg | HDPE bottle | 1.06586.2500 |
| | | | 12 kg | PE bucket | 1.06586.9012 |
| | | | 50 kg | Fibre carton | 1.06586.9050 |
| di-Sodium hydrogen phosphate dihydrate for analysis EMSURE® | 10028-24-7 | $Na_2HPO_4 * 2\ H_2O$ | 500 g | HDPE bottle | 1.06580.0500 |
| | | | 1 kg | HDPE bottle | 1.06580.1000 |
| | | | 5 kg | HDPE bottle | 1.06580.5000 |
| | | | 25 kg | Fibre carton | 1.06580.9025 |
| | | | 50 kg | Fibre carton | 1.06580.9050 |



EMSURE® EMPLURA®

| Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|
| di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO, Reag. Ph Eur | 10039-32-4 | $Na_2HPO_4 * 12\ H_2O$ | 500 g | HDPE bottle | 1.06579.0500 |
| | | | 1 kg | HDPE bottle | 1.06579.1000 |
| | | | 5 kg | HDPE bottle | 1.06579.5000 |
| | | | 25 kg | Fibre carton | 1.06579.9025 |
| di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS | 7782-85-6 | $Na_2HPO_4 * 7\ H_2O$ | 1 kg | HDPE bottle | 1.06575.1000 |
| | | | 25 kg | Fibre carton | 1.06575.9025 |
| Sodium hydrogen sulfate monohydrate for analysis EMSURE® | 10034-88-5 | $NaHSO_4 * H_2O$ | 500 g | HDPE bottle | 1.06352.0500 |
| Sodium hypochlorite solution (6–14% active chlorine) EMPLURA® | | | 2.5 l | HDPE bottle | 1.05614.2500 |
| | | | 25 l | PE canister | 1.05614.9025 |
| Sodium iodate for analysis EMSURE® | 7681-55-2 | $NaIO_3$ | 100 g | Glass bottle | 1.06525.0100 |
| | | | 1 kg | Glass bottle | 1.06525.1000 |
| Sodium iodide for analysis EMSURE® ACS, Reag. Ph Eur | 7681-82-5 | NaI | 100 g | HDPE bottle | 1.06523.0100 |
| | | | 250 g | HDPE bottle | 1.06523.0250 |
| | | | 1 kg | HDPE bottle | 1.06523.1000 |
| Sodium metaperiodate for analysis EMSURE® ACS, Reag. Ph Eur | 7790-28-5 | $NaIO_4$ | 50 g | HDPE bottle | 1.06597.0050 |
| | | | 250 g | HDPE bottle | 1.06597.0250 |
| | | | 1 kg | HDPE bottle | 1.06597.1000 |
| Sodium metaperiodate EMPLURA® | 7790-28-5 | $NaIO_4$ | 1 kg | HDPE bottle | 1.06596.1000 |
| | | | 25 kg | Steel drum | 1.06596.9025 |
| Sodium molybdate dihydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10102-40-6 | $Na_2MoO_4 * 2\ H_2O$ | 100 g | HDPE bottle | 1.06521.0100 |
| | | | 250 g | HDPE bottle | 1.06521.0250 |
| | | | 1 kg | HDPE bottle | 1.06521.1000 |
| Sodium molybdate dihydrate EMPLURA® | 10102-40-6 | $Na_2MoO_4 * 2\ H_2O$ | 1 kg | HDPE bottle | 1.06524.1000 |
| | | | 50 kg | Fibre carton | 1.06524.9050 |
| Sodium nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7631-99-4 | $NaNO_3$ | 500 g | HDPE bottle | 1.06537.0500 |
| | | | 1 kg | HDPE bottle | 1.06537.1000 |
| | | | 12 kg | PE bucket | 1.06537.9012 |
| | | | 25 kg | Fibre carton | 1.06537.9025 |
| Sodium nitrate cryst. EMPLURA® | 7631-99-4 | $NaNO_3$ | 1 kg | HDPE bottle | 1.06535.1000 |
| | | | 50 kg | Fibre carton | 1.06535.9050 |
| Sodium nitrite for analysis EMSURE® ACS, Reag. Ph Eur | 7632-00-0 | $NaNO_2$ | 100 g | HDPE bottle | 1.06549.0100 |
| | | | 500 g | HDPE bottle | 1.06549.0500 |
| | | | 12 kg | PE bucket | 1.06549.9012 |
| di-Sodium oxalate for analysis EMSURE® | 62-76-0 | $Na_2C_2O_4$ | 250 g | HDPE bottle | 1.06557.0250 |
| | | | 1 kg | HDPE bottle | 1.06557.1000 |
| Sodium perchlorate monohydrate for analysis EMSURE® | 7791-07-3 | $NaClO_4 * H_2O$ | 100 g | Metal can | 1.06564.0100 |
| | | | 500 g | Metal can | 1.06564.0500 |
| | | | 2.5 kg | Metal can | 1.06564.2500 |
| | | | 25 kg | Steel drum | 1.06564.9025 |

# Ordering information
## Salts

### Salts S

| Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|
| **S** | | | | | |
| Sodium peroxidisulfate for analysis EMSURE® | 7775-27-1 | $Na_2S_2O_8$ | 500 g | HDPE bottle | 1.06609.0500 |
| | | | 1 kg | HDPE bottle | 1.06609.1000 |
| | | | 5 kg | HDPE bottle | 1.06609.5000 |
| | | | 12 kg | PE bucket | 1.06609.9012 |
| | | | 25 kg | Fibre carton | 1.06609.9025 |
| tri-Sodium phosphate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 10101-89-0 | $Na_3PO_4$ * 12 $H_2O$ | 1 kg | HDPE bottle | 1.06578.1000 |
| | | | 5 kg | HDPE bottle | 1.06578.5000 |
| | | | 12 kg | PE bucket | 1.06578.9012 |
| | | | 50 kg | Fibre carton | 1.06578.9050 |
| tri-Sodium phosphate dodecahydrate for analysis EMSURE® | 10101-89-0 | $Na_3PO_4$ * 12 $H_2O$ | 1 kg | HDPE bottle | 1.06572.1000 |
| | | | 5 kg | HDPE bottle | 1.06572.5000 |
| | | | 25 kg | Fibre carton | 1.06572.9025 |
| Sodium polyphosphate EMPLURA® (Graham's salt) | 10361-03-2 | $(NaPO_3)_n$ / n = ~ 25 | 1 kg | HDPE bottle | 1.06529.1000 |
| | | | 5 kg | HDPE bottle | 1.06529.5000 |
| | | | 50 kg | Fibre carton | 1.06529.9050 |
| Sodium salicylate for analysis EMSURE® | 54-21-7 | $HOC_6H_4COONa$ | 250 g | HDPE bottle | 1.06601.0250 |
| | | | 1 kg | HDPE bottle | 1.06601.1000 |
| | | | 2.5 kg | HDPE bottle | 1.06601.2500 |
| Sodium sulfate anhydrous coarse granules for analysis EMSURE® ACS | 7757-82-6 | $Na_2SO_4$ | 500 g | HDPE bottle | 1.06637.0500 |
| | | | 1 kg | HDPE bottle | 1.06637.1000 |
| | | | 25 kg | Fibre carton | 1.06637.9025 |
| Sodium sulfate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7757-82-6 | $Na_2SO_4$ | 500 g | HDPE bottle | 1.06649.0500 |
| | | | 1 kg | HDPE bottle | 1.06649.1000 |
| | | | 5 kg | HDPE bottle | 1.06649.5000 |
| | | | 12 kg | PE bucket | 1.06649.9012 |
| | | | 25 kg | Fibre carton | 1.06649.9025 |
| Sodium sulfate anhydrous granulated for organic trace analysis EMSURE® | 7757-82-6 | $Na_2SO_4$ | 500 g | Glass bottle | 1.06639.0500 |
| Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur | 7727-73-3 | $Na_2SO_4$ * 10 $H_2O$ | 1 kg | HDPE bottle | 1.06648.1000 |
| | | | 25 kg | Fibre carton | 1.06648.9025 |
| Sodium sulfite anhydrous for analysis EMSURE® Reag. Ph Eur | 7757-83-7 | $Na_2SO_3$ | 500 g | HDPE bottle | 1.06657.0500 |
| | | | 1 kg | HDPE bottle | 1.06657.1000 |
| | | | 5 kg | HDPE bottle | 1.06657.5000 |
| | | | 50 kg | Fibre carton | 1.06657.9050 |
| di-Sodium tartrate dihydrate for analysis EMSURE® | 6106-24-7 | $C_4H_4Na_2O_6$ * 2 $H_2O$ | 250 g | HDPE bottle | 1.06663.0250 |
| | | | 1 kg | HDPE bottle | 1.06663.1000 |
| Sodium thiocyanate EMPLURA® | 540-72-7 | NaSCN | 2.5 kg | HDPE bottle | 1.06627.2500 |
| Sodium thiosulfate anhydrous EMPLURA® | 7772-98-7 | $Na_2O_3S_2$ | 250 g | HDPE bottle | 1.06512.0250 |
| | | | 2.5 kg | HDPE bottle | 1.06512.2500 |
| | | | 25 kg | Fibre carton | 1.06512.9025 |
| | | | 50 kg | Fibre carton | 1.06512.9050 |



EMSURE® EMPLURA®

## Salts S-Z

| | Product | CAS No. | Chemical formula | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|
| S | Sodium thiosulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 10102-17-7 | $Na_2O_3S_2 * 5 H_2O$ | 500 g | HDPE bottle | 1.06516.0500 |
| | | | | 1 kg | HDPE bottle | 1.06516.1000 |
| | | | | 5 kg | HDPE bottle | 1.06516.5000 |
| | | | | 25 kg | Fibre carton | 1.06516.9025 |
| | Sodium tungstate dihydrate for analysis EMSURE® | 10213-10-2 | $Na_2WO_4 * 2 H_2O$ | 250 g | HDPE bottle | 1.06673.0250 |
| | | | | 1 kg | HDPE bottle | 1.06673.1000 |
| | | | | 25 kg | Fibre carton | 1.06673.9025 |
| | Sodium tungstate dihydrate EMPLURA® | 10213-10-2 | $Na_2WO_4 * 2 H_2O$ | 1 kg | HDPE bottle | 1.06672.1000 |
| | | | | 25 kg | Fibre carton | 1.06672.9025 |
| | Strontium chloride hexahydrate for analysis EMSURE® ACS | 10025-70-4 | $SrCl_2 * 6 H_2O$ | 250 g | HDPE bottle | 1.07865.0250 |
| | | | | 1 kg | HDPE bottle | 1.07865.1000 |
| | Strontium nitrate for analysis EMSURE® | 10042-76-9 | $Sr(NO_3)_2$ | 250 g | HDPE bottle | 1.07872.0250 |
| | | | | 25 kg | Fibre carton | 1.07872.9025 |
| T | Tin(IV) chloride EMPLURA® | 7646-78-8 | $SnCl_4$ | 500 mL | Glass bottle | 1.07810.0500 |
| | Tin(II) chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 10025-69-1 | $SnCl_2 * 2 H_2O$ | 100 g | Glass bottle | 1.07815.0100 |
| | | | | 250 g | Glass bottle | 1.07815.0250 |
| | | | | 1 kg | Glass bottle | 1.07815.1000 |
| | | | | 25 kg | Fibre carton | 1.07815.9025 |
| | Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE® | 10025-69-1 | $SnCl_2 * 2 H_2O$ | 250 g | Glass bottle | 1.07814.0250 |
| | | | | 2.5 kg | Glass bottle | 1.07814.2500 |
| Z | Zinc acetate dihydrate for analysis EMSURE® ACS | 5970-45-6 | $(CH_3COO)_2Zn * 2 H_2O$ | 250 g | HDPE bottle | 1.08802.0250 |
| | | | | 1 kg | HDPE bottle | 1.08802.1000 |
| | Zinc chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7646-85-7 | $ZnCl_2$ | 250 g | HDPE bottle | 1.08816.0250 |
| | | | | 1 kg | HDPE bottle | 1.08816.1000 |
| | | | | 25 kg | PE drum | 1.08816.9025 |
| | Zinc iodide for analysis EMSURE® | 10139-47-6 | $ZnI_2$ | 100 g | Glass bottle | 1.08828.0100 |
| | Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 7446-20-0 | $ZnSO_4 * 7 H_2O$ | 500 g | HDPE bottle | 1.08883.0500 |
| | | | | 1 kg | HDPE bottle | 1.08883.1000 |
| | | | | 5 kg | HDPE bottle | 1.08883.5000 |
| | | | | 50 kg | Fibre carton | 1.08883.9050 |

▶ **For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

# solvents

**EMSURE® | EMPARTA® | EMPLURA® Solvents.**
Distinguished by exceptional quality and reliability, our solvents undergo strict controls and continuous development to meet growing regulations. As your reliable, one-stop supplier, we offer a complete solution, including solvents, documentation, secure packaging and withdrawal systems.

| | |
|---|---|
| **EMSURE®** Solvents | Premium Grade |

▶ For more information please have a look at page 22

| | |
|---|---|
| **EMPARTA®** Solvents | Standard Grade |

▶ For more information please have a look at page 32

| | |
|---|---|
| **EMPLURA®** Solvents | Basic Grade |

▶ For more information please have a look at page 36

# Ordering information
## Solvents

### Solvents A–B

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| A | Acetone for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 67-64-1 | ≥ 99.8% | ≤ 0.0005% | ≤ 0.05% | 1 L | Glass bottle | 1.00014.1000 |
| | | | | | | 1 L | HDPE bottle | 1.00014.1011 |
| | | | | | | 2.5 L | Glass bottle | 1.00014.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.00014.2511 |
| | | | | | | 4 L | Glass bottle | 1.00014.4000 |
| | | | | | | 5 L | HDPE bottle | 1.00014.5000 |
| | | | | | | 10 L | Stainless steel drum | 1.00014.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.00014.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.00014.6190 |
| | | | | | | 180 L | PE / Metal drum | 1.00014.9180 |
| | Acetone for analysis EMPARTA® ACS | 67-64-1 | ≥ 99.5% | ≤ 0.001% | ≤ 0.5% | 2.5 L | HDPE bottle | 1.07021.2511 |
| | | | | | | 4 L | Glass bottle | 1.07021.4000 |
| | Acetone EMPLURA® | 67-64-1 | ≥ 99.0% | ≤ 0.004% | ≤ 0.3% | 1 L | HDPE bottle | 8.22251.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.22251.2500 |
| | | | | | | 5 L | HDPE bottle | 8.22251.5011 |
| | | | | | | 25 L | Metal drum | 8.22251.9025 |
| | Acetonitrile for analysis EMSURE® ACS, Reag. Ph Eur | 75-05-8 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.00003.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00003.2500 |
| | | | | | | 4 L | Glass bottle | 1.00003.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.00003.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.00003.6025 |
| | Acetonitrile EMPLURA® | 75-05-8 | ≥ 99.0% | ≤ 0.005% | ≤ 0.5% | 1 L | Glass bottle | 1.15500.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.15500.2500 |
| | | | | | | 4 L | Glass bottle | 1.15500.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.15500.6025 |
| | | | | | | 190 L | Metal drum | 1.15500.9190 |
| | Acetylacetone for analysis EMSURE® | 123-54-6 | ≥ 99.0% | | ≤ 0.3% | 100 mL | Glass bottle | 1.09600.0100 |
| | | | | | | 500 mL | Glass bottle | 1.09600.0500 |
| | n-Amyl acetate EMPLURA® | 628-63-7 | ≥ 98.0% | | | NEW 4 L | Glass bottle | 8.18700.4000 |
| | n-Amyl alcohol (Pentan-1-ol) for analysis EMSURE® | 71-41-0 | ≥ 98.5% | ≤ 0.005% | ≤ 0.1% | 1 L | Glass bottle | 1.00975.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00975.2500 |
| | Aniline for analysis EMSURE® | 62-53-3 | ≥ 99.5% | | ≤ 0.1% | 1 L | Glass bottle | 1.01261.1000 |
| B | Benzyl alcohol for analysis EMSURE® | 100-51-6 | ≥ 99.5% | | ≤ 0.1% | 1 L | Glass bottle | 1.09626.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09626.2500 |
| | | | | | | 4 L | Glass bottle | 1.09626.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.09626.6025 |
| | 1-Butanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 71-36-3 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.01990.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.01990.2500 |
| | | | | | | 4 L | Glass bottle | 1.01990.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.01990.6025 |
| | 1-Butanol EMPLURA® | 71-36-3 | ≥ 99.0% | ≤ 0.004% | ≤ 0.2% | 2.5 L | HDPE bottle | 8.22262.2500 |



EMSURE® EMPARTA® EMPLURA®

## Solvents B-C

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| B | 2-Butanol for analysis EMSURE® | 78-92-2 | ≥ 99.0% | ≤ 0.001% | ≤ 0.2% | 1 L | Glass bottle | 1.09630.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09630.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.09630.6025 |
| | 2-Butanol EMPLURA® | 78-92-2 | | | ≤ 0.2% | 2.5 L | HDPE bottle | 8.22263.2500 |
| | tert-Butanol for analysis EMSURE® ACS | 75-65-0 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 500 mL | Glass bottle | 1.09629.0500 |
| | | | | | | 4 L | Glass bottle | 1.09629.4000 |
| | | | | | | 25 L | PE / Metal drum | 1.09629.9025 |
| | tert-Butanol EMPLURA® | 75-65-0 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 8.22264.1000 |
| | | | | | | 2.5 L | Glass bottle | 8.22264.2500 |
| | | | | | | 25 L | PE canister | 8.22264.9025 |
| | n-Butyl acetate for analysis EMSURE® | 123-86-4 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.09652.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09652.2500 |
| | | | | | | 4 L | Glass bottle | 1.09652.4000 |
| | n-Butyl acetate EMPLURA® | 123-86-4 | ≥ 99.0% | ≤ 0.001% | | 2.5 L | Glass bottle | 1.01974.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.01974.6025 |
| | | | | | | 190 l | Metal drum | 1.01974.9190 |
| | tert-Butyl methyl ether for analysis EMSURE® ACS | 1634-04-4 | ≥ 99.5% | ≤ 0.001% | ≤ 0.03% | 1 L | Glass bottle | 1.01849.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.01849.2500 |
| | | | | | | 4 L | Glass bottle | 1.01849.4000 |
| | | | | | | 5 L | HDPE bottle | 1.01849.5011 |
| | | | | | | 190 L | Stainless steel drum | 1.01849.6190 |
| | tert-Butyl methyl ether EMPLURA® | 1634-04-4 | ≥ 99.0% | ≤ 0.005% | ≤ 0.05% | 2.5 L | Glass bottle | 1.01843.2500 |
| | | | | | | 10 L | Metal drum | 1.01843.9011 |
| | | | | | | 25 L | Stainless steel drum | 1.01843.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.01843.6190 |
| | 1-Butylpyrrolidin-2-one EMPLURA® | 3470-98-2 | ≥ 99.8% | | ≤ 0.1% | 1 L | Glass bottle | 1.03818.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.03818.2500 |
| | | | | | NEW | 25 L | Stainless steel drum | 1.03818.6025 |
| C | Carbon disulfide for analysis EMSURE® ACS, Reag. Ph Eur | 75-15-0 | ≥ 99.9% | ≤ 0.0010% | ≤ 0.01% | 1 L | Glass bottle | 1.02214.1000 |
| | Carbon disulfide EMPLURA® | 75-15-0 | ≥ 99.5% | ≤ 0.005% | ≤ 0.02% | 1 L | Glass bottle | 1.02211.1000 |
| | Chloroform for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 67-66-3 | 99.0 - 99.4 % | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.02445.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.02445.2500 |
| | | | | | | 4 L | Glass bottle | 1.02445.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.02445.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.02445.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.02445.6190 |
| | Chloroform for analysis EMPARTA® ACS | 67-66-3 | 99.0 - 99.4 % | ≤ 0.001% | ≤ 0.01% | 2.5 L | Glass bottle | 1.07024.2500 |
| | | | | | | 4 L | Glass bottle | 1.07024.4000 |
| | Chloroform EMPLURA® | 67-66-3 | ≥ 99 % | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 8.22265.1000 |
| | | | | | | 2.5 L | Glass bottle | 8.22265.2500 |
| | Chloroform for analysis (for determinations with dithizone) | 67-66-3 | 99.0 - 99.4 % | < 0.001% | < 0.01% | 1 L | Glass bottle | 1.02442.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.02442.2500 |

# Ordering information
## Solvents

**Solvents C-D**

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| C | Cyclohexane for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 110-82-7 | ≥ 99.5% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.09666.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09666.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.09666.2511 |
| | | | | | | 4 L | Glass bottle | 1.09666.4000 |
| | | | | | | 5 L | HDPE bottle | 1.09666.5011 |
| | | | | | | 10 L | Stainless steel drum | 1.09666.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.09666.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.09666.6191 |
| | Cyclohexane EMPLURA® | 110-82-7 | ≥ 99.0% | | ≤ 0.05% | 1 L | Glass bottle | 1.02832.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.02832.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.02832.6025 |
| | | | | | | 190 L | Metal drum | 1.02832.9190 |
| | Cylclohexane for denaturation | 110-82-7 | ≥ 99.0% | | | 190 L | Metal drum | 1.02830.9190 |
| | Cyclohexanone EMPLURA® | 108-94-1 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.02888.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.02888.2500 |
| | | | | | | 10 L | Stainless steel drum | 1.02888.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.02888.6025 |
| | | | | | | 190 L | Metal drum | 1.02888.9191 |
| | Cyclopentyl methyl ether EMPLURA® | 5614-37-9 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.08293.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08293.2500 |
| | | | | | | 4 L | Glass bottle | 1.08293.4000 |
| D | 1,2-Dichlorobenzene for extraction analysis EMSURE® | 95-50-1 | ≥ 99.0% | | ≤ 0.01% | 1 L | Glass bottle | 1.02930.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.02930.2500 |
| | Dichloromethane for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 75-09-2 | ≥ 99.8% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.06050.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.06050.2500 |
| | | | | | | 4 L | Glass bottle | 1.06050.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.06050.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.06050.6025 |
| | Dichloromethane for analysis EMPARTA® ACS | 75-09-2 | ≥ 99.5% | ≤ 0.002% | ≤ 0.02% | 2.5 L | Glass bottle | 1.07020.2500 |
| | | | | | | 4 L | Glass bottle | 1.07020.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.07020.6010 |
| | Dichloromethane EMPLURA® | 75-09-2 | ≥ 99.0% | ≤ 0.002% | ≤ 0.1% | 1 L | Glass bottle | 8.22271.1000 |
| | | | | | | 2.5 L | Glass bottle | 8.22271.2500 |
| | | | | | | 25 L | Metal drum | 8.22271.9025 |
| | Diethanolamine for analysis EMSURE® | 111-42-2 | ≥ 99.5% | | ≤ 0.25% | 1 L | HDPE bottle | 1.16205.1000 |
| | Diethyl ether for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 60-29-7 | ≥ 99.7% | ≤ 0.0005% | ≤ 0.03% | 1 L | Glass bottle | 1.00921.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00921.2500 |
| | | | | | | 10 L | Stainless steel drum | 1.00921.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.00921.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.00921.6190 |



EMSURE® EMPARTA® EMPLURA®

## Solvents D

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| D | Diethyl ether for analysis EMPARTA® ACS | 60-29-7 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 2.5 L | Glass bottle | 1.07026.2500 |
| | Diethyl ether EMPLURA® | 60-29-7 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.00923.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00923.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.00923.6025 |
| | Diethyl ether for analysis, Ethanol stabilized EMPARTA® ACS | 60-29-7 | ≥ 98.0% | ≤ 0.001% | ≤ 0.5% | 4 L | Glass bottle | 1.07062.4000 |
| | Diisopropyl ether for analysis EMSURE® ACS, Reag. Ph Eur | 108-20-3 | ≥ 99.0% | ≤ 0.005% | ≤ 0.05% | 1 L | Glass bottle | 1.00867.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00867.2500 |
| | | | | | | 4 L | Glass bottle | 1.00867.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.00867.6010 |
| | N,N-Dimethylformamide for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 68-12-2 | ≥ 99.8% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.03053.1000 |
| | | | | | | 1 L | HDPE bottle | 1.03053.1011 |
| | | | | | | 2.5 L | Glass bottle | 1.03053.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.03053.2511 |
| | | | | | | 4 L | Glass bottle | 1.03053.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.03053.6025 |
| | N,N-Dimethylformamide EMPARTA® | 68-12-2 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.03034.1000 |
| | | | | | | 1 L | HDPE bottle | 1.03034.1011 |
| | | | | | | 2.5 L | Glass bottle | 1.03034.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.03034.2511 |
| | | | | | | 4 L | Glass bottle | 1.03034.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.03034.6025 |
| | N,N-Dimethylformamide EMPLURA® | 68-12-2 | ≥ 99.0% | | ≤ 0.1% | 1 L | HDPE bottle | 8.22275.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.22275.2500 |
| | | | | | | 25 L | Stainless steel drum | 8.22275.6025 |
| | Dimethyl sulfoxide for analysis EMSURE® ACS | 67-68-5 | ≥ 99.9% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.02952.1000 |
| | | | | | | 1 L | HDPE bottle | 1.02952.1011 |
| | | | | | | 2.5 L | Glass bottle | 1.02952.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.02952.2511 |
| | | | | | | 4 L | Glass bottle | 1.02952.4000 |
| | | | | | | 5 L | HDPE bottle | 1.02952.5011 |
| | | | | | | 25 L | PE / Metal drum | 1.02952.9025 |
| | | | | | | 190 L | Stainless steel drum | 1.02952.6190 |
| | Dimethyl sulfoxide EMPLURA® | 67-68-5 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.16743.1000 |
| | | | | | | 25 L | Stainless steel drum | 1.16743.6025 |
| | 1,4-Dioxane for analysis EMSURE® ACS, ISO | 123-91-1 | ≥ 99.5% | ≤ 0.001% | ≤ 0.05% | 250 mL | Glass bottle | 1.09671.0250 |
| | | | | | | 1 L | Glass bottle | 1.09671.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09671.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.09671.6025 |
| | 1,4-Dioxane EMPLURA® | 123-91-1 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.03115.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.03115.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.03115.6025 |
| | | | | | | 190 L | Metal drum | 1.03115.9191 |

# Ordering information
## Solvents

### Solvents E

E

| Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|
| Ethanol 96% EMSURE® Reag. Ph Eur | 64-17-5 | 95.1 - 96.9 % | ≤ 25 mg/L | | 500 mL | Glass bottle | 1.59010.0500 |
| | | | | | 2.5 L | Glass bottle | 1.59010.2500 |
| Ethanol absolute for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 64-17-5 | ≥ 99.9% | ≤ 0.0005% | ≤ 0.1% | 1 L | Glass bottle | 1.00983.1000 |
| | | | | | 1 L | HDPE bottle | 1.00983.1011 |
| | | | | | 2.5 L | Glass bottle | 1.00983.2500 |
| | | | | | 2.5 L | HDPE bottle | 1.00983.2511 |
| | | | | | 4 L | Glass bottle | 1.00983.4000 |
| | | | | | 5 L | HDPE bottle | 1.00983.5000 |
| | | | | | 10 L | Stainless steel drum | 1.00983.6010 |
| | | | | | 25 L | Stainless steel drum | 1.00983.6025 |
| | | | | | 25 L | PE / Metal drum | 1.00983.9025 |
| | | | | | 180 L | PE / Metal drum | 1.00983.9180 |
| Ethanol absolute for analysis EMPARTA® ACS | 64-17-5 | ≥ 99.5% | ≤ 0.001% | ≤ 0.2% | 2.5 L | HDPE bottle | 1.07017.2511 |
| | | | | | 4 L | Glass bottle | 1.07017.4000 |
| | | | | | 25 L | Metal drum | 1.07017.9026 |
| Ethanol absolute EMPLURA® | 64-17-5 | ≥ 99.5% | ≤ 0.0025% | ≤ 0.2% | 1 L | HDPE bottle | 8.18760.1000 |
| | | | | | 2.5 L | HDPE bottle | 8.18760.2500 |
| | | | | | 25 L | Metal drum | 8.18760.9025 |
| | | | | | 180 L | PE / Metal drum | 8.18760.9180 |
| Ethanol for analysis completely denatured with 1% Ethyl methyl ketone, 1% Isopropyl alcohol, 1 g/ 100 L Denatonium benzoate EMSURE® | | ≥ 99.5% | ≤ 0.005% | ≤ 0.1% | 2.5 L | HDPE bottle | 1.03771.2500 |
| | | | | | 5 L | HDPE bottle | 1.03771.5011 |
| | | | | | 180 L | PE / Metal drum | 1.03771.9180 |
| Ethanol denatured with about 1% Methyl ethyl ketone for analysis EMSURE® | 64-17-5 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | HDPE bottle | 1.00974.1011 |
| | | | | | 2.5 L | Glass bottle | 1.00974.2500 |
| | | | | | 2.5 L | HDPE bottle | 1.00974.2511 |
| | | | | | 4 L | Glass bottle | 1.00974.4000 |
| | | | | | 25 L | Stainless steel drum | 1.00974.6025 |
| | | | | | 25 L | PE / Metal drum | 1.00974.9025 |
| | | | | | 180 L | Metal drum | 1.00974.9180 |
| Ethanolamine for analysis EMSURE® | 141-43-5 | ≥ 99.5% | | ≤ 0.2% | 1 L | Glass bottle | 1.00845.1000 |
| | | | | | 2.5 L | Glass bottle | 1.00845.2500 |
| Ethyl acetate for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 141-78-6 | ≥ 99.5% | ≤ 0.001% | ≤ 0.05% | 1 L | HDPE bottle | 1.09623.1000 |
| | | | | | 2.5 L | Glass bottle | 1.09623.2500 |
| | | | | | 2.5 L | HDPE bottle | 1.09623.2511 |
| | | | | | 4 L | Glass bottle | 1.09623.4000 |
| | | | | | 5 L | HDPE bottle | 1.09623.5011 |
| | | | | | 10 L | Stainless steel drum | 1.09623.6010 |
| | | | | | 25 L | Stainless steel drum | 1.09623.6025 |
| | | | | | 25 L | PE / Metal drum | 1.09623.9026 |
| | | | | | 180 L | PE / Metal drum | 1.09623.9181 |
| Ethyl acetate for analysis EMPARTA® ACS | 141-78-6 | ≥ 99.5% | ≤ 0.003% | ≤ 0.2% | 4 L | Glass bottle | 1.07048.4000 |
| Ethyl acetate EMPLURA® | 141-78-6 | ≥ 99.5% | ≤ 0.003% | ≤ 0.1% | 2.5 L | HDPE bottle | 8.22277.2500 |
| | | | | | 5 L | HDPE bottle | 8.22277.5000 |



EMSURE® EMPARTA® EMPLURA®

## Solvents E–H

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| E | Ethylene glycol for analysis EMSURE® Reag. Ph Eur, Reag. USP | 107-21-1 | ≥ 99.5% | | ≤ 0.1% | 1 L | HDPE bottle | 1.09621.1000 |
| | | | | | | 2.5 L | HDPE bottle | 1.09621.2500 |
| | | | | | | 4 L | Glass bottle | 1.09621.4000 |
| | | | | | | 25 L | PE canister | 1.09621.9028 |
| | Ethylene glycol EMPLURA® | 107-21-1 | ≥ 99.0% | | ≤ 0.3% | 1 L | HDPE bottle | 1.00949.1000 |
| | | | | | | 2.5 L | HDPE bottle | 1.00949.2500 |
| | | | | | | 25 L | PE canister | 1.00949.9028 |
| | Ethylene glycol monomethyl ether for analysis EMSURE® ACS, Reag. Ph Eur | 109-86-4 | ≥ 99.5% | ≤ 0.003% | ≤ 0.1% | 1 L | Glass bottle | 1.00859.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00859.2500 |
| | Ethyl(-)-L-lactate EMPLURA® | 687-47-8 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.09639.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09639.2500 |
| | | | | | | 4 L | Glass bottle | 1.09639.4000 |
| | Ethyl methyl ketone for analysis EMSURE® ACS, Reag. Ph Eur | 78-93-3 | ≥ 99.5% | ≤ 0.001% | ≤ 0.05% | 1 L | Glass bottle | 1.09708.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09708.2500 |
| | | | | | | 4 L | Glass bottle | 1.09708.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.09708.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.09708.6190 |
| | Ethyl methyl ketone for analysis EMPARTA® ACS | 78-93-3 | ≥ 99.0% | | ≤ 0.2% | 2.5 L | Glass bottle | 1.07049.2500 |
| | Ethyl methyl ketone (2-Butanone) EMPLURA® | 78-93-3 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.06014.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.06014.2500 |
| | | | | | | 10 L | Metal drum | 1.06014.9011 |
| | | | | | | 25 L | Stainless steel drum | 1.06014.6025 |
| | | | | | | 190 L | Metal drum | 1.06014.9190 |
| F | Formamide for analysis EMSURE® | 75-12-7 | ≥ 99.5% | | ≤ 0.1% | 1 L | HDPE bottle | 1.09684.1000 |
| | | | | | | 2.5 L | HDPE bottle | 1.09684.2500 |
| | Formamide EMPLURA® | 75-12-7 | ≥ 99.0% | | ≤ 0.3% | 1 L | HDPE bottle | 1.04008.1000 |
| | | | | | | 2.5 L | HDPE bottle | 1.04008.2500 |
| G | Glycerol (plant-origin) for analysis EMSURE® ACS, Reag. Ph Eur | 56-81-5 | ≥ 99.5% | | ≤ 0.5% | 2.5 L | HDPE bottle | 1.04057.2511 |
| | | | | | | 10 L | PE canister | 1.04057.9011 |
| | | | | | | 25 L | PE canister | 1.04057.9026 |
| H | n-Heptane about 85% EMPLURA® | 142-82-5 | ≥ 85.0% | ≤ 0.005% | | 1 L | Glass bottle | 1.04307.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04307.2500 |
| | | | | | | 4 L | Glass bottle | 1.04307.4000 |

# Ordering information
## Solvents

### Solvents H–I

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| H | n-Heptane for analysis EMSURE® Reag. Ph Eur | 142-82-5 | ≥ 99.0% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.04379.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04379.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.04379.2511 |
| | | | | | | 4 L | Glass bottle | 1.04379.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.04379.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.04379.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04379.6190 |
| | n-Heptane EMPLURA® | 142-82-5 | ≥ 99.0% | ≤ 0.005% | | 1 L | Glass bottle | 1.04365.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04365.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.04365.2511 |
| | | | | | | 10 L | Metal drum | 1.04365.9011 |
| | | | | | | 25 L | Stainless steel drum | 1.04365.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04365.6190 |
| | Hexanes for analysis EMPARTA® ACS | 110-54-3 | ≥ 98.5% | ≤ 0.01% | | 1 L | Glass bottle | 1.07060.1000 |
| | | | | | | 4 L | Glass bottle | 1.07060.4000 |
| | n-Hexane for analysis EMSURE® ACS | 110-54-3 | ≥ 99.0% | ≤ 0.001% | ≤ 0.005% | 1 L | Glass bottle | 1.04367.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04367.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.04367.2511 |
| | | | | | | 25 L | Stainless steel drum | 1.04367.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04367.6190 |
| | n-Hexane for analysis EMSURE® ACS, Reag. Ph Eur | 110-54-3 | ≥ 96.0% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.04374.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04374.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.04374.2511 |
| | | | | | | 4 L | Glass bottle | 1.04374.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.04374.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04374.6190 |
| | n-Hexane for analysis EMPARTA® ACS | 110-54-3 | ≥ 98.5% | ≤ 0.001% | ≤ 0.02% | 2.5 L | HDPE bottle | 1.07023.2511 |
| | | | | | | 4 L | Glass bottle | 1.07023.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.07023.6025 |
| | n-Hexane EMPLURA® | 110-54-3 | ≥ 95.0% | | ≤ 0.02% | 1 L | Glass bottle | 1.04368.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04368.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.04368.2511 |
| | | | | | | 10 L | Metal drum | 1.04368.9011 |
| | | | | | | 25 L | Stainless steel drum | 1.04368.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04368.6190 |
| | | | | | | 190 L | Metal drum | 1.04368.9190 |
| I | Isoamyl acetate EMPLURA® | 123-92-2 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.01231.1000 |
| | Isoamyl alcohol for analysis EMSURE® ACS, Reag. Ph Eur | 123-51-3 | ≥ 99.0% | ≤ 0.002% | ≤ 0.2% | 1 L | Glass bottle | 1.00979.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00979.2500 |
| | | | | | | 4 L | Glass bottle | 1.00979.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.00979.6025 |
| | Isoamyl alcohol EMPLURA® | 30899-19-5 | ≥ 99.0% | | ≤ 0.3% | 1 L | HDPE bottle | 8.22255.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.22255.2500 |



EMSURE® EMPARTA® EMPLURA®

## Solvents I–M

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| I | Isobutanol for analysis EMSURE® ACS, Reag. Ph Eur | 78-83-1 | ≥ 99.0% | ≤ 0.001% | ≤ 0.05% | 1 L | Glass bottle | 1.00984.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00984.2500 |
| | Isobutanol (Isobutyl alcohol) EMPLURA® | 78-83-1 | ≥ 98.5% | | ≤ 0.05% | 2.5 L | Glass bottle | 1.00985.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.00985.6025 |
| | | | | | | 190 L | Metal drum | 1.00985.9190 |
| | Isobutyl methyl ketone for extraction analysis EMSURE® ACS, Reag. Ph Eur | 108-10-1 | ≥ 99.0% | ≤ 0.001% | ≤ 0.1% | 1 L | Glass bottle | 1.06146.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.06146.2500 |
| | | | | | | 4 L | Glass bottle | 1.06146.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.06146.6025 |
| | Isobutyl methyl ketone EMPLURA® | 108-10-1 | ≥ 99.0% | | | 2.5 L | Glass bottle | 8.20820.2500 |
| | | | | | | 10 L | Stainless steel drum | 8.20820.6010 |
| | | | | | | 25 L | Stainless steel drum | 8.20820.6025 |
| | Isohexane for analysis EMSURE® | 92112-69-1 | ≥ 95.0% | ≤ 10 mg/L | ≤ 0.01% | 1 L | Glass bottle | 1.04333.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04333.2500 |
| | | | | | | 190 L | Stainless steel drum | 1.04333.6190 |
| | Isooctane for analysis EMSURE® ACS, Reag. Ph Eur | 540-84-1 | ≥ 99.5% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.04727.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.04727.2500 |
| | | | | | | 4 L | Glass bottle | 1.04727.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.04727.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.04727.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.04727.6190 |
| K | Kerosene EMPLURA® | 64742-48-9 | | | | 4 L | Glass bottle | 1.09774.4000 |
| M | Methanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 67-56-1 | ≥ 99.9% | ≤ 0.0005% | ≤ 0.05% | 1 L | Glass bottle | 1.06009.1000 |
| | | | | | | 1 L | HDPE bottle | 1.06009.1011 |
| | | | | | | 2.5 L | Glass bottle | 1.06009.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.06009.2511 |
| | | | | | | 4 L | Glass bottle | 1.06009.4000 |
| | | | | | | 5 L | HDPE bottle | 1.06009.5000 |
| | | | | | | 10 L | Stainless steel drum | 1.06009.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.06009.6025 |
| | | | | | | 25 L | PE / Metal drum | 1.06009.9025 |
| | | | | | | 180 L | PE / Metal drum | 1.06009.9180 |
| | Methanol for analysis EMPARTA® ACS | 67-56-1 | ≥ 99.8% | ≤ 0.001% | ≤ 0.1% | 2.5 L | HDPE bottle | 1.07018.2511 |
| | | | | | | 4 L | Glass bottle | 1.07018.4000 |
| | | | | | | 25 L | Metal drum | 1.07018.9026 |
| | Methanol EMPLURA® | 67-56-1 | ≥ 99.5% | ≤ 0.001% | ≤ 0.1% | 1 L | HDPE bottle | 8.22283.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.22283.2500 |
| | | | | | | 5 L | HDPE bottle | 8.22283.5000 |
| | | | | | | 10 L | Metal drum | 8.22283.9011 |
| | | | | | | 25 L | Metal drum | 8.22283.9025 |
| | | | | | | 180 L | PE / Metal drum | 8.22283.9180 |

# Ordering information
## Solvents

### Solvents M-P

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| **M** | Methanol anhydrous for analysis (max. 0.003% $H_2O$) | 67-56-1 | ≥ 99.9% | ≤ 10 mg/L | ≤ 0.003% | 1 L | Glass bottle | 1.06012.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.06012.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.06012.6025 |
| | Methyl benzoate EMPLURA® | 93-58-3 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.06059.1000 |
| | 1-Methoxy-2-propanol EMPLURA® | 107-98-2 | ≥ 99.5% | | ≤ 0.1% | 1 L | Glass bottle | 1.16738.1000 |
| | | | | | | 25 L | Stainless steel drum | 1.16738.6025 |
| | | | | | | 190 L | Metal drum | 1.16738.9190 |
| | 1-Methyl-2-pyrrolidone EMPLURA® | 872-50-4 | ≥ 99.5% | | ≤ 0.1% | 1 L | HDPE bottle | 8.06072.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.06072.2500 |
| | | | | | | 10 L | Metal drum | 8.06072.9011 |
| | | | | | | 25 L | PE canister | 8.06072.9025 |
| | 2-Methyltetrahydrofuran EMPLURA® | 96-47-9 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.08292.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08292.2500 |
| | | | | | | 4 L | Glass bottle | 1.08292.4000 |
| **O** | 1-Octanol EMPLURA® | 111-87-5 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.00991.1000 |
| | | | | | | 25 L | Stainless steel drum | 1.00991.6025 |
| **P** | n-Pentane about 95% EMPLURA® | 109-66-0 | ≥ 95.0% | ≤ 0.005% | | 1 L | Glass bottle | 1.07176.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.07176.2500 |
| | | | | | | 190 L | Metal drum | 1.07176.9190 |
| | n-Pentane for analysis EMSURE® | 109-66-0 | ≥ 99.0% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.07177.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.07177.2500 |
| | | | | | | 4 L | Glass bottle | 1.07177.4000 |
| | n-Pentane EMPLURA® | 109-66-0 | ≥ 99.0% | | | 1 L | Glass bottle | 8.20957.1000 |
| | | | | | | 2.5 L | Glass bottle | 8.20957.2500 |
| | | | | | | 25 L | Metal drum | 8.20957.9025 |
| | Petroleum for analysis EMSURE® | 64742-48-9 | | | ≤ 0.01% | 1 L | Glass bottle | 1.09718.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09718.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.09718.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.09718.6190 |
| | Petroleum benzine boiling range 30–50°C for analysis EMSURE® | 64742-49-0 | | ≤ 0.003% | ≤ 0.01% | 1 L | Glass bottle | 1.01786.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.01786.2500 |
| | Petroleum benzine boiling range to about 40°C EMPLURA® | 64742-49-0 | | ≤ 0.002% | ≤ 0.01% | 1 L | Glass bottle | 1.00915.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00915.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.00915.6025 |
| | Petroleum benzine for analysis boiling range 40–60°C EMSURE® ACS, ISO | 64742-49-0 | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.01775.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.01775.2500 |
| | | | | | | 4 L | Glass bottle | 1.01775.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.01775.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.01775.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.01775.6190 |

## Solvents P

| Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|
| Petroleum benzine boiling range 40–80°C EMPLURA® | | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.01773.1000 |
| | | | | | 25 L | Stainless steel drum | 1.01773.6025 |
| Petroleum benzine boiling range 50–70°C EMPLURA® | 64742-49-0 | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.00910.1000 |
| | | | | | 25 L | Stainless steel drum | 1.00910.6025 |
| Petroleum benzine boiling range 60–80°C for analysis EMSURE® | | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.01774.1000 |
| | | | | | 2.5 L | Glass bottle | 1.01774.2500 |
| | | | | | 4 L | Glass bottle | 1.01774.4000 |
| | | | | | 25 L | Stainless steel drum | 1.01774.6025 |
| Petroleum benzine boiling range 80–100°C for analysis EMSURE® | 64742-49-0 | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.01777.1000 |
| Petroleum benzine boiling range 100–120°C for analysis EMSURE® Reag. Ph Eur | 64742-49-0 | | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.01781.1000 |
| Petroleum benzine boiling range 100–140°C (Naphta Benzine) EMPLURA® | 64742-49-0 | | ≤ 0.005% | ≤ 0.01% | 1 L | Glass bottle | 1.01770.1000 |
| | | | | | 2.5 L | Glass bottle | 1.01770.2500 |
| | | | | | 25 L | Stainless steel drum | 1.01770.6025 |
| Petroleum ether for denaturation | | | | | 1 L | Glass bottle | 1.01769.1000 |
| | | | | | 2.5 L | Glass bottle | 1.01769.2500 |
| | | | | | 10 L | Stainless steel drum | 1.01769.6010 |
| | | | | | 25 L | Stainless steel drum | 1.01769.6025 |
| | | | | | 190 L | Metal drum | 1.01769.9190 |
| Piperidine for analysis EMSURE® | 110-89-4 | ≥ 99.0% | ≤ 0.1% | ≤ 0.3% | 500 mL | Glass bottle | 1.09724.0500 |
| 1,2-Propanediol EMPLURA® | 57-55-6 | ≥ 99.0% | | ≤ 0.2% | 1 L | HDPE bottle | 8.22324.1000 |
| | | | | | 5 L | HDPE bottle | 8.22324.5000 |
| 1-Propanol for analysis EMSURE® ACS, Reag. Ph Eur | 71-23-8 | ≥ 99.5% | ≤ 0.001% | ≤ 0.05% | 1 L | Glass bottle | 1.00997.1000 |
| | | | | | 2.5 L | Glass bottle | 1.00997.2500 |
| | | | | | 4 L | Glass bottle | 1.00997.4000 |
| | | | | | 25 L | Stainless steel drum | 1.00997.6025 |
| 1-Propanol EMPLURA® | 71-23-8 | ≥ 99.0% | | ≤ 0.2% | 1 L | Glass bottle | 1.00996.1000 |
| | | | | | 2.5 L | Glass bottle | 1.00996.2500 |
| | | | | | 25 L | Stainless steel drum | 1.00996.6025 |
| 2-Propanol for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 67-63-0 | ≥ 99.8% | ≤ 0.001% | ≤ 0.05% | 1 L | Glass bottle | 1.09634.1000 |
| | | | | | 1 L | HDPE bottle | 1.09634.1011 |
| | | | | | 2.5 L | Glass bottle | 1.09634.2500 |
| | | | | | 2.5 L | HDPE bottle | 1.09634.2511 |
| | | | | | 4 L | Glass bottle | 1.09634.4000 |
| | | | | | 5 L | HDPE bottle | 1.09634.5000 |
| | | | | | 10 L | Stainless steel drum | 1.09634.6010 |
| | | | | | 25 L | Stainless steel drum | 1.09634.6025 |
| | | | | | 190 L | Stainless steel drum | 1.09634.6190 |
| | | | | | 180 L | PE / Metal drum | 1.09634.9180 |

# Ordering information
## Solvents

**Solvents P-T**

| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| **P** | 2-Propanol for analysis EMPARTA® ACS | 67-63-0 | ≥ 99.5% | ≤ 0.001% | ≤ 0.2% | 2.5 L | HDPE bottle | 1.07022.2511 |
| | | | | | | 4 L | Glass bottle | 1.07022.4000 |
| | | | | | | 25 L | Metal drum | 1.07022.9026 |
| | 2-Propanol EMPLURA® | 67-63-0 | ≥ 99.5% | ≤ 0.002% | ≤ 0.2% | 1 L | HDPE bottle | 8.18766.1000 |
| | | | | | | 2.5 L | HDPE bottle | 8.18766.2500 |
| | | | | | | 10 L | Metal drum | 8.18766.9011 |
| | | | | | | 25 L | Metal drum | 8.18766.9025 |
| | Pyridine for analysis EMSURE® ACS, Reag. Ph Eur | 110-86-1 | ≥ 99.5% | ≤ 0.002% | ≤ 0.1% | 100 mL | Glass bottle | 1.09728.0100 |
| | | | | | | 500 mL | Glass bottle | 1.09728.0500 |
| | | | | | | 1 L | Glass bottle | 1.09728.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09728.2500 |
| | | | | | | 4 L | Glass bottle | 1.09728.4000 |
| | | | | | | 25 L | Stainless steel drum | 1.09728.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.09728.6190 |
| | Pyridine for analysis EMPARTA® ACS | 110-86-1 | ≥ 99.0% | ≤ 0.002% | ≤ 0.1% | 0.5 L | Glass bottle | 1.94601.0500 |
| | | | | | | 2.5 L | Glass bottle | 1.94601.2500 |
| | | | | | | 4 L | Glass bottle | 1.94601.4000 |
| | Pyridine EMPLURA® | 110-86-1 | ≥ 99.0% | ≤ 0.01% | ≤ 0.1% | 1 L | Glass bottle | 1.07462.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.07462.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.07462.6026 |
| | | | | | | 190 L | Metal drum | 1.07462.9190 |
| **T** | Tetrachloroethylene EMPLURA® | 127-18-4 | ≥ 99.0% | ≤ 0.001% | ≤ 0.005% | 1 L | Glass bottle | 1.00964.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.00964.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.00964.6025 |
| | | | | | | 190 L | Metal drum | 1.00964.9190 |
| | Tetrahydrofuran for analysis EMSURE® ACS, Reag. Ph Eur | 109-99-9 | ≥ 99.8% | ≤ 0.0005% | ≤ 0.03% | 1 L | Glass bottle | 1.09731.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.09731.2500 |
| | | | | | | 4 L | Glass bottle | 1.09731.4000 |
| | | | | | | 10 L | Stainless steel drum | 1.09731.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.09731.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.09731.6190 |
| | Tetrahydrofuran for analysis EMPARTA® ACS | 109-99-9 | ≥ 99.5% | ≤ 0.03% | ≤ 0.05% | 2.5 L | Glass bottle | 1.07025.2500 |
| | | | | | | 4 L | Glass bottle | 1.07025.4000 |
| | Tetrahydrofuran EMPLURA® | 109-99-9 | ≥ 99.0% | | ≤ 0.1% | 1 L | Glass bottle | 1.08114.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08114.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.08114.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.08114.6190 |
| | | | | | | 190 L | Metal drum | 1.08114.9190 |



EMSURE® EMPARTA® EMPLURA®

## Solvents T-Z

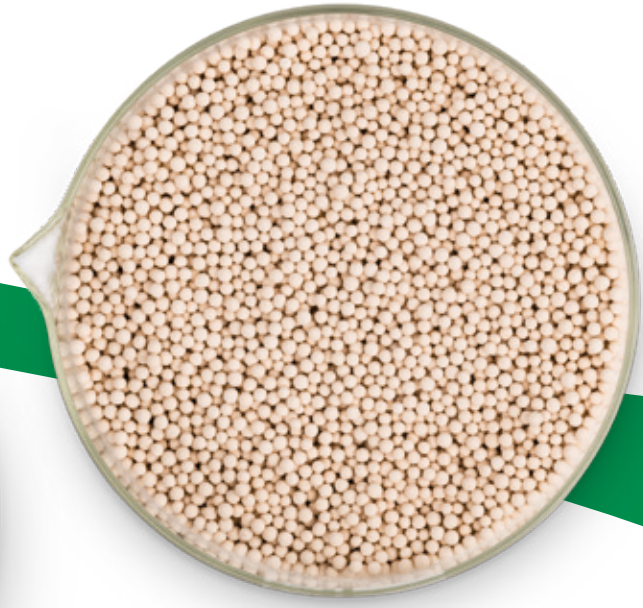
| | Product | CAS No. | Purity (GC) | Evap. residue | Water | Content | Packaging | Ord. No. |
|---|---|---|---|---|---|---|---|---|
| T | Toluene for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 108-88-3 | ≥ 99.9% | ≤ 0.0005% | ≤ 0.03% | 1 L | Glass bottle | 1.08325.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08325.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.08325.2511 |
| | | | | | | 4 L | Glass bottle | 1.08325.4000 |
| | | | | | | 5 L | HDPE bottle | 1.08325.5011 |
| | | | | | | 10 L | Stainless steel drum | 1.08325.6010 |
| | | | | | | 25 L | Stainless steel drum | 1.08325.6025 |
| | | | | | | 190 L | Stainless steel drum | 1.08325.6190 |
| | Toluene for analysis EMPARTA® ACS | 108-88-3 | ≥ 99.5% | ≤ 0.001% | ≤ 0.03% | 2.5 L | Glass bottle | 1.07019.2500 |
| | | | | | | 2.5 L | HDPE bottle | 1.07019.2511 |
| | | | | | | 4 L | Glass bottle | 1.07019.4000 |
| | Toluene EMPLURA® | 108-88-3 | ≥ 99.0% | | | 1 L | Glass bottle | 1.08323.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08323.2500 |
| | | | | | | 10 L | Metal drum | 1.08323.9011 |
| | | | | | | 25 L | Stainless steel drum | 1.08323.6025 |
| | | | | | | 190 L | Metal drum | 1.08323.9190 |
| | Triethanolamine EMPLURA® | 102-71-6 | | | ≤ 0.3% | 5 L | PE canister | 8.22341.5000 |
| | | | | | | 25 L | PE canister | 8.22341.9026 |
| W | Water for analysis EMSURE® | 7732-18-5 | ≥ 99.0% | ≤ 1 mg/L | ≤ 0.01% | 4 L | Titripac | 1.16754.4000 |
| | | | | | | 5 L | HDPE bottle | 1.16754.5000 |
| | | | | | | 10 L | Titripac | 1.16754.9010 |
| X | p-Xylene for analysis EMSURE® ISO | 106-42-3 | ≥ 99.0% | ≤ 0.001% | ≤ 0.01% | 1 L | Glass bottle | 1.08684.1000 |
| | | | | | | 2.5 L | Glass bottle | 1.08684.2500 |
| | | | | | | 25 L | Stainless steel drum | 1.08684.6025 |
| | Xylene (isomeric mixture) for analysis EMSURE® ACS, ISO, Reag. Ph Eur | 1330-20-7 | ≥ 98.5% | ≤ 0.002% | ≤ 0.03% | 2.5 L | Glass bottle | 1.08297.2500 |
| | | | | | | 4 L | Glass bottle | 1.08297.4000 |
| | Xylenes (isomeric mixture) for analysis EMPARTA® ACS | 1330-20-7 | ≥ 98.5% | ≤ 0.002% | ≤ 0.05% | 2.5 L | Glass bottle | 1.08633.2500 |
| | | | | | | 4 L | Glass bottle | 1.08633.4000 |
| | Xylenes (isomeric mixture) EMPLURA® | 1330-20-7 | | ≤ 0.002% | ≤ 0.05% | 2.5 L | Glass bottle | 1.08634.2500 |

▶ **For more details about our packaging, please see "Packaging and Safe Handling" on page 42**

# Essentials for daily lab routines

## Safety, simplicity and sustainability

We offer a comprehensive range of general application chemicals, which are designed to maximize safety and simplicity in daily lab work. Wherever possible, we use natural products to ensure that we both work more sustainably and achieve our environmental targets.

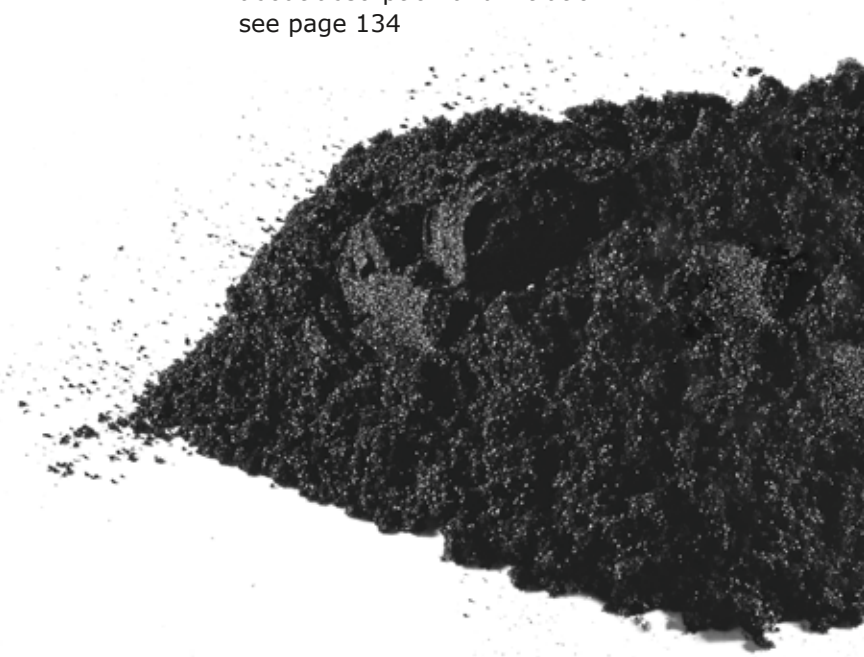


▶ For more information about drying agents see page 130

▶ For more information about absorbents for spilled liquids see page 128

▶ For more information about cleaning applications see page 122

▶ For more information about absorption and filtration see page 134



# Cleaning Applications

## Extran® detergents for reliable, residue-free cleaning

Thorough, residue-free cleaning is essential for reliable processes. This applies to both: laboratories and production facilities. Everything that comes into contact with chemicals or biological substances must be free of impurities, both before and after use.

Put your trust in many years of Extran® experience from Merck and use our detergents for **manual cleaning** (MA) or **machine cleaning** in laboratory washing machines (AP).

### Your advantages

Extran® is a reliable cleaning agent of consistent composition that ensures proper scientific working procedures and avoids a frequently modification of processes and applications.

- **Reliable results** by long-term detergent experience, constant product quality and composition, outstanding solubility and flowability
- **Environmental protection** by bio-degradable active ingredients
- **Reliable residue-free cleaning with validation support** to prove the absence of nonionic surfactants by means of a photometric test
- **Health protection** no known allergy risk or smell nuisance because Extran® is free of scent, dyestuff, oxidants, chlorine, enzymes and NTA. Extran® replaces toxic cleaning agents
- **Save time and money** with highly concentrated Extran® detergents and technical application support
- **High flexibility and safety** by a broad range of different pack sizes – from 1 L to 25 L, from 2 kg to 25 kg – and specially developed withdrawal products and adapters

**Learn more:** The following pages present a selection of Extran® cleaning agents. For further products and information, please visit **SigmaAldrich.com/cleaning**


| Properties | | | | | | | Applications<br>cleaning effectiveness (x - good, xx - very good, xxx - outstanding) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| liquid | powder | acidic | neutral | mildly alkaline | alkaline | special properties | Food residues | Fat / wax / silicones | Organic residues | Inorganic residues | Colors/ lacquer/ pigments | Blood / cells / proteins | **Extran® type** | **Cat. number*** |
| Manual cleaning | | | | | | | | | | | | | | |
| x | | | | | x | | xx | | xx | xx | xx | xx | MA 01 | 107555 |
| x | | | x | | | | | xx | x | xx | x | | MA 02 | 107553 |
| x | | | | | x | phosphate-free | x | xx | x | x | xx | x | MA 05 | 140000 |
| Aparative cleaning (dishwasher) | | | | | | | | | | | | | | |
| | x | | | x | | | x | xx | x | xx | x | x | AP 11 | 107558 |
| | x | | | | x | | xx | x | xx | xx | xxx | xx | AP 12 | 107563 |
| x | | | | | x | phosphate-free | xx | xx | | xx | xx | xx | AP 17 | 140006 |
| x | | | | x | | phosphate-free | x | | | xx | x | x | AP 18 | 140118 |
| x | | x | | | | with phosphoric acid | x | x | xx | x | | | AP 21 | 107559 |
| x | | x | | | | with citric acid, phosphate-free | x | x | xx | x | | | AP 22 | 107561 |
| | x | | | | | enzymatic | xx | xx | x | x | | | AP 41 | 107570 |

***please see following pages for available pack sizes**

# Cleaning Applications
## Extran® detergents for manual washing

### Manual washing – Application

The Extran® MA types for manual washing are universally applicable concentrates for the production of water baths which work reliably and without residue.

- Water is used to prepare the cleaning solution. If slight sedimentation of the hardener occurs, more Extran® must be added. De-mineralized water boosts the cleaning effect.
- For cleaning, the items to be cleaned are simply immersed completely in the solution.
- Once cleaning is finished, they are rinsed first with tap water and then with demineralised water.
- The baths can be used for a longer time without a noticeable decrease in the cleaning effect.
- If necessary, the rinsing liquid can be supplemented with fresh Extran®.
- The length of application is less than 2 hours.
- For “difficult cases” such as plaster, blood or heavy oil, the items to be cleaned are simply left in the bath a little longer.
- Heat speeds up the cleaning process.
- Extran® is also ideally suited to ultrasound cleaning.

| Extran® MA 01 liquid, alkaline | Content | Packaging | Ord. No. |
|---|---|---|---|
| Extran® MA 01 alkaline | 1 L | HDPE bottle | 1.07555.1000 |
| | 2.5 L | HDPE bottle | 1.07555.2500 |
| | 5 L | HDPE bottle | 1.07555.5000 |
| | 10 L | PE canister | 1.07555.9010 |
| | 25 L | PE canister | 1.07555.9025 |

| Extran® MA 02 liquid, neutral | Content | Packaging | Ord. No. |
|---|---|---|---|
| Extran® MA 02 neutral | 1 L | HDPE bottle | 1.07553.1000 |
| | 2.5 L | HDPE bottle | 1.07553.2500 |
| | 5 L | HDPE bottle | 1.07553.5000 |
| | 10 L | PE canister | 1.07553.9010 |
| | 25 L | PE canister | 1.07553.9025 |

| Extran® MA 05 liquid, alkaline, phosphate-free | Content | Packaging | Ord. No. |
|---|---|---|---|
| Extran® MA 05 alkaline, phosphate-free concentrate | 1 L | HDPE bottle | 1.40000.1000 |
| | 2.5 L | HDPE bottle | 1.40000.2500 |
| | 5 L | HDPE bottle | 1.40000.5000 |
| | 10 L | PE canister | 1.40000.9010 |
| | 25 L | PE canister | 1.40000.9025 |

| Accessories | Ord. No. |
|---|---|
| Bottle opening key for S40 and S28 screw caps | 1.08801.0001 |

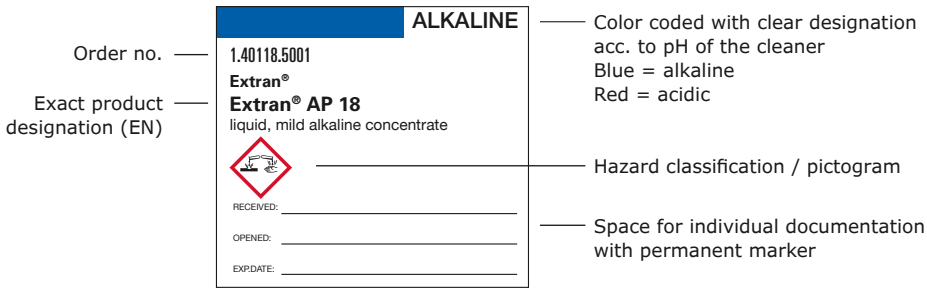
# Cleaning Applications
## Extran® detergents for automated cleaning

### Automated cleaning

Extran® AP automated cleaning detergents were created and tested in cooperation with leading appliance manufacturers especially for use in laboratory washing machines. The products ensure effective cleaning, while significantly limiting foam formation and minimizing residues. The good solubility in water of all components minimizes residues on appliances which have been cleaned.

| Type | Designation | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| AP 11 | powder, mildly alkaline | 2 kg | HDPE bottle | 1.07558.2000 |
| | | 10 kg | PE drum | 1.07558.9010 |
| | | 25 kg | PE drum | 1.07558.9025 |
| AP 12 | powder, alkaline | 2 kg | HDPE bottle | 1.07563.2000 |
| | | 10 kg | PE drum | 1.07563.9010 |
| | | 25 kg | PE canister | 1.07563.9025 |
| AP 17 | liquid, alkaline concentrate | 2.5 L | HDPE bottle | 1.40006.2500 |
| | | 5 L | HDPE bottle | 1.40006.5000 |
| | | 5 L | PE canister | 1.40006.5001 |
| | | 10 L | PE canister | 1.40006.9010 |
| | | 25 L | PE canister | 1.40006.9025 |
| AP 18 | liquid, mild alkaline concentrate | 2.5 L | HDPE bottle | 1.40118.2500 |
| | | 5 L | HDPE bottle | 1.40118.5000 |
| | | 5 L | PE canister | 1.40118.5001 |
| | | 10 L | PE canister | 1.40118.9010 |
| | | 25 L | PE canister | 1.40118.9025 |
| AP 21 | liquid, acidic, concentrate (contains phosphoric acid) | 2.5 L | HDPE bottle | 1.07559.2500 |
| | | 5 L | PE canister | 1.07559.5001 |
| | | 10 L | PE canister | 1.07559.9010 |
| | | 25 L | PE canister | 1.07559.9025 |
| AP 22 | liquid, acidic concentrate (contains citric acid) | 2.5 L | HDPE bottle | 1.07561.2500 |
| | | 5 L | PE canister | 1.07561.5001 |
| | | 10 L | PE canister | 1.07561.9010 |
| | | 25 L | PE canister | 1.07561.9025 |
| AP 41 | powder, enzymatic | 2 kg | HDPE bottle | 1.07570.2000 |
| | | 25 kg | PE drum | 1.07570.9025 |

## Top label with contents & essential safety information





## Your benefits

### Safe

- no detergent contact from filling
- TOP LABEL with always visible product and safety information, additional blank space for individual documentation

### Convenient

- direct connection
- no refill
- lightweight

### Economical

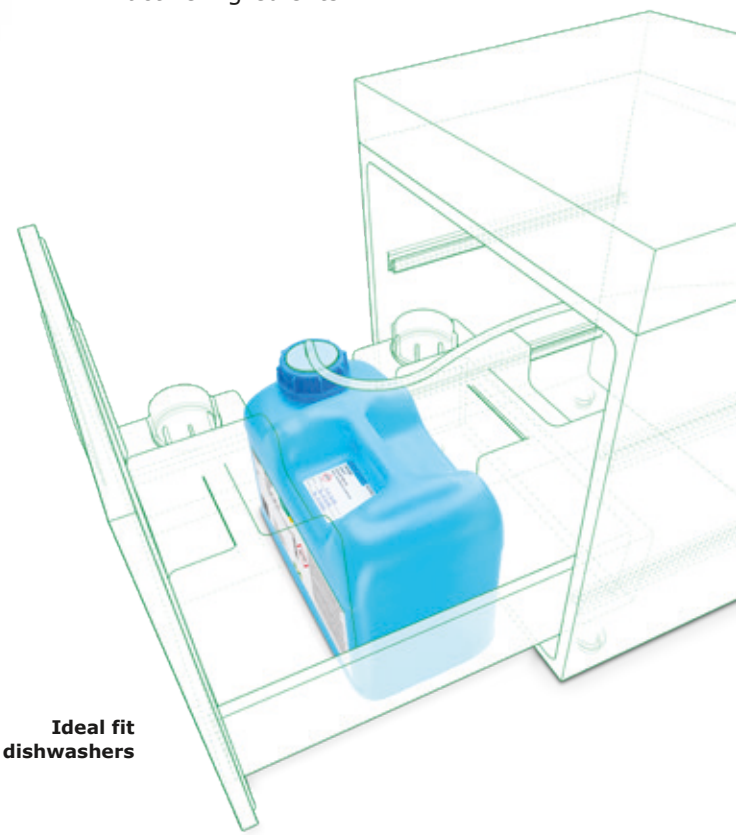
- process automation
- reduces dishwasher repairs

### Ecological

- non-toxic, biodegradable active ingredients

## Extran® AP liquids in 5 L canisters

Careful cleaning is essential in every lab. But it can pose risks and challenges, like accidental contact with harmful cleaner concentrates, frequent refilling of cleaning agents, or costly dishwasher repairs. That's why we now also offer our powerful, non-toxic, residue-free and biodegradable Extran® cleaners in 5 L canisters – making them the ideal fit for lab dishwashers. Discover quality perfected for your intended use.



**Ideal fit for lab dishwashers**

# Chemizorb® absorbents

## The fast, safe and easy way to clear up chemical spills

Accidents happen in every lab at any time. With Chemizorb® absorbents, you can clear away aggressive or unpleasant spilled liquids quickly and safely. Our fast-acting absorbents consist of porous mineral or synthetic copolymers that are chemically inert, and capable of absorbing up to 400% of their own weight.

**Your benefits:**

- Easy dosing due to the wide bottle neck
- Clear process monitoring
- Bright red bottle stands out among other HDPE bottles

**Learn more**
For further products and information and the current brochure "Soak it up", please visit **SigmaAldrich.com/spillage-absorption**

## The »all-rounders« - quick help for multiple spillages

Chemizorb® powder and granule absorbents are insoluble in water and in all other media that are liquid at room temperature. These “all-rounders” are suitable for removing nearly all kinds of aqueous spills, such as acids, alkalis and solvents.

| Chemizorb® powder | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® powder absorbent for spilled liquids | 500 g | HDPE bottle | 1.02051.0500 |
| | 25 kg | Fibre carton | 1.02051.9025 |

| Chemizorb® granules | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® granules absorbent for spilled liquids | 1 kg | HDPE bottle | 1.01568.1000 |
| | 5 kg | Bucket, plastic | 1.01568.5000 |
| | 20 kg | PE drum | 1.01568.9021 |

## The »specialists« - make use of our experience

We offer specific absorbents for alkalis, acids, and hydrofluoric acid. Each contains special carrier materials and water-soluble neutralizers, as well as pH indicators that help you visually monitor the neutralization of the spilled chemicals. Please note that the reaction may generate heat and gas.

| Chemizorb® $OH^-$ | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® $OH^-$ absorbent and neutralizer for spilled alkalis, with indicator | 1 kg | HDPE bottle | 1.01596.1000 |

| Chemizorb® $H^+$ | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® $H^+$ absorbent and neutralizer for spilled acids, with indicator | 2 kg | HDPE bottle | 1.03874.2000 |
| | 5 kg | Bucket, plastic | 1.03847.5000 |

| Chemizorb® HF | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® HF absorbent and neutralizer for spilled hydrofluoric acid, with indicator | 1 kg | HDPE bottle | 1.01591.1000 |

## The »all-in-one« set for mercury

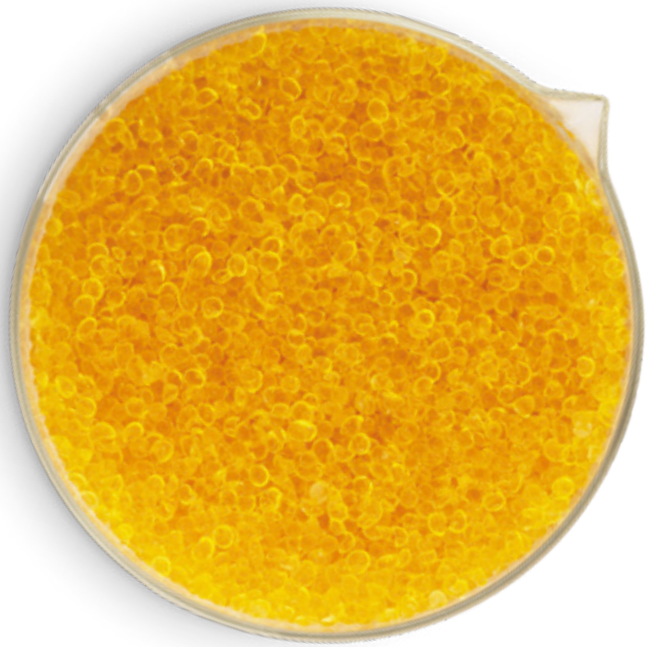
Chemizorb® Hg kit Mercury is an all-inclusive set of reagents and auxiliaries for safe and complete removal of mercury drops and traces of elementary mercury. The reagents in the set are sufficient for decontaminating an area of roughly one square meter.

| Chemizorb® Hg | Content | Packaging | Ord. No. |
|---|---|---|---|
| Chemizorb® Hg Reagents and accessories for absorbent for mercury | 1 set | PE case | 1.12576.0001 |
| 1 set consisting of:<br>500 g of reagent 1, 100 mL of reagent 2, one small tub, one large disposal can, protective gloves … | | | |
| Chemizorb® Hg reagents refill pack for Cat. No. 1.12576.0001 | 1 set | PE can | 1.01569.0001 |
| 1 set consisting of: 500 g reagent 1 and 100 mL reagent 2 | | | |

# Drying Agents

## Optimize desiccation with absolute reliability

Our Drying agents (desiccants) are developed, produced and rigorously tested to ensure optimal drying processes, whether in the laboratory, during storage, or for transportation. Our comprehensive portfolio offers user-friendly solutions for a wide range of applications – from drying gases, liquids or solids using static or dynamic drying processes, to protecting sensitive goods and materials from moisture, mold or corrosion. Regardless of your application, you can always expect reliable, reproducible results. Because, at Merck, **consistency is our standard.**



**Safety information:** Dangers of silica gel with blue indicator According to the European Chemicals Agency (ECHA), cobalt dichloride ($CoCl_2$) is a substance of very high concern (SVHC), which is classified as carcinogenic and toxic for reproduction*. This hazardous inorganic compound is present in silica gel containing blue indicator. When working with the desiccant, any dust particles emitted may be easily inhaled, posing serious health hazards. To protect users from these risks, we offer a broad range of non-toxic silica gels, which are based on iron-salt instead of cobalt dichloride indicator. Explore our safe and reliable silica gels.

*Source: ECHA "Candidate List of Substances of Very High Concern for Authorization"

## Your benefits

- Safety: We strictly avoid the use of carcinogenic blue gel to **protect your health.**
- Economical: Optimal protection of goods, equipment or substances avoids replacement costs; **recoverable drying agents** can be used longer to reduce expenses.
- Reliability: **Effective moisture reduction** helps maintain your product's original condition, and ensures accurate results

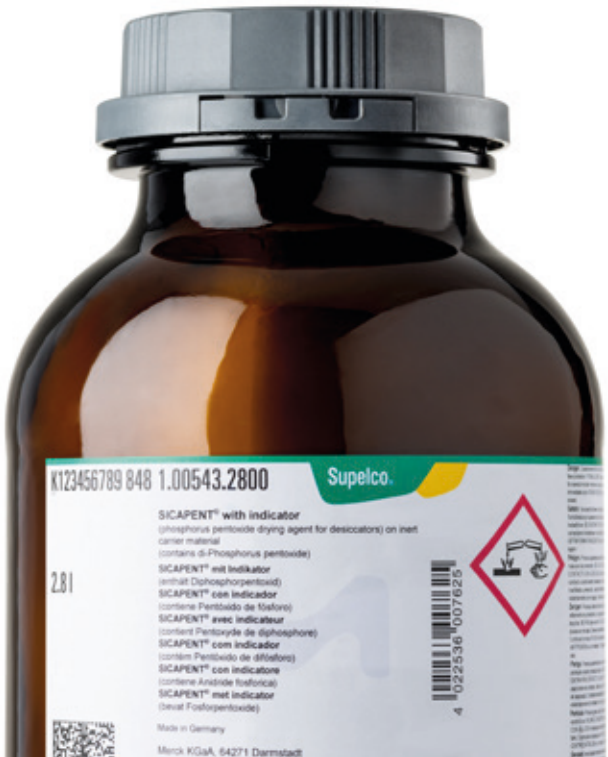
# Drying Agents

## Optimize desiccation with absolute reliability

| Calcium chloride [$CaCl_2$] | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Calcium chloride anhydrous, granules Reag. Ph Eur | 10043-52-4 | 500 g | HDPE bottle | 1.02378.0500 |
| | | 2.5 kg | HDPE bottle | 1.02378.2500 |
| | | 25 kg | Fibre carton | 1.02378.9025 |
| Calcium chloride anhydrous, granular ~ 1–2 mm | 10043-52-4 | 1 kg | HDPE bottle | 1.02379.1000 |
| | | 5 kg | HDPE bottle | 1.02379.5000 |
| | | 25 kg | Fibre carton | 1.02379.9025 |
| Calcium chloride anhydrous, granular ~ 2–6 mm | 10043-52-4 | 1 kg | HDPE bottle | 1.02391.1000 |
| | | 5 kg | Fibre carton | 1.02391.5000 |
| | | 25 kg | Fibre carton | 1.02391.9025 |

| Desiccant sachets [$SiO_2$] | Content | Packaging | Ord. No. |
|---|---|---|---|
| Desiccant sachet 10 g silica gel with humidity indicator (orange gel) sachet: 7 x 9 cm | 50 units | Metal can | 1.03804.0001 |
| Desiccant sachet 100 g silica gel with humidity indicator (orange gel) sachet: 15 x 14 cm | 10 units | Metal can | 1.03805.0001 |
| Desiccant sachet 250 g silica gel with humidity indicator (orange gel) sachet: 15 x 20.5 cm | 10 units | Metal can | 1.03806.0001 |
| Desiccant sachet 3 g silica gel with humidity indicator (orange gel) sachet: 4 x 7 cm | 100 units | Metal can | 1.03803.0001 |
| | 1000 units | Fibre carton | 1.03803.0002 |

▶ Further desiccant sachets, e.g. 500 g, on request.




**SICAPENT® drying agent**

| Molecular sieves | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Molecular sieve 0.3 nm beads ~ 2 mm[1] (suitable for use in Karl Fischer titration) | 1318-02-1 | 250 g | HDPE bottle | 1.05704.0250 |
| | | 1 kg | HDPE bottle | 1.05704.1000 |
| | | 10 kg | Bucket, plastic | 1.05704.9010 |
| Molecular sieve 0.3 nm beads, with moisture indicator ~ 2 mm[1] | – | 250 g | HDPE bottle | 1.05734.0250 |
| | | 1 kg | HDPE bottle | 1.05734.1000 |
| Molecular sieve 0.3 nm rods ~ 1.6 mm (1/16") | 1318-02-1 | 250 g | HDPE bottle | 1.05741.0250 |
| | | 1 kg | HDPE bottle | 1.05741.1000 |
| Molecular sieve 0.4 nm beads ~ 2 mm Reag. Ph Eur | 1318-02-1 | 250 g | Glass bottle | 1.05708.0250 |
| | | 1 kg | Glass bottle | 1.05708.1000 |
| | | 10 kg | Bucket, plastic | 1.05708.9010 |
| Molecular sieve 0.4 nm beads, with moisture indicator ~ 2 mm | – | 250 g | Glass bottle | 1.05739.0250 |
| | | 1 kg | Glass bottle | 1.05739.1000 |
| Molecular sieve 0.4 nm rods ~ 1.6 mm (1/16") | 1318-02-1 | 1 kg | HDPE bottle | 1.05743.1000 |
| Molecular sieve 1.0 nm beads ~ 2 mm | 1318-02-1 | 1 kg | Glass bottle | 1.05703.1000 |

▶ 1) Molecular sieves with 0.3 nm bead form (105704) and with indicator brown gel (105734) are suitable for use in Karl Fischer titrators.

| Phosphorus pentoxide [$P_2O_5$] | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| di-Phosphorus pentoxide extra pure | 1314-56-3 | 1 kg | Glass bottle | 1.00540.1000 |
| | | 25 kg | Plastic drum | 1.00540.9025 |
| di-Phosphorus pentoxide for analysis ACS, ISO, Reag. Ph Eur | 1314-56-3 | 100 g | Glass bottle | 1.00570.0100 |
| | | 500 g | Glass bottle | 1.00570.0500 |

| Silica gel [$SiO_2$] | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Silica gel granules, desiccant ~ 0.2–1 mm | 7631-86-9 | 1 kg | HDPE bottle | 1.01905.1000 |
| Silica gel granules, desiccant ~ 2–5 mm | 7631-86-9 | 1 kg | HDPE bottle | 1.01907.1000 |
| | | 5 kg | Plastic bottle | 1.01907.5000 |
| Silica gel with moisture indicator (brown gel) desiccant ~ 1–4 mm | – | 1 kg | HDPE bottle | 1.01972.1000 |
| | | 5 kg | HDPE bottle | 1.01972.5000 |
| | | 25 kg | Plastic drum | 1.01972.9025 |
| Silica gel with indicator (orange gel), granulate ~ 1–3 mm | – | 1 kg | HDPE bottle | 1.01969.1000 |
| | | 5 kg | HDPE bottle | 1.01969.5000 |
| | | 25 kg | Plastic drum | 1.01969.9025 |
| Silica gel beads, desiccant ~ 2–5 mm | 7631-86-9 | 1 kg | HDPE bottle | 1.07735.1000 |

| SICAPENT® drying agent | Content | Packaging | Ord. No. |
|---|---|---|---|
| SICAPENT® drying agent with indicator (phosphorus pentoxide for desiccators) on inert carrier material | 500 mL | Glass bottle | 1.00543.0500 |
| | 2.8 L | Glass bottle | 1.00543.2800 |

# Absorption and Filtration

## Quality materials for absorption, adsorption & filtration

Purification is one of the most important applications in analytical laboratories. To ease your daily work, we offer a complete range of absorption and adsorption reagents, as well as filtration and clarification materials – all with excellent take-up properties. Our products are suitable for a wide variety of applications, such as absorbing or binding substances, as well as for decolorization, clarification and filtration. Regardless of the purpose, they deliver quality perfected for your intended use.

## Your benefits

- Reliability: All natural products used are tested for organic impurities, and various anions and cations. The products are specified and offer excellent **batch-to-batch consistency.**

- Convenience: **Comprehensive portfolio** allows successful implementation of a wide variety of purification methods.

- Sustainability: Most of our absorption, adsorption and filtration materials are natural reagents which are **not harmful to the environment.**

# Absorption and Filtration

## Quality materials for absorption, adsorption & filtration

| Calcium oxide | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Calcium oxide from marble small lumps ~ 3–20 mm | 1305-78-8 | 1 kg | HDPE bottle | 1.02109.1000 |
| | | 25 kg | Fibre carton | 1.02109.9025 |

| Charcoal activated | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Charcoal activated for analysis | 7440-44-0 | 250 g | Metal can | 1.02186.0250 |
| | | 1 kg | Metal can | 1.02186.1000 |
| | | 20 kg | Fibre carton | 1.02186.9020 |
| Charcoal activated granular about 1.5 mm extra pure | 7440-44-0 | 1 kg | Plastic bag | 1.02514.1000 |
| | | 5 kg | Fibre carton | 1.02514.5000 |
| | | 25 kg | Fibre carton | 1.02514.9025 |
| Charcoal activated powder extra pure | 7440-44-0 | 1 kg | Metal can | 1.02184.1000 |
| | | 5 kg | Fibre carton | 1.02184.5000 |
| | | 20 kg | Fibre carton | 1.02184.9020 |
| Charcoal activated pure | 7440-44-0 | 1 kg | Plastic bag | 1.02183.1000 |
| | | 15 kg | Fibre carton | 1.02183.9015 |

**Charcoal activated**


**Calcium oxide**

**Sea sand**

| Sea sand | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Sea sand extra pure | 7631-86-9 | 1 kg | HDPE bottle | 1.07711.1000 |
| | | 5 kg | HDPE bottle | 1.07711.5000 |
| | | 25 kg | Fibre carton | 1.07711.9025 |
| Sea sand purified by acid and calcined for analysis | 7631-86-9 | 1 kg | HDPE bottle | 1.07712.1000 |
| | | 5 kg | HDPE bottle | 1.07712.5000 |
| | | 10 kg | HDPE bottle | 1.07712.9010 |
| | | 25 kg | Fibre carton | 1.07712.9025 |

| Sodalime | CAS No. | Content | Packaging | Ord. No. |
|---|---|---|---|---|
| Sodalime, granules ~ 1–2.5 mm with indicator for analysis | – | 500 g | HDPE bottle | 1.06733.0501 |
| | | 2.5 kg | HDPE bottle | 1.06733.2500 |
| Sodalime pellets with indicator for analysis | – | 1 kg | HDPE bottle | 1.06839.1001 |
| | | 5 kg | HDPE bottle | 1.06839.5001 |
| | | 25 kg | Fibre carton | 1.06839.9025 |

Supelco®

Analytical Products

Merck KGaA
Frankfurter Strasse 250
64293 Darmstadt, Germany
Phone +49 (0)6151 720

**SigmaAldrich.com**



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