Salts for analysis
EMSURE®

EMD Millipore is a division of Merck KGaA, Darmstadt, Germany

EMSURE® inorganic salts –
manufactured under strictly controlled conditions at EMD Millipore facilities in Darmstadt, Germany

Their outstanding analytical purity –
the ideal choice for both qualitative and quantitative analysis

The broad product range of inorganic salts –
a wide assortment that is suitable for analyzing various substances and substance mixtures

Benefits

- Comprehensive product range
- Standardized high quality – premium grade for reagents
- High batch-to-batch consistency
- Extensive Certificate of Analysis (CoA)
- Compliance with international standards, such as ISO, ACS and Reag. Ph Eur
- Salts are specified for pharmacopoeia analysis
- Reliability, flexibility and safety

Contents

Characteristics

Safety and environment

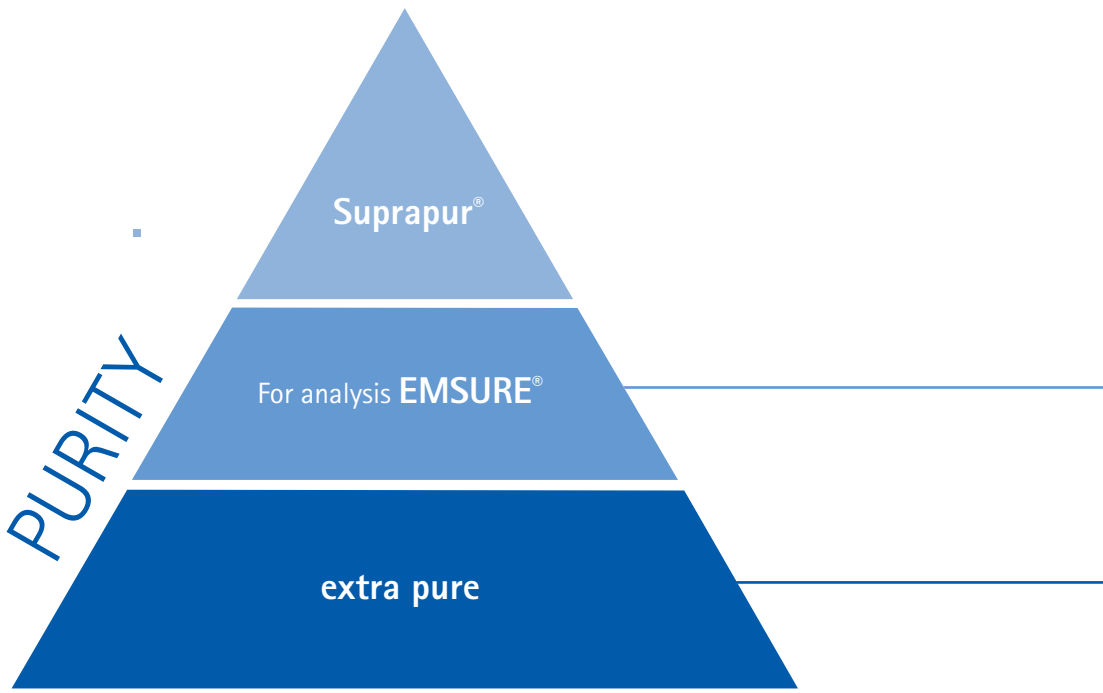
In 2010, EMD Millipore established a new production facility for inorganic salts, enabling us to increase capacity by 50 percent. This expansion and modernization is our response to a growing global demand for superior quality and product safety. The plant, which is scheduled to begin operation in mid 2011, is also our commitment to developing Darmstadt into a powerful center for EMD Millipore's chemical production.

Quality management

EMD Millipore is certified according to the DIN EN ISO 9001 quality management systems, as well as the ISO 14001 environmental management system.

Improved flowability

Many inorganic salts tend to cake naturally, forming hard lumps. This makes it difficult to extract the product from the pack and process it. Exact dosing is also very important for most analytical tests in order to obtain precise and reproducible results. Since chemical purity may not be altered, we looked for a solution that neither changed the guaranteed specifications nor involved any anti-caking materials. Our answer: a new and improved production process that substantially reduces the clumping of substances.



Specification

ACS	Standards of the American Chemical Society
ISO	Standards of the International Organization for Standardization
Reag. Ph Eur	Requirements for reagents specified by the European Pharmacopoeia

Quality grades for your individual needs

Salts for analysis EMSURE® with ACS declaration

ACS standards are currently the most recognized international regulations and specifications for analytical reagents. This is why EMD Millipore tests and releases reagents based on the specifications and analytical regulations of the ACS – in addition to other criteria. The 10th edition of ACS was released in 2006. Our reagent declaration always conforms to the latest version of ACS. Updates are published regularly online.

Salts for analysis EMSURE® specified for pharmacopoeia analysis

Production and quality control in the pharmaceutical industry are strictly regulated. With the product designation »for analysis EMSURE® ACS, Reag. Ph Eur« EMD Millipore offers an extensive range of reagents including salts for pharmacopoeia analysis. These products conform fully to the specifications described in the reagents section of the European Pharmacopoeia as well as that of the U.S. Pharmacopoeia. Thus, quality assurance laboratories in the pharmaceutical industry benefit from the international acceptance of these reagents and the security of analytical laboratory auditing.

Salts extra pure

Categories

Categories A–P

	Category	Definition	Area of application
A	**Acetates**	Salts of acetic acid	Buffer substance
	Antimonates	Antimony compounds with antimony in oxidation state +5	Special oxidizing agent
B	**Bismuthates**	Bismuth compounds with bismuth in oxidation state +5	Special oxidizing agent
	Bromates	Salts of bromic acid only stable in aqueous solution	Special oxidizing agent
	Bromides	Salts of hydrobromic acid	Technical applications, e.g. in photography
C	**Carbamates**	Salts of carbamic acid – stable »carbonate«	Neutralization of acids
	Carbonates	Salts of carbonic acid	Buffer substance, application in neutralizing reactions
	Chlorates	Salts of chloric acid	Special oxidizing agent
	Chlorides	Salts of aqueous hydrogen chloride (hydrochloric acid)	Very important inorganic compounds in laboratory and production
	Chromates/dichromates	Chromium compounds with chromium in oxidation state +6	Special oxidizing agent
	Citrates	Salts of citric acid	Buffer substance
	Cyanides	Salts of hydrogen cyanide	Complexing agent, cyaniding
D	**Difluorides**	Acid salts of hydrofluoric acid	Etchant
	Diiodates	Acid salts of iodic acid	Special oxidizing agent
	Disulfates	Salts of thiosulfurous acid	Dissolution agent
	Disulfites	Salts of pyrosulfurous acid	Special reducing agent
	Dithionites	Salts of dithionous acid	Special reducing agent
F	**Fluorides**	Salts of hydrofluoric acid	Reagent in complexometry, etchant
	Formates	Salts of formic acid	Special reducing agent
H	**Hexacyanoferrates**	Stable cyano complexes with iron(II) and iron(III)	Iron(II) / iron(III) detection
	Hexanitrocobaltates	Stable cyano complex with cobalt	Potassium detection
	Hydroxide	alkaline compounds	Starting substances for alkalis, neutralization of acids, etchants, dissolution agents
I	**Iodates**	Salts of iodic acid	Special oxidizing agent, iodometry
	Iodides	Salts of hydriodic acid	Iodometry, phototgraphy
M	**Molybdates**	Molybdenum compounds with molybdenum in oxidation state +6	Phosphate detection
N	**Nitrates**	Salts of nitric acid	Special oxidizing agent
	Nitrites	Salts of nitrous acid	Laboratory reagent
O	**Oxalates**	Salts of oxalic acid	Reducing agent in permanganometry
P	**Pentacyanonitrosylferrates**	Cyano complex with nitrosyl ion	Laboratory reagent
	Perchlorates	Salts of perchloric acid	Special oxidizing agent, potassium detection
	Periodates	Salts of periodic acid	Special oxidizing agent
	Permanganates	Salts of unstable permanganic acid	Special oxidizing agent, permanganometry
	Peroxides	Salts with peroxo groups	Special oxidizing agent
	Peroxodisulfates	Disulfates with peroxo groups	Special oxidizing agent
	Phosphates	Salts of phosphoric acid	Often used buffer substances
	Phthalates	Salts of phthalic acid	Alkalimetry

Categories S–Z

	Category	Definition	Area of application
S	**Salicylates**	Salts of salicylic acid	Laboratory reagent
	Selenites	Salts of selenous acid	Special reducing agent, technical applications (e.g. trace element, free-radical scavenger)
	Sulfates	Salts of sulfuric acid	Very important inorganic compound in laboratory and production
	Sulfides	Salts of hydrosulfuric acid	H_2S development, heavy metal precipitation
	Sulfites	Salts of sulfurous acid	Special reducing agent
T	**Tartrates**	Salts of tartaric acid	Special marker in complexometry, buffer substance
	Thiocyanates	Salts of unstable thiocyanic acid	Iron(III) detection
	Thiosulfates	Salts of unstable thiosulfuric acid	Iodometry and photography
	Tungstates	Tungsten compounds with tungsten in oxidation state +6	Special oxidizing agent, Folin-Ciocalteus's phenol determination
V	**Vanadates**	Vanadium compounds with vanadium in oxidation state +5	Special oxidizing agent, phosphate determination

Storage instructions

Recommended storage instructions

We recommend storing all inorganic salts – with the exception of the compounds listed here – in airtight containers in a dry place at room temperature when possible. Further storage instructions are included in our Safety Data Sheets.

Higher water of crystallization content

In case of temperature fluctuations, products with a higher water of crystallization content have a greater tendency to cake than anhydrous salts. In addition, many products tend to decompose when exposed to heat. These compounds should therefore be stored in a dry place that is as cool as possible or at room temperature (max. 25°C). Please follow the storage instructions on the labels of the products.

Store in a cool place [below 25°C]

	Product	Cat. No.
A	Ammonium carbamate for analysis EMSURE®	101134
	Ammonium fluoride for analysis EMSURE® ACS	101164
	Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	103776
	Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO	103792
	Ammonium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur	101201
I	Iron(III) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	103943
	Iron(II) sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	103965
M	Magnesium hydroxide carbonate for analysis EMSURE®	105827
	Manganese(II) sulfate tetrahydrate for analysis EMSURE®	102786
S	Sodium carbonate decahydrate for analysis EMSURE® ISO, Reag. Ph Eur	106391
	di-Sodium hydrogen phosphate anhydrous for analysis particle size about 0.2–1 mm (~ 18–80 mesh ASTM) EMSURE®	106559
	di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO, Reag. Ph Eur	106579
	di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS	106575
	Sodium peroxidisulfate for analysis EMSURE®	106609
	Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	106648
T	Tin(II) chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	107815
	Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE®	107814

Salts for analysis
FAQ's

What enables EMD Millipore to provide highly specified salts for analytical use?
Our state-of-the-art production facilities in Darmstadt, and close cooperation with our customers.

Are EMD Millipore reagents for analytical use ACS certified?
Yes, EMD Millipore offers ACS validated reagents.

What is ACS validation?
ACS validation is a comparison of the methods described by ACS with internally applied methods.

What kind of anti-caking additives does EMD Millipore use?
None. Due to the analytical purity of EMSURE® salts it is not possible to use anti-caking agents.

How do EMD Millipore salts achieve improved flowability?
Improved flowability is attained through optimization during the production process.

Ordering information Salts | EMSURE®

Salts A

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
A	**Aluminium ammonium sulfate dodeca-hydrate for analysis EMSURE® ACS**	7784-26-1	$NH_4Al(SO_4)_2 \cdot 12\ H_2O$	453.33 g/mol	500 g	Plastic bottle	**1.01031.0500**
	Aluminium nitrate nonahydrate for analysis EMSURE®	7784-27-2	$Al(NO_3) \cdot 9\ H_2O$	375.13 g/mol	500 g	Plastic bottle	**1.01063.0500**
					50 kg	Fibre carton	**1.01063.9050**
	Aluminium potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7784-24-9	$KAl(SO_4)_2 \cdot 12\ H_2O$	474.39 g/mol	1 kg	Plastic bottle	**1.01047.1000**
	Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur	631-61-8	CH_3COONH_4	77.08 g/mol	500 g	Plastic bottle	**1.01116.0500**
					1 kg	Plastic bottle	**1.01116.1000**
					5 kg	Plastic bottle	**1.01116.5000**
					50 kg	Fibre carton	**1.01116.9050**
	Ammonium amidosulfonate for analysis EMSURE® ACS, Reag. Ph Eur	7773-06-0	$H_2NSO_3NH_4$	114.13 g/mol	100 g	Plastic bottle	**1.01220.0100**
	Ammonium bromide for analysis EMSURE® ACS	12124-97-9	NH_4Br	97.94 g/mol	1 kg	Plastic bottle	**1.01125.1000**
					25 kg	Fibre carton	**1.01125.9025**
	Ammonium carbamate for analysis EMSURE®	1111-78-0	$H_2NCOONH_4$	78.07 g/mol	500 g	Plastic bottle	**1.01134.0500**
	Ammonium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	10361-29-2	$CH_6N_2O_2 \cdot CH_5NO_3$	157.13 g/mol	250 g	Plastic bottle	**1.59504.0250**
					1 kg	Plastic bottle	**1.59504.1000**
					5 kg	Plastic bottle	**1.59504.5000**
	Ammonium cerium(IV) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	16774-21-3	$(NH_4)_2[Ce(NO_3)_6]$	548.22 g/mol	100 g	Plastic bottle	**1.02276.0100**
					1 kg	Plastic bottle	**1.02276.1000**
	Ammonium cerium(IV) sulfate dihydrate for analysis EMSURE® ACS	10378-47-9	$(NH_4)_4Ce(SO_4)_4 \cdot 2\ H_2O$	632.55 g/mol	100 g	Plastic bottle	**1.02273.0100**
	Ammonium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	12125-02-9	NH_4Cl	53.49 g/mol	500 g	Plastic bottle	**1.01145.0500**
					1 kg	Plastic bottle	**1.01145.1000**
					5 kg	Plastic 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	$(NH_4)H_2PO_4$	115.02 g/mol	500 g	Plastic bottle	**1.01126.0500**
					50 kg	Fibre carton	**1.01126.9050**
	Ammonium fluoride for analysis EMSURE® ACS	12125-01-8	NH_4F	37.04 g/mol	250 g	Plastic bottle	**1.01164.0250**
					1 kg	Plastic bottle	**1.01164.1000**
					25 kg	Fibre carton	**1.01164.9025**
	Ammonium heptamolybdate tetrahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	12054-85-2	$(NH_4)_6Mo_7O_{24} \cdot 4\ H_2O$	1.235.86 g/mol	250 g	Plastic bottle	**1.01182.0250**
					1 kg	Plastic bottle	**1.01182.1000**
					5 kg	Plastic bottle	**1.01182.5000**
	di-Ammonium hydrogen citrate for analysis EMSURE® ACS, Reag. Ph Eur	3012-65-5	$C_6H_8O_7 \cdot 2\ NH_3$	226.19 g/mol	500 g	Plastic bottle	**1.01154.0500**
					2.5 kg	Plastic bottle	**1.01154.2500**
					50 kg	Fibre carton	**1.01154.9050**
	di-Ammonium hydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur	7783-28-0	$(NH_4)_2HPO_4$	132.05 g/mol	500 g	Plastic bottle	**1.01207.0500**
					50 kg	Fibre carton	**1.01207.9050**
	Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7783-83-7	$(NH_4)Fe(SO_4)_2 \cdot 12\ H_2O$	482.19 g/mol	500 g	Plastic bottle	**1.03776.0500**
					1 kg	Plastic bottle	**1.03776.1000**
					5 kg	Plastic bottle	**1.03776.5000**
					50 kg	Fibre carton	**1.03776.9050**

Salts A–C

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
A	**Ammonium iron(II) sulfate hexahydrate for analysis EMSURE® ISO**	7783-85-9	$(NH_4)_2Fe(SO_4)_2 \cdot 6\ H_2O$	392.14 g/mol	500 g	Plastic bottle	**1.03792.0500**
					1 kg	Plastic bottle	**1.03792.1000**
					5 kg	Plastic bottle	**1.03792.5000**
					50 kg	Fibre carton	**1.03792.9050**
	Ammonium nitrate for analysis EMSURE® ACS	6484-52-2	NH_4NO_3	80.04 g/mol	500 g	Plastic bottle	**1.01188.0500**
					1 kg	Plastic bottle	**1.01188.1000**
					5 kg	Plastic bottle	**1.01188.5000**
	di-Ammonium oxalate monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6009-70-7	$(NH_4)_2C_2O_4 \cdot H_2O$	142.11 g/mol	250 g	Plastic bottle	**1.01192.0250**
					1 kg	Plastic bottle	**1.01192.1000**
	Ammonium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur	7727-54-0	$(NH_4)_2S_2O_8$	228.19 g/mol	500 g	Plastic bottle	**1.01201.0500**
					1 kg	Plastic bottle	**1.01201.1000**
					5 kg	Plastic bottle	**1.01201.5000**
					50 kg	Fibre carton	**1.01201.9050**
	Ammonium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7783-20-2	$(NH_4)_2SO_4$	132.14 g/mol	100 g	Plastic bottle	**1.01217.0100**
					1 kg	Plastic bottle	**1.01217.1000**
					5 kg	Plastic bottle	**1.01217.5000**
					25 kg	Fibre carton	**1.01217.9025**
					50 kg	Fibre carton	**1.01217.9050**
	Ammonium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	1762-95-4	NH_4SCN	76.11 g/mol	500 g	Plastic bottle	**1.01213.0500**
					25 kg	Fibre carton	**1.01213.9025**
B	**Barium acetate for analysis EMSURE® ACS**	543-80-6	$Ba(CH_3COO)_2$	255.42 g/mol	500 g	Plastic bottle	**1.01704.0500**
	Barium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	513-77-9	$BaCO_3$	197.34 g/mol	250 g	Plastic bottle	**1.01714.0250**
					1 kg	Plastic bottle	**1.01714.1000**
	Barium chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10326-27-9	$BaCl_2 \cdot 2\ H_2O$	244.28 g/mol	500 g	Plastic bottle	**1.01719.0500**
					1 kg	Plastic bottle	**1.01719.1000**
					5 kg	Plastic bottle	**1.01719.5000**
					50 kg	Fibre carton	**1.01719.9050**
	Barium hydroxide octahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	12230-71-6	$Ba(OH)_2 \cdot 8\ H_2O$	315.48 g/mol	500 g	Plastic bottle	**1.01737.0500**
	Barium nitrate for analysis EMSURE® ACS	10022-31-8	$Ba(NO_3)_2$	261.34 g/mol	500 g	Plastic bottle	**1.01729.0500**
					50 kg	Fibre carton	**1.01729.9050**
	Barium perchlorate anhydrous for analysis EMSURE®	13465-95-7	$Ba(ClO_4)_2$	336.23 g/mol	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	$Bi_5O(OH)_9(NO_3)_4$	1461.99 g/mol	100 g	Plastic bottle	**1.01878.0100**
C	**Cadmium acetate dihydrate for analysis EMSURE®**	5743-04-4	$(CH_3COO)_2Cd \cdot 2\ H_2O$	266.52 g/mol	500 g	Plastic bottle	**1.02003.0500**
	Cadmium sulfate hydrate for analysis EMSURE® ACS	7790-84-3	$3\ CdSO_4 \cdot 8\ H_2O$	769.51 g/mol	100 g	Plastic bottle	**1.02027.0100**
	Calcium carbonate precipitated for analysis EMSURE® Reag. Ph Eur	471-34-1	$CaCO_3$	100.09 g/mol	250 g	Plastic bottle	**1.02066.0250**
					1 kg	Plastic bottle	**1.02066.1000**
					50 kg	Fibre carton	**1.02066.9050**
	Calcium carbonate precipitated for analysis of silicates EMSURE®	471-34-1	$CaCO_3$	100.09 g/mol	500 g	Plastic bottle	**1.02067.0500**

Ordering information Salts | EMSURE®

Salts C–H

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
C	**Calcium chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur**	10035-04-8	$CaCl_2 \cdot 2\ H_2O$	147.02 g/mol	250 g	Plastic bottle	**1.02382.0250**
					500 g	Plastic bottle	**1.02382.0500**
					1 kg	Plastic bottle	**1.02382.1000**
					5 kg	Plastic bottle	**1.02382.5000**
					25 kg	Fibre carton	**1.02382.9025**
					50 kg	Fibre carton	**1.02382.9050**
	Calcium hydroxide for analysis EMSURE® ACS, Reag. Ph Eur	1305-62-0	$Ca(OH)_2$	74.09 g/mol	500 g	Plastic bottle	**1.02047.0500**
					1 kg	Plastic bottle	**1.02047.1000**
					50 kg	Fibre carton	**1.02047.9050**
	Calcium nitrate tetrahydrate for analysis EMSURE® ACS	13477-34-4	$Ca(NO_3)_2 \cdot 4\ H_2O$	236.15 g/mol	500 g	Plastic bottle	**1.02121.0500**
					50 kg	Fibre carton	**1.02121.9050**
	Calcium sulfate dihydrate precipitated for analysis EMSURE®	10101-41-4	$CaSO_4 \cdot 2\ H_2O$	172.17 g/mol	500 g	Plastic bottle	**1.02161.0500**
	Cerium(IV) sulfate tetrahydrate for analysis EMSURE®	10294-42-5	$Ce(SO_4)_2 \cdot 4\ H_2O$	404.30 g/mol	25 g	Plastic bottle	**1.02274.0025**
					100 g	Plastic bottle	**1.02274.0100**
					250 g	Plastic bottle	**1.02274.0250**
	Chromium(III) nitrate nonahydrate for analysis EMSURE®	7789-02-8	$Cr(NO_3)_3 \cdot 9\ H_2O$	400.15 g/mol	250 g	Plastic bottle	**1.02481.0250**
	Chromium(III) potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7788-99-0	$KCr(SO_4)_2 \cdot 12\ H_2O$	499.41 g/mol	250 g	Plastic bottle	**1.01036.0250**
	Cobalt(II) acetate tetrahydrate for analysis EMSURE® ACS	6147-53-1	$(CH_3COO)_2Co \cdot 4\ H_2O$	249.08 g/mol	100 g	Plastic bottle	**1.02529.0100**
	Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7791-13-1	$CoCl_2 \cdot 6\ H_2O$	237.93 g/mol	100 g	Plastic bottle	**1.02539.0100**
					250 g	Plastic bottle	**1.02539.0250**
	Cobalt(II) nitrate hexahydrate for analysis EMSURE®	10026-22-9	$Co(NO_3)_2 \cdot 6\ H_2O$	291.04 g/mol	100 g	Plastic bottle	**1.02536.0100**
					250 g	Plastic bottle	**1.02536.0250**
	Cobalt(II) nitrate hexahydrate for analysis (max. 0.001% Ni) EMSURE® ACS, Reag. Ph Eur	10026-22-9	$Co(NO_3)_2 \cdot 6\ H_2O$	291.04 g/mol	50 g	Plastic bottle	**1.02554.0050**
					250 g	Plastic bottle	**1.02554.0250**
	Cobalt(II) sulfate heptahydrate for analysis EMSURE®	10026-24-1	$CoSO_4 \cdot 7\ H_2O$	281.10 g/mol	100 g	Plastic bottle	**1.02556.0100**
					250 g	Plastic bottle	**1.02556.0250**
	Copper(II) acetate monohydrate for analysis EMSURE® ACS	6046-93-1	$(CH_3COO)_2Cu \cdot H_2O$	199.65 g/mol	250 g	Plastic bottle	**1.02711.0250**
	Copper(I) chloride for analysis EMSURE® ACS	7758-89-6	CuCl	99 g/mol	250 g	Plastic bottle	**1.02739.0250**
	Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur	10125-13-0	$CuCl_2 \cdot 2\ H_2O$	170.48 g/mol	250 g	Plastic bottle	**1.02733.0250**
					1 kg	Plastic bottle	**1.02733.1000**
	Copper(II) nitrate trihydrate for analysis EMSURE®	10031-43-3	$Cu(NO_3)_2 \cdot 3\ H_2O$	241.60 g/mol	250 g	Plastic bottle	**1.02753.0250**
					1 kg	Plastic bottle	**1.02753.1000**
					25 kg	Fibre carton	**1.02753.9025**
	Copper(II) sulfate anhydrous for analysis EMSURE®	7758-98-7	$CuSO_4$	159.61 g/mol	250 g	Plastic bottle	**1.02791.0250**
					1 kg	Plastic bottle	**1.02791.1000**
	Copper(II) sulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7758-99-8	$CuSO_4 \cdot 5\ H_2O$	249.68 g/mol	250 g	Plastic bottle	**1.02790.0250**
					1 kg	Plastic bottle	**1.02790.1000**
					5 kg	Plastic bottle	**1.02790.5000**
					50 kg	Fibre carton	**1.02790.9050**

Salts I–L

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
I	**Iron(III) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur**	10025-77-1	$FeCl_3 \cdot 6\ H_2O$	270.33 g/mol	250 g	Plastic bottle	**1.03943.0250**
					1 kg	Plastic bottle	**1.03943.1000**
					25 kg	Plastic drum	**1.03943.9025**
	Iron(II) chloride tetrahydrate for analysis EMSURE®	13478-10-9	$FeCl_2 \cdot 4\ H_2O$	198.83 g/mol	250 g	Plastic bottle	**1.03861.0250**
					1 kg	Plastic bottle	**1.03861.1000**
					50 kg	Plastic drum	**1.03861.9050**
	Iron(III) nitrate nonahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7782-61-8	$Fe(NO_3)_3 \cdot 9\ H_2O$	404.00 g/mol	250 g	Plastic bottle	**1.03883.0250**
					1 kg	Plastic bottle	**1.03883.1000**
					50 kg	Steel drum	**1.03883.9050**
	Iron(III) phosphate for analysis calcined (max. 0.001% SO_4) EMSURE®	10045-86-0	$FePO_4$	150.82 g/mol	100 g	Plastic bottle	**1.03935.0100**
					500 g	Plastic bottle	**1.03935.0500**
	Iron(II) sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7782-63-0	$FeSO_4 \cdot 7\ H_2O$	278.02 g/mol	100 g	Plastic bottle	**1.03965.0100**
					500 g	Plastic bottle	**1.03965.0500**
					1 kg	Plastic bottle	**1.03965.1000**
					5 kg	Plastic bottle	**1.03965.5000**
					25 kg	Plastic drum	**1.03965.9025**
L	**Lead(II) acetate trihydrate for analysis EMSURE® ACS, Reag. Ph Eur**	6080-56-4	$(CH_3COO)_2Pb \cdot 3\ H_2O$	379.34 g/mol	250 g	Plastic bottle	**1.07375.0250**
					1 kg	Plastic bottle	**1.07375.1000**
	Lead(II) carbonate for analysis EMSURE® ACS	598-63-0	$PbCO_3$	267.21 g/mol	250 g	Plastic bottle	**1.07381.0250**
	Lead(II) hydroxide acetate anhydrous, for the analysis of sugar acc. to Horne EMSURE® ACS	51404-69-4	$(CH_3COO)_2Pb \cdot Pb(OH)_2$	566.50 g/mol	1 kg	Plastic bottle	**1.07414.1000**
					30 kg	Fibre carton	**1.07414.9030**
	Lead(II) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	10099-74-8	$Pb(NO_3)_2$	331.2 g/mol	100 g	Plastic bottle	**1.07398.0100**
					1 kg	Plastic bottle	**1.07398.1000**
	Lithium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	554-13-2	Li_2CO_3	73.89 g/mol	250 g	Plastic bottle	**1.05680.0250**
	Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur	7447-41-8	LiCl	42.39 g/mol	100 g	Plastic bottle	**1.05679.0100**
					250 g	Plastic bottle	**1.05679.0250**
	Lithium sulfate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	10102-25-7	$Li_2SO_4 \cdot H_2O$	127.96 g/mol	250 g	Plastic bottle	**1.05694.0250**

Ordering information Salts | EMSURE®

Salts M

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
M	Magnesium acetate tetrahydrate for analysis EMSURE® ACS, Reag. Ph Eur	16674-78-5	$(CH_3COO)_2Mg \cdot 4\ H_2O$	214.46 g/mol	250 g	Plastic bottle	1.05819.0250
					1 kg	Plastic 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	$MgCl_2 \cdot 6\ H_2O$	203.30 g/mol	250 g	Plastic bottle	1.05833.0250
					1 kg	Plastic bottle	1.05833.1000
					5 kg	Plastic bottle	1.05833.5000
					25 kg	Fibre carton	1.05833.9025
					50 kg	Fibre carton	1.05833.9050
	Magnesium hydroxide carbonate for analysis EMSURE®	12125-28-9	$\sim 4\ MgCO_3 \cdot Mg(OH)_2 \cdot 5\ H_2O$	485 g/mol	250 g	Plastic bottle	1.05827.0250
					1 kg	Plastic bottle	1.05827.1000
	Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	13446-18-9	$Mg(NO_3)_2 \cdot 6\ H_2O$	256.41 g/mol	500 g	Plastic bottle	1.05853.0500
					25 kg	Plastic drum	1.05853.9025
	Magnesium perchlorate hydrate [about 83% $Mg(ClO_4)_2$] for analysis EMSURE®	64010-42-0	$Mg(ClO_4)_2 \cdot x\ H_2O$	–	100 g	Metal can	1.05874.0100
					500 g	Metal can	1.05874.0500
	Magnesium sulfate anhydrous for analysis EMSURE®	7487-88-9	$MgSO_4$	120.37 g/mol	1 kg	Glass bottle	1.06067.1000
					25 kg	Plastic drum	1.06067.9025
	Magnesium sulfate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10034-99-8	$MgSO_4 \cdot 7\ H_2O$	246.48 g/mol	500 g	Plastic bottle	1.05886.0500
					1 kg	Plastic bottle	1.05886.1000
					5 kg	Plastic bottle	1.05886.5000
					50 kg	Fibre carton	1.05886.9050
	Manganese(II) chloride dihydrate for analysis EMSURE®	20603-88-7	$MnCl_2 \cdot 2\ H_2O$	161.87 g/mol	100 g	Plastic bottle	1.05934.0100
					1 kg	Plastic bottle	1.05934.1000
	Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS	13446-34-9	$MnCl_2 \cdot 4\ H_2O$	197.91 g/mol	100 g	Plastic bottle	1.05927.0100
					1 kg	Plastic bottle	1.05927.1000
	Manganese(II) nitrate tetrahydrate for analysis EMSURE®	20694-39-7	$Mn(NO_3)_2 \cdot 4\ H_2O$	251.01 g/mol	500 g	Plastic bottle	1.05940.0500
					1 kg	Plastic bottle	1.05940.1000
					5 kg	Plastic bottle	1.05940.5000
	Manganese(II) sulfate monohydrate spray-dried for analysis EMSURE® ACS, Reag. Ph Eur	10034-96-5	$MnSO_4 \cdot 4\ H_2O$	169.02 g/mol	250 g	Plastic bottle	1.05941.0250
					25 kg	Fibre carton	1.05941.9025
	Manganese(II) sulfate tetrahydrate for analysis EMSURE®	10101-68-5	$MnSO_4 \cdot H_2O$	223.06 g/mol	1 kg	Plastic bottle	1.02786.1000
					25 kg	Fibre carton	1.02786.9025
	Mercury extra pure	7439-97-6	Hg	200.59 g/mol	250 g	Plastic bottle	1.04401.0250
					1 kg	Plastic bottle	1.04401.1000
	Mercury for analysis and for polarography EMSURE®	7439-97-6	Hg	200.59 g/mol	250 g	Plastic bottle	1.04403.0250
					1 kg	Plastic bottle	1.04403.1000
	Mercury(II) acetate for analysis EMSURE® ACS, Reag. Ph Eur	1600-27-7	$Hg(CH_3COO)_2$	318.68 g/mol	50 g	Plastic bottle	1.04410.0050
					250 g	Plastic bottle	1.04410.0250
	Mercury(II) bromide for analysis EMSURE® ACS, Reag. Ph Eur	7789-47-1	$HgBr_2$	360.39 g/mol	50 g	Plastic bottle	1.04421.0050
					250 g	Plastic bottle	1.04421.0250
	Mercury(I) chloride for analysis EMSURE®	10112-91-1	Hg_2Cl_2	472.08 g/mol	50 g	Plastic bottle	1.04425.0050
					250 g	Plastic bottle	1.04425.0250
	Mercury(II) chloride extra pure fine cryst.	7487-94-7	$HgCl_2$	271.5 g/mol	100 g	Plastic bottle	1.04417.0100
					1 kg	Plastic bottle	1.04417.1000
	Mercury(II) chloride for analysis EMSURE® ACS, Reag. Ph Eur	7487-94-7	$HgCl_2$	271.5 g/mol	50 g	Plastic bottle	1.04419.0050
					250 g	Plastic bottle	1.04419.0250
					1 kg	Plastic bottle	1.04419.1000
	Mercury(II) iodide red, for analysis EMSURE® ACS, Reag. Ph Eur	7774-29-0	HgI_2	454.39 g/mol	50 g	Plastic bottle	1.04428.0050
					250 g	Plastic bottle	1.04428.0250

Salts M–P

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
M	Mercury(II) iodide red, extra pure	7774-29-0	HgI_2	454.39 g/mol	100 g	Plastic bottle	1.04420.0100
					1 kg	Plastic bottle	1.04420.1000
	Mercury(I) nitrate dihydrate for analysis EMSURE®	14836-60-3	$Hg_2(NO_3)_2 \cdot 2\ H_2O$	561.22 g/mol	50 g	Plastic bottle	1.04437.0050
					250 g	Plastic bottle	1.04437.0250
	Mercury(II) nitrate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	7783-34-8	$Hg(NO_3)_2 \cdot H_2O$	342.62 g/mol	50 g	Plastic bottle	1.04439.0050
					250 g	Plastic bottle	1.04439.0250
	Mercury(II) oxide red extra pure	21908-53-2	HgO	216.58 g/mol	100 g	Plastic bottle	1.04465.0100
	Mercury(II) oxide red, for analysis EMSURE®	21908-53-2	HgO	216.58 g/mol	50 g	Plastic bottle	1.04466.0050
					250 g	Plastic bottle	1.04466.0250
	Mercury(II) sulfate extra pure	7783-35-9	$HgSO_4$	296.65 g/mol	100 g	Plastic bottle	1.04481.0100
					250 g	Plastic bottle	1.04481.0250
					1 kg	Plastic bottle	1.04481.1000
	Mercury(II) sulfate for analysis EMSURE® ACS	7783-35-9	$HgSO_4$	296.65 g/mol	50 g	Plastic bottle	1.04480.0050
					250 g	Plastic bottle	1.04480.0250
	Mercury(II) thiocyanate for analysis EMSURE®, Reag. Ph Eur	592-85-8	$Hg(SCN)_2$	316.76 g/mol	25 g	Glass bottle	1.04484.0025
					100 g	Glass bottle	1.04484.0100
N	Nickel(II) chloride hexahydrate for analysis EMSURE® ACS	7791-20-0	$NiCl_2 \cdot 6\ H_2O$	237.70 g/mol	250 g	Plastic bottle	1.06717.0250
					1 kg	Plastic bottle	1.06717.1000
	Nickel(II) nitrate hexahydrate for analysis EMSURE® ACS	13478-00-7	$Ni(NO_3)_2 \cdot 6\ H_2O$	290.81 g/mol	100 g	Plastic bottle	1.06721.0100
					250 g	Plastic bottle	1.06721.0250
					1 kg	Plastic bottle	1.06721.1000
	Nickel(II) sulfate hexahydrate for analysis EMSURE® ACS	10101-97-0	$NiSO_4 \cdot 6\ H_2O$	262.86 g/mol	100 g	Plastic bottle	1.06727.0100
					250 g	Plastic bottle	1.06727.0250
					1 kg	Plastic bottle	1.06727.1000
P	Potassium bromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7758-01-2	$KBrO_3$	167 g/mol	100 g	Metal can	1.04912.0100
					250 g	Metal can	1.04912.0250
	Potassium bromide for analysis EMSURE® ACS, Reag. Ph Eur	7758-02-3	KBr	119.00 g/mol	500 g	Plastic bottle	1.04905.0500
	Potassium carbonate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	584-08-7	K_2CO_3	138.21 g/mol	500 g	Plastic bottle	1.04928.0500
					1 kg	Plastic bottle	1.04928.1000
					50 kg	Fibre carton	1.04928.9050
	Potassium chlorate for analysis EMSURE®	3811-04-9	$KClO_3$	122.55 g/mol	100 g	Metal can	1.04944.0100
					500 g	Metal can	1.04944.0500
	Potassium chloride for analysis (≤ 0.005% Br) EMSURE® ACS, ISO, Reag. Ph Eur	7447-40-7	KCl	74.55 g/mol	500 g	Plastic bottle	1.04933.0500
	Potassium chloride for analysis EMSURE®	7447-40-7	KCl	74.55 g/mol	250 g	Plastic bottle	1.04936.0250
					500 g	Plastic bottle	1.04936.0500
					1 kg	Plastic bottle	1.04936.1000
					5 kg	Plastic bottle	1.04936.5000
					50 kg	Fibre carton	1.04936.9050
	Potassium chromate for analysis EMSURE® ACS, Reag. Ph Eur	7789-00-6	K_2CrO_4	194.19 g/mol	250 g	Plastic bottle	1.04952.0250
					1 kg	Plastic bottle	1.04952.1000
	Potassium cyanide for analysis EMSURE® ACS, Reag. Ph Eur	151-50-8	KCN	65.12 g/mol	100 g	Plastic bottle	1.04967.0100
					250 g	Plastic bottle	1.04967.0250
					1 kg	Plastic bottle	1.04967.1000
	Potassium dichromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7778-50-9	$K_2Cr_2O_7$	294.19 g/mol	500 g	Plastic bottle	1.04864.0500
					1 kg	Plastic bottle	1.04864.1000
					5 kg	Plastic bottle	1.04864.5000

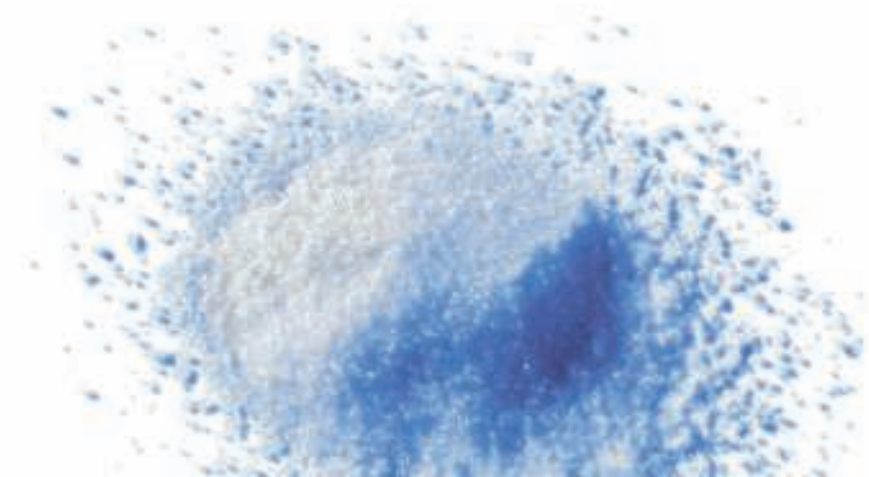
Ordering information Salts | EMSURE®

Salts P

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
P	**Potassium dichromate for analysis (max. 0.000001% Hg) EMSURE® ACS, ISO**	7778-50-9	$K_2Cr_2O_7$	294.19 g/mol	500 g	Glass bottle	**1.04865.0500**
	Potassium dihydrogen phosphate for analysis (≤ 0.005% Na) EMSURE® ACS, ISO, Reag. Ph Eur	7778-77-0	KH_2PO_4	136.08 g/mol	1 kg	Plastic bottle	**1.04877.1000**
					25 kg	Fibre carton	**1.04877.9025**
	Potassium dihydrogen phosphate for analysis EMSURE® ISO	7778-77-0	KH_2PO_4	136.08 g/mol	250 g	Plastic bottle	**1.04873.0250**
					1 kg	Plastic bottle	**1.04873.1000**
					5 kg	Plastic bottle	**1.04873.5000**
					25 kg	Fibre carton	**1.04873.9025**
					50 kg	Fibre carton	**1.04873.9050**
	Potassium disulfate (Potassium pyrosulfate) for analysis EMSURE® ACS	7790-62-7	$K_2S_2O_7$	254.33 g/mol	1 kg	Plastic bottle	**1.05107.1000**
					5 kg	Plastic bottle	**1.05107.5000**
					50 kg	Fibre carton	**1.05107.9050**
	Potassium disulfite for analysis EMSURE®	16731-55-8	$K_2S_2O_5$	222.33 g/mol	500 g	Plastic bottle	**1.05057.0500**
					1 kg	Plastic bottle	**1.05057.1000**
					2.5 kg	Plastic bottle	**1.05057.2500**
	Potassium fluoride for analysis EMSURE® ACS	7789-23-3	KF	58.1 g/mol	250 g	Plastic bottle	**1.04994.0250**
					1 kg	Plastic bottle	**1.04994.1000**
	Potassium hexacyanoferrate(III) for analysis EMSURE® ACS, Reag. Ph Eur	13746-66-2	$K_3[Fe(CN)_6]$	329.25 g/mol	100 g	Plastic bottle	**1.04973.0100**
					250 g	Plastic bottle	**1.04973.0250**
					1 kg	Plastic bottle	**1.04973.1000**
					50 kg	Fibre carton	**1.04973.9050**
	Potassium hexacyanoferrate(II) trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	14459-95-1	$K_4[Fe(CN)_6] \cdot 3\ H_2O$	422.39 g/mol	100 g	Plastic bottle	**1.04984.0100**
					500 g	Plastic bottle	**1.04984.0500**
					50 kg	Fibre carton	**1.04984.9050**
	Potassium hexahydroxoantimonate(V) cryst. for analysis EMSURE®	12208-13-8	$K[Sb(OH)_6]$	262.9 g/mol	100 g	Plastic bottle	**1.05110.0100**
	Potassium hydrogen carbonate for analysis EMSURE® ACS	298-14-6	$KHCO_3$	100.12 g/mol	500 g	Plastic bottle	**1.04854.0500**
	Potassium hydrogen diiodate for analysis EMSURE®	13455-24-8	$KH(IO_3)_2$	389.91 g/mol	50 g	Glass bottle	**1.04867.0050**
	di-Potassium hydrogen phosphate anhydrous for analysis EMSURE®	7758-11-4	K_2HPO_4	174.18 g/mol	1 kg	Plastic bottle	**1.05104.1000**
					50 kg	Fibre carton	**1.05104.9050**
	di-Potassium hydrogen phosphate trihydrate buffer substance for chromatography LiChropur®	16788-57-1	$K2HPO4 * 3\ H_2O$	228.23 g/mol	250 g	Glass bottle	**1.19754.0250**
	di-Potassium hydrogen phosphate trihydrate for analysis EMSURE®	16788-57-1	$K_2HPO_4 \cdot 3\ H_2O$	228.23 g/mol	250 g	Plastic bottle	**1.05099.0250**
					1 kg	Plastic bottle	**1.05099.1000**
					5 kg	Plastic bottle	**1.05099.5000**
					50 kg	Fibre carton	**1.05099.9050**
	Potassium hydrogen phthalate for analysis EMSURE® Reag. Ph Eur	877-24-7	$C_8H_5KO_4$	204.22 g/mol	250 g	Plastic bottle	**1.04874.0250**
					1 kg	Plastic bottle	**1.04874.1000**
	Potassium hydrogen sulfate for analysis EMSURE® Reag. Ph Eur	7646-93-7	$KHSO_4$	136.17 g/mol	500 g	Plastic bottle	**1.04885.0500**
					2.5 kg	Plastic bottle	**1.04885.2500**
	Potassium iodate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7758-05-6	KIO_3	214 g/mol	100 g	Plastic bottle	**1.05051.0100**
					500 g	Plastic bottle	**1.05051.0500**

Salts P–R

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
P	**Potassium iodide for analysis EMSURE® ISO, Reag. Ph Eur**	7681-11-0	KI	166.00 g/mol	250 g	Plastic bottle	**1.05043.0250**
					500 g	Plastic bottle	**1.05043.0500**
					1 kg	Plastic bottle	**1.05043.1000**
					2.5 kg	Plastic bottle	**1.05043.2500**
					50 kg	Fibre carton	**1.05043.9050**
	Potassium nitrate for analysis EMSURE® ISO, Reag. Ph Eur	7757-79-1	KNO_3	101.10 g/mol	500 g	Plastic bottle	**1.05063.0500**
					1 kg	Plastic bottle	**1.05063.1000**
					5 kg	Plastic bottle	**1.05063.5000**
					50 kg	Fibre carton	**1.05063.9050**
	Potassium nitrite cryst. for analysis EMSURE® ACS	7758-09-0	KNO_2	85.11 g/mol	250 g	Plastic bottle	**1.05067.0250**
					1 kg	Plastic bottle	**1.05067.1000**
	di-Potassium oxalate monohydrate for analysis EMSURE® ACS	6487-48-5	$K_2C_2O_4 \cdot H_2O$	184.24 g/mol	250 g	Plastic bottle	**1.05073.0250**
					1 kg	Plastic bottle	**1.05073.1000**
	Potassium perchlorate for analysis EMSURE® ACS	7778-74-7	$KClO_4$	138.55 g/mol	250 g	Metal can	**1.05076.0250**
					1 kg	Metal can	**1.05076.1000**
	Potassium permanganate for analysis EMSURE® ACS, Reag. Ph Eur	7722-64-7	$KMnO_4$	158.03 g/mol	250 g	Glass bottle	**1.05082.0250**
					1 kg	Glass bottle	**1.05082.1000**
	Potassium permanganate for analysis (max. 0.000005% Hg) EMSURE® ACS	7722-64-7	$KMnO_4$	158.03 g/mol	1 kg	Glass bottle	**1.05084.1000**
	Potassium peroxodisulfate for analysis (≤ 0.001% N) EMSURE® ACS, Reag. Ph Eur	7727-21-1	$K_2S_2O_8$	270.32 g/mol	250 g	Plastic bottle	**1.05092.0250**
	Potassium peroxodisulfate for analysis EMSURE®	7727-21-1	$K_2S_2O_8$	270.32 g/mol	250 g	Plastic bottle	**1.05091.0250**
					1 kg	Plastic bottle	**1.05091.1000**
	Potassium sodium tartrate tetrahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	6381-59-5	$C_4H_4KNaO_6 \cdot 4\ H_2O$	282.23 g/mol	500 g	Plastic bottle	**1.08087.0500**
					1 kg	Plastic bottle	**1.08087.1000**
					5 kg	Plastic bottle	**1.08087.5000**
					50 kg	Fibre carton	**1.08087.9050**
	Potassium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7778-80-5	K_2SO_4	174.26 g/mol	500 g	Plastic bottle	**1.05153.0500**
					1 kg	Plastic bottle	**1.05153.1000**
					5 kg	Plastic bottle	**1.05153.5000**
					25 kg	Fibre carton	**1.05153.9025**
	Potassium sulfide small lumps for analysis EMSURE®	39365-88-3	–	–	250 g	Plastic bottle	**1.05134.0250**
					1 kg	Plastic bottle	**1.05134.1000**
	Potassium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	333-20-0	KSCN	97.18 g/mol	250 g	Plastic bottle	**1.05125.0250**
					1 kg	Plastic bottle	**1.05125.1000**
					50 kg	Fibre carton	**1.05125.9050**



Ordering information Salts | EMSURE®

Salts S

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
S	**Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur**	7761-88-8	$AgNO_3$	169.87 g/mol	25 g	Plastic bottle	**1.01512.0025**
					100 g	Plastic bottle	**1.01512.0100**
					250 g	Plastic bottle	**1.01512.0250**
					1 kg	Plastic bottle	**1.01512.1000**
	Sodium acetate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	127-09-3	CH_3COONa	82.03 g/mol	250 g	Plastic bottle	**1.06268.0250**
					1 kg	Plastic bottle	**1.06268.1000**
					2.5 kg	Plastic bottle	**1.06268.2500**
					50 kg	Fibre carton	**1.06268.9050**
	Sodium acetate trihydrate for analysis indifferent to potassium permanganate EMSURE® ACS, ISO, Reag. Ph Eur	6131-90-4	$NaCH_3COO \cdot 3\ H_2O$	136.08 g/mol	500 g	Plastic bottle	**1.06267.0500**
					1 kg	Plastic bottle	**1.06267.1000**
					5 kg	Plastic bottle	**1.06267.5000**
					50 kg	Fibre carton	**1.06267.9050**
	Sodium ammonium hydrogen phosphate tetrahydrate for analysis EMSURE®	7783-13-3	$NaNH_4HPO_4 \cdot 4\ H_2O$	209.07 g/mol	1 kg	Plastic bottle	**1.06682.1000**
	Sodium carbonate anhydrous, for analysis EMSURE® ACS, ISO, Reag. Ph Eur	497-19-8	Na_2CO_3	105.99 g/mol	1 kg	Plastic bottle	**1.06393.1000**
					50 kg	Fibre carton	**1.06393.9050**
	Sodium carbonate anhydrous for analysis EMSURE® ISO	497-19-8	Na_2CO_3	105.99 g/mol	500 g	Plastic bottle	**1.06392.0500**
					1 kg	Plastic bottle	**1.06392.1000**
					5 kg	Plastic bottle	**1.06392.5000**
					25 kg	Fibre carton	**1.06392.9025**
					50 kg	Fibre carton	**1.06392.9050**
	Sodium carbonate decahydrate for analysis EMSURE® ISO, Reag. Ph Eur	6132-02-1	$Na_2CO_3 \cdot 10\ H_2O$	286.14 g/mol	1 kg	Plastic bottle	**1.06391.1000**
					5 kg	Plastic bottle	**1.06391.5000**
					25 kg	Fibre carton	**1.06391.9025**
	Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7647-14-5	NaCl	58.44 g/mol	500 g	Plastic bottle	**1.06404.0500**
					1 kg	Plastic bottle	**1.06404.1000**
					5 kg	Plastic bottle	**1.06404.5000**
					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	$C_6H_5Na_3O_7 \cdot 2\ H_2O$	294.10 g/mol	500 g	Plastic bottle	**1.06448.0500**
					1 kg	Plastic bottle	**1.06448.1000**
					5 kg	Plastic bottle	**1.06448.5000**
					50 kg	Fibre carton	**1.06448.9050**
	Sodium dichromate dihydrate for analysis EMSURE® ACS	7789-12-0	$Na_2Cr_2O_7 \cdot 2\ H_2O$	298.00 g/mol	250 g	Plastic bottle	**1.06336.0250**
					1 kg	Plastic bottle	**1.06336.1000**
	Sodium dihydrogen phosphate dihydrate for analysis EMSURE® Reag. Ph Eur	13472-35-0	$NaH_2PO_4 \cdot 2\ H_2O$	156.02 g/mol	250 g	Plastic bottle	**1.06342.0250**
					1 kg	Plastic bottle	**1.06342.1000**
					2.5 kg	Plastic bottle	**1.06342.2500**
	Sodium dihydrogen phosphate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	10049-21-5	$NaH_2PO_4 \cdot H_2O$	137.99 g/mol	500 g	Plastic bottle	**1.06346.0500**
					1 kg	Plastic bottle	**1.06346.1000**
					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	$Na_4P_2O_7 \cdot 10\ H_2O$	446.06 g/mol	500 g	Plastic bottle	**1.06591.0500**
					2.5 kg	Plastic bottle	**1.06591.2500**
					50 kg	Fibre carton	**1.06591.9050**

Salts S

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
S	**Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS, Reag. Ph Eur**	7681-57-4	$Na_2S_2O_5$	190.11 g/mol	100 g	Plastic bottle	**1.06528.0100**
					500 g	Plastic bottle	**1.06528.0500**
					1 kg	Plastic bottle	**1.06528.1000**
					5 kg	Plastic bottle	**1.06528.5000**
					50 kg	Fibre carton	**1.06528.9050**
	Sodium dithionite for analysis	7775-14-6	$Na_2S_2O_4$	174.11 g/mol	500 g	Metal can	**1.06507.0500**
					2.5 kg	Metal can	**1.06507.2500**
	Sodium fluoride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7681-49-4	NaF	41.98 g/mol	250 g	Plastic bottle	**1.06449.0250**
					1 kg	Plastic bottle	**1.06449.1000**
					50 kg	Fibre carton	**1.06449.9050**
	Sodium formate for analysis EMSURE® ACS, Reag. Ph Eur	141-53-7	HCOONa	68.01 g/mol	500 g	Plastic 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	$Na_3[Co(NO_2)_6]$	403.93 g/mol	25 g	Plastic bottle	**1.02521.0025**
					100 g	Plastic bottle	**1.02521.0100**
	Sodium hydrogen carbonate for analysis EMSURE® ACS, Reag. Ph Eur	144-55-8	$NaHCO_3$	84.01 g/mol	500 g	Plastic bottle	**1.06329.0500**
					1 kg	Plastic bottle	**1.06329.1000**
					5 kg	Plastic bottle	**1.06329.5000**
					25 kg	Plastic drum	**1.06329.9025**
					50 kg	Fibre carton	**1.06329.9050**
	di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	7558-79-4	Na_2HPO_4	141.96 g/mol	500 g	Plastic bottle	**1.06586.0500**
					1 kg	Plastic bottle	**1.06586.1000**
					2.5 kg	Plastic bottle	**1.06586.2500**
					50 kg	Fibre carton	**1.06586.9050**
	di-Sodium hydrogen phosphate anhydrous for analysis particle size about 0.2–1 mm (~18–80 mesh ASTM) EMSURE®	7558-79-4	Na_2HPO_4	141.96 g/mol	500 g	Plastic bottle	**1.06559.0500**
					25 kg	Fibre carton	**1.06559.9025**
	di-Sodium hydrogen phosphate dihydrate buffer substance for chromatography LiChropur®	10028-24-7	$Na_2HPO_4 \cdot 2\ H_2O$	177.99 g/mol	250 g	Glass bottle	**1.19753.0250**
	di-Sodium hydrogen phosphate dihydrate for analysis EMSURE®	10028-24-7	$Na_2HPO_4 \cdot 2\ H_2O$	177.99 g/mol	500 g	Plastic bottle	**1.06580.0500**
					1 kg	Plastic bottle	**1.06580.1000**
					5 kg	Plastic bottle	**1.06580.5000**
					25 kg	Fibre carton	**1.06580.9025**
					50 kg	Fibre carton	**1.06580.9050**
	di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO, Reag. Ph Eur	10039-32-4	$Na_2HPO_4 \cdot 12\ H_2O$	358.14 g/mol	500 g	Plastic bottle	**1.06579.0500**
					1 kg	Plastic bottle	**1.06579.1000**
					5 kg	Plastic bottle	**1.06579.5000**
					25 kg	Fibre carton	**1.06579.9025**
	di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS	7782-85-6	$Na_2HPO_4 \cdot 7\ H_2O$	268.03 g/mol	1 kg	Plastic bottle	**1.06575.1000**
					25 kg	Fibre carton	**1.06575.9025**
	Sodium hydrogen sulfate monohydrate for analysis EMSURE®	10034-88-5	$NaHSO_4 \cdot H_2O$	138.07 g/mol	500 g	Plastic bottle	**1.06352.0500**
	Sodium iodate for analysis EMSURE®	7681-55-2	$NaIO_3$	197.89 g/mol	100 g	Glass bottle	**1.06525.0100**
	Sodium iodide for analysis EMSURE® Reag. Ph Eur, ACS	7681-82-5	NaI	149.89 g/mol	100 g	Plastic bottle	**1.06523.0100**
					250 g	Plastic bottle	**1.06523.0250**
					1 kg	Plastic bottle	**1.06523.1000**

Ordering information Salts | EMSURE®

Salts S

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
S	**Sodium metaperiodate for analysis EMSURE® ACS, Reag. Ph Eur**	7790-28-5	$NaIO_4$	213.89 g/mol	50 g	Plastic bottle	**1.06597.0050**
					250 g	Plastic bottle	**1.06597.0250**
					1 kg	Plastic bottle	**1.06597.1000**
	Sodium molybdate dihydrate for analysis EMSURE®	10102-40-6	$Na_2MoO_4 \cdot 2\ H_2O$	241.95 g/mol	100 g	Plastic bottle	**1.06521.0100**
					250 g	Plastic bottle	**1.06521.0250**
					1 kg	Plastic bottle	**1.06521.1000**
	Sodium nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7631-99-4	$NaNO_3$	84.99 g/mol	500 g	Plastic bottle	**1.06537.0500**
					1 kg	Plastic bottle	**1.06537.1000**
					25 kg	Fibre carton	**1.06537.9025**
	Sodium nitrite for analysis EMSURE® ACS, Reag. Ph Eur	7632-00-0	$NaNO_2$	69.00 g/mol	100 g	Plastic bottle	**1.06549.0100**
					500 g	Plastic bottle	**1.06549.0500**
	di-Sodium oxalate for analysis EMSURE®	62-76-0	$Na_2C_2O_4$	134 g/mol	250 g	Plastic bottle	**1.06557.0250**
					1 kg	Plastic bottle	**1.06557.1000**
	Sodium perchlorate monohydrate for analysis EMSURE®	7791-07-3	$NaClO_4 \cdot H_2O$	140.46 g/mol	100 g	Metal can	**1.06564.0100**
					500 g	Metal can	**1.06564.0500**
					25 kg	Steel drum	**1.06564.9025**
	Sodium peroxidisulfate for analysis EMSURE®	7775-27-1	$Na_2S_2O_8$	238.11 g/mol	500 g	Plastic bottle	**1.06609.0500**
					1 kg	Plastic bottle	**1.06609.1000**
					25 kg	Fibre carton	**1.06609.9025**
	tri-Sodium phosphate dodecahydrate for analysis EMSURE®	10101-89-0	$Na_3PO_4 \cdot 12\ H_2O$	380.18 g/mol	1 kg	Plastic bottle	**1.06572.1000**
					5 kg	Plastic bottle	**1.06572.5000**
					25 kg	Fibre carton	**1.06572.9025**
	tri-Sodium phosphate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	10101-89-0	$Na_3PO_4 \cdot 12\ H_2O$	380.18 g/mol	1 kg	Plastic bottle	**1.06578.1000**
					5 kg	Plastic bottle	**1.06578.5000**
					50 kg	Fibre carton	**1.06578.9050**
	Sodium salicylate for analysis EMSURE®	54-21-7	$C_7H_5NaO_3$	160.10 g/mol	250 g	Plastic bottle	**1.06601.0250**
					1 kg	Plastic bottle	**1.06601.1000**
	Sodium sulfate anhydrous, coarse granules for analysis 0.63-2.0 mm EMSURE® ACS	7757-82-6	Na_2SO_4	142.04 g/mol	500 g	Plastic bottle	**1.06637.0500**
					1 kg	Plastic 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	142.04 g/mol	500 g	Plastic bottle	**1.06649.0500**
					1 kg	Plastic bottle	**1.06649.1000**
					5 kg	Plastic bottle	**1.06649.5000**
					25 kg	Fibre carton	**1.06649.9025**
	Sodium sulfate anhydrous granulated for organic trace analysis EMSURE®	7757-82-6	Na_2SO_4	142.04 g/mol	500 g	Glass bottle	**1.06639.0500**
	Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	7727-73-3	$Na_2SO_4 \cdot 10\ H_2O$	322.19 g/mol	1 kg	Plastic 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	126.04 g/mol	500 g	Plastic bottle	**1.06657.0500**
					1 kg	Plastic bottle	**1.06657.1000**
					5 kg	Plastic bottle	**1.06657.5000**
					50 kg	Fibre carton	**1.06657.9050**
	di-Sodium tartrate dihydrate for analysis EMSURE®	6106-24-7	$C_4H_4Na_2O_6 \cdot 2\ H_2O$	230.08 g/mol	250 g	Plastic bottle	**1.06663.0250**
					1 kg	Plastic bottle	**1.06663.1000**
	Sodium thiosulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	10102-17-7	$Na_2S_2O_3 \cdot 5\ H_2O$	248.21 g/mol	500 g	Plastic bottle	**1.06516.0500**
					1 kg	Plastic bottle	**1.06516.1000**
					5 kg	Plastic bottle	**1.06516.5000**
					50 kg	Fibre carton	**1.06516.9050**

Salts S–Z

	Product	CAS No.	Chemical formula	Molar weight	Content	Packaging	Ord. No.
S	**Sodium tungstate dihydrate for analysis EMSURE®**	10213-10-2	$Na_2WO_4 \cdot 2\ H_2O$	329.86 g/mol	250 g	Plastic bottle	**1.06673.0250**
					1 kg	Plastic bottle	**1.06673.1000**
	Strontium chloride hexahydrate for analysis EMSURE® ACS	10025-70-4	$SrCl_2 \cdot 6\ H_2O$	266.62 g/mol	250 g	Plastic bottle	**1.07865.0250**
					1 kg	Plastic bottle	**1.07865.1000**
	Strontium nitrate for analysis EMSURE®	10042-76-9	$Sr(NO_3)_2$	211.63 g/mol	250 g	Plastic bottle	**1.07872.0250**
T	**Tin(II) chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur**	10025-69-1	$SnCl_2 \cdot 2\ H_2O$	225.63 g/mol	100 g	Glass bottle	**1.07815.0100**
					250 g	Glass bottle	**1.07815.0250**
					1 kg	Glass bottle	**1.07815.1000**
	Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE®	10025-69-1	$SnCl_2 \cdot 2\ H_2O$	225.63 g/mol	250 g	Glass bottle	**1.07814.0250**
					2.5 kg	Glass bottle	**1.07814.2500**
	Tin(II) sulfate for analysis EMSURE®	7488-55-3	$SnSO_4$	214.77	250 g	Plastic bottle	**1.07823.0250**
Z	**Zinc acetate dihydrate for analysis EMSURE® ACS**	5970-45-6	$(CH_3COO)_2Zn \cdot 2\ H_2O$	219.49	250 g	Plastic bottle	**1.08802.0250**
					1 kg	Plastic bottle	**1.08802.1000**
	Zinc chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7646-85-7	$ZnCl_2$	136.30	250 g	Plastic bottle	**1.08816.0250**
					1 kg	Plastic bottle	**1.08816.1000**
					25 kg	Plastic drum	**1.08816.9025**
	Zinc iodide for analysis EMSURE®	10139-47-6	ZnI_2	319.18	25 g	Glass bottle	**1.08828.0025**
					100 g	Glass bottle	**1.08828.0100**
	Zinc nitrate tetrahydrate for analysis EMSURE®	19154-63-3	$Zn(NO_3)_2 \cdot 4\ H_2O$	261.44	1 kg	Plastic bottle	**1.08833.1000**
	Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	7446-20-0	$ZnSO_4 \cdot 7\ H_2O$	287.54	500 g	Plastic bottle	**1.08883.0500**
					1 kg	Plastic bottle	**1.08883.1000**
					5 kg	Plastic bottle	**1.08883.5000**
					50 kg	Fibre carton	**1.08883.9050**

Detailed information Salts | EMSURE®

Salts A–H

	Product	Chemical formula
A	Aluminum ammonium sulfate dodecahydrate for analysis EMSURE®	$NH_4Al(SO_4)_2 \cdot 12\ H_2O$
	Aluminum nitrate nonahydrate for analysis EMSURE®	$Al(NO_3) \cdot 9\ H_2O$
	Aluminum potassium sulfate dodecahydrate for analysis EMSURE® ACS	$KAl(SO_4)_2 \cdot 12\ H_2O$
	Ammonium acetate for analysis EMSURE® ACS, Reag. Ph Eur	CH_3COONH_4
	Ammonium bromide for analysis EMSURE® ACS	NH_4Br
	Ammonium carbamate for analysis EMSURE®	$H_2NCOONH_4$
	Ammonium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	$CH_6N_2O_2 \cdot CH_5NO_3$
	Ammonium cerium(IV) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	$(NH_4)_2[Ce(NO_3)_6]$
	Ammonium chloride for analysis EMSURE® ACS, ISO	NH_4Cl
	Ammonium dihydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur	$(NH_4)H_2PO_4$
	Ammonium fluoride for analysis EMSURE® ACS	NH_4F
	Ammonium heptamolybdate tetrahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$(NH_4)_6Mo_7O_{24} \cdot 4\ H_2O$
	di-Ammonium hydrogen phosphate for analysis EMSURE® ACS, Reag. Ph Eur	$(NH_4)_2HPO_4$
	Ammonium iodide for analysis EMSURE® ACS	NH_4I
	Ammonium iron(III) sulfate dodecahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$(NH_4)Fe(SO_4)_2 \cdot 12\ H_2O$
	Ammonium iron(II) sulfate hexahydrate for analysis EMSURE®, ISO	$(NH_4)_2Fe(SO_4)_2 \cdot 6\ H_2O$
	Ammonium nitrate for analysis EMSURE® ACS, ISO	NH_4NO_3
	di-Ammonium oxalate monohydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$(NH_4)_2C_2O_4 \cdot H_2O$
	Ammonium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur	$(NH_4)_2S_2O_8$
	Ammonium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$(NH_4)_2SO_4$
	Ammonium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	NH_4SCN
B	Barium acetate for analysis EMSURE® ACS	$Ba(CH_3COO)_2$
	Barium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	$BaCO_3$
	Barium chloride dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$BaCl_2 \cdot 2\ H_2O$
	Barium hydroxide octahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$Ba(OH)_2 \cdot 8\ H_2O$
	Barium nitrate for analysis EMSURE® ACS	$Ba(NO_3)_2$
	Barium perchlorate anhydrous for analysis EMSURE®	$Ba(ClO_4)_2$
C	Cadmium sulfate hydrate for analysis EMSURE® ACS, Reag. Ph Eur	$3\ CdSO_4 \cdot 8\ H_2O$
	Calcium carbonate precipitated for analysis EMSURE®, Reag. Ph Eur	$CaCO_3$
	Calcium chloride dihydrate cryst. for analysis EMSURE® ACS, Reag. Ph Eur	$CaCl_2 \cdot 2\ H_2O$
	Calcium hydroxide for analysis EMSURE®, Reag. Ph Eur	$Ca(OH)_2$
	Calcium nitrate tetrahydrate for analysis EMSURE® ACS	$Ca(NO_3)_2 \cdot 4\ H_2O$
	Calcium sulfate dihydrate precipitated for analysis EMSURE® ACS	$CaSO_4 \cdot 2\ H_2O$
	Cerium(II) sulfate tetrahydrate for analysis EMSURE®	$Ce(SO_4)_2 \cdot 4\ H_2O$
	Chromium(III) nitrate nonahydrate for analysis EMSURE®	$Cr(NO_3)_3 \cdot 9\ H_2O$
	Chromium(III) potassium sulfate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$KCr(SO_4)_2 \cdot 12\ H_2O$
	Cobalt(II) acetate tetrahydrate for analysis EMSURE® ACS	$(CH_3COO)_2Co \cdot 4\ H_2O$
	Cobalt(II) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$CoCl_2 \cdot 6\ H_2O$
	Cobalt(II) nitrate hexahydrate for analysis EMSURE®	$Co(NO_3)_2 \cdot 6\ H_2O$
	Cobalt(II) nitrate hexahydrate for analysis EMSURE® (max. 0.001% Ni), ACS, Reag. Ph Eur	$Co(NO_3)_2 \cdot 6\ H_2O$
	Cobalt(II) sulfate heptahydrate for analysis EMSURE®	$CoSO_4 \cdot 7\ H_2O$
	Copper(II) acetate monohydrate for analysis EMSURE® ACS	$(CH_3COO)_2Cu \cdot H_2O$
	Copper(I) chloride for analysis EMSURE® ACS	$CuCl$
	Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur	$CuCl_2 \cdot 2\ H_2O$
	Copper(II) nitrate trihydrate for analysis EMSURE®	$Cu(NO_3)_2 \cdot 3\ H_2O$
	Copper(II) sulfate anhydrous for analysis EMSURE®	$CuSO_4$
	Copper(II) sulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$CuSO_4 \cdot 5\ H_2O$

– means: no values available

Solubility [g/100 g H_2O] at						Saturated solution [20°C]		Cat. No.	Page
0°C	20°C	40°C	60°C	80°C	100°C	Percentage	Density		
2.6	6.6	12.4	21.1	35.2	109.2 (95°C)	6.2	1.0459 (15.5°C)	101031	70
61	75.4	89	108	–	–	43	–	101063	70
2.96	6.01	13.6	33.3	72	109.0 (90°C)	5.67	1.053	101047	70
148.0 (4°C)	–	–	–	–	–	–	–	101116	70
60.6	75.5	91.1	107.8	126.7	145.6	43.9	–	101125	70
–	78	–	–	–	–	–	–	101134	70 (68)
–	32.0	–	–	–	–	–	–	159504	70
–	141	–	–	–	–	–	–	102276	70
29.7	37.6	46	55.3	65.6	77.3	27.3	1.075	101145	70
22.7	36.8	56.7	82.9	120.7	174	26.9	–	101126	70
100	–	–	–	–	–	–	–	101164	70 (68)
–	40	–	–	–	–	–	–	101182	70
57.5	68.6	81.8	97.6	115.5	–	40.7	1.3436 (14.5°C)	101207	70
154.2	172.3	190.5	208.9	228.8	250.3	63.3	–	101173	70
–	124.0 (25°C)	–	–	–	–	–	–	103776	70 (68)
17.8	26.9	38.5	53.4	72	–	21.2	1.18	103792	71 (68)
118.5	187.7	283	415	610	1000	65	1.308	101188	71
2.5	4.4	8	–	–	–	–	–	101192	71
58.2	–	–	–	–	–	–	–	101201	71 (68)
70.4	75.4	81.2	87.4	94.1	102	43	1.247	101217	71
115	163	235	347	–	–	62	–	101213	71
58	72	79	74	74	74	–	–	101704	71
–	0.002	–	–	–	–	–	–	101714	71
30.7	35.7	40.8	46.4	52.5	58.7	26.3	1.28	101719	71
1.5	3.5	8.2	21	–	–	3.4	1.04	101737	71
5	9.1	14.4	20.3	27.2	34.2	8.3	1.069	101729	71
–	198.5 (25°C)	–	–	–	–	–	–	101738	71
75.5	76.7	79.3	81.9	84.6	–	43.4	1.616	102027	71
–	0.0014	–	–	–	–	–	–	102066	71
–	–	128.1	136.8	147	159	–	–	102382	72
–	0.012 (18°C)	–	–	–	–	–	–	102047	72
101	129.4	196	–	–	–	56.4	–	102121	72
0.18	0.2	0.21	0.2	0.19	0.16	0.2	1.001	102161	72
–	–	3.8 (50°C)	–	–	–	–	–	102274	72
–	81	–	–	–	–	–	–	102481	72
–	25 (25°C)	–	–	–	–	–	–	101036	72
–	38	–	–	–	–	–	–	102529	72
41.9	53.6	69.5	–	–	–	38.4	1.49	102539	72
83.5	100	126	169.5	–	–	–	–	102536	72
–	0.2	–	–	–	–	–	–	102554	72
25.5	36.3	49.9	–	–	–	34.9	–	102556	72
–	7.2	–	–	–	–	–	–	102711	72
–	1.5 (25°C)	–	–	–	–	1.497 (25°C)	–	102739	72
70.6	77	83.8	91.2	99.2	107.9	43.5	1.55	102733	72
–	–	160	179	208	–	–	–	102753	72
25.5	36.2	48	60	70	83	–	–	102791	72
14.8	20.8	29	39.1	53.6	73.6	17.2	1.1965	102790	72

Detailed information Salts | EMSURE®

Salts I–P

	Product	Chemical formula
I	Iron(III) chloride hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$FeCl_3 \cdot 6\ H_2O$
	Iron(II) chloride tetrahydrate for analysis EMSURE®	$FeCl_2 \cdot 4\ H_2O$
	Iron(II) sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$FeSO_4 \cdot 7\ H_2O$
L	Lead(II) acetate trihydrate for analysis EMSURE® ACS, Reag. Ph Eur	$(CH_3COO)_2Pb \cdot 3\ H_2O$
	Lead(II) nitrate for analysis EMSURE® ACS, Reag. Ph Eur	$Pb(NO_3)_2$
	Lithium carbonate for analysis EMSURE® ACS, Reag. Ph Eur	Li_2CO_3
	Lithium chloride for analysis EMSURE® ACS, Reag. Ph Eur	LiCl
	Lithium sulfate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Li_2SO_4 \cdot H_2O$
M	Magnesium acetate tetrahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$(CH_3COO)_2Mg \cdot 4\ H_2O$
	Magnesium chloride hexahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$MgCl_2 \cdot 6\ H_2O$
	Magnesium nitrate hexahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Mg(NO_3)_2 \cdot 6\ H_2O$
	Magnesium perchlorate hydrate [about 83% $Mg(ClO_4)_2$] for analysis EMSURE®	$Mg(ClO_4)_2 \cdot x\ H_2O$
	Magnesium sulfate anhydrous for analysis EMSURE®	$MgSO_4$
	Magnesium sulfate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$MgSO_4 \cdot 7\ H_2O$
	Manganese(II) chloride dihydrate for analysis EMSURE®	$MnCl_2 \cdot 2\ H_2O$
	Manganese(II) chloride tetrahydrate for analysis EMSURE® ACS	$MnCl_2 \cdot 4\ H_2O$
	Manganese(II) nitrate tetrahydrate for analysis EMSURE®	$Mn(NO_3)_2 \cdot 4\ H_2O$
	Manganese(II) sulfate tetrahydrate for analysis EMSURE®	$MnSO_4 \cdot 4\ H_2O$
	Manganese(II) sulfate monohydrate spray-dried for analysis EMSURE® ACS, Reag. Ph Eur	$MnSO_4 \cdot H_2O$
	Mercury(II) acetate for analysis EMSURE® ACS, Reag. Ph Eur	$Hg(CH_3COO)_2$
	Mercury(II) bromide for analysis EMSURE® ACS, Reag. Ph Eur	$HgBr_2$
	Mercury(II) chloride extra pure fine cryst.	$HgCl_2$
	Mercury(II) chloride for analysis EMSURE® ACS, Reag. Ph Eur	$HgCl_2$
	Mercury(II) iodide red, for analysis EMSURE® ACS, Reag. Ph Eur	HgI_2
	Mercury(II) iodide red, extra pure	HgI_2
	Mercury(I) nitrate dihydrate for analysis EMSURE®	$Hg_2(NO_3)_2 \cdot 2\ H_2O$
	Mercury(II) sulfate extra pure	$HgSO_4$
	Mercury(II) sulfate for analysis EMSURE® ACS	$HgSO_4$
	Mercury(II) thiocyanate for analysis EMSURE®, Reag. Ph Eur	$Hg(SCN)_2$
N	Nickel(II) chloride hexahydrate for analysis EMSURE® ACS	$NiCl_2 \cdot 6\ H_2O$
	Nickel(II) nitrate hexahydrate for analysis EMSURE® ACS	$Ni(NO_3)_2 \cdot 6\ H_2O$
	Nickel(II) sulfate hexahydrate for analysis EMSURE® ACS	$NiSO_4 \cdot 6\ H_2O$
P	Potassium bromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$KBrO_3$
	Potassium bromide for analysis EMSURE® ACS, Reag. Ph Eur	KBr
	Potassium carbonate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	K_2CO_3
	Potassium chlorate for analysis EMSURE®	$KClO_3$
	Potassium chloride for analysis EMSURE® (max. 0.005% Br), ACS, ISO, Reag. Ph Eur	KCl
	Potassium chloride for analysis EMSURE®	KCl
	Potassium chromate for analysis EMSURE®	K_2CrO_4
	Potassium cyanide for analysis EMSURE® ACS, ISO, Reag. Ph Eur	KCN
	Potassium dichromate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$K_2Cr_2O_7$
	Potassium dichromate for analysis EMSURE® (max. 0.000001% Hg) ACS, ISO	$K_2Cr_2O_7$
	Potassium dihydrogen phosphate for analysis EMSURE® (max. 0.005% Na) ACS, ISO, Reag. Ph Eur	KH_2PO_4
	Potassium disulfite for analysis EMSURE®	$K_2S_2O_5$
	Potassium fluoride for analysis EMSURE® ACS	KF
	Potassium hexacyanoferrate(III) for analysis EMSURE® ACS, Reag. Ph Eur	$K_3[Fe(CN)_6]$
	Potassium hexacyanoferrate(II) trihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$K_4[Fe(CN)_6] \cdot 3\ H_2O$

– means: no values available

Solubility [g/100 g H_2O] at						Saturated solution [20°C]		Cat. No.	Page
0°C	20°C	40°C	60°C	80°C	100°C	Percentage	Density		
83.5	100	126	169.5 (56°C)	–	–	50	–	**103943**	**73 (68)**
–	62.4	68.6	78.3	–	–	–	–	**103861**	**73**
15.6	26.6	40.3	47.6	–	–	21	1.225	**103965**	**73 (68)**
–	44.3	–	–	–	–	–	–	**107375**	**73**
36.4	52.2	69.4	88	107.5	127.3	34.3	1.4	**107398**	**73**
–	1.3	–	–	–	–	1.31	–	**105680**	**73**
–	–	–	–	–	133	–	–	**105679**	**73**
36.2	34.8	33.5	32.3	31.5	31	25.6	1.23	**105694**	**73**
–	120.0 (15°C)	–	–	–	–	–	–	**105819**	**74**
52.8	54.6	57.5	60.7	65.9	72.7	41.2	1.388 (25°C)	**105833**	**74**
63.9	70.5	81.8	93.7	110.9	–	–	–	**105853**	**74**
–	50.0 (25°C)	–	–	–	–	–	–	**105874**	**74**
–	30.0	–	–	–	–	–	–	**106067**	**74**
–	35.6	45.4	–	–	–	26.25	1.31	**105886**	**74**
–	–	–	108.6	110.5	115	–	–	**105934**	**74**
63.6	73.6	88.7	106.0 (58.1°C)	–	–	42.4	1.499	**105927**	**74 (68)**
–	380.0	–	–	–	–	–	–	**105940**	**74**
63.4 (15°C)	65.2 (25°C)	70.7 (45°C)	–	–	–	–	–	**105941**	**74**
–	–	60	58.6	45.5	35.5	–	–	**102786**	**74 (68)**
–	40.0	–	–	–	–	–	–	**104410**	**74**
–	0.6 (25°C)	1	1.7	2.8	4.9	0.62 (25°C)	–	**104421**	**74**
4.3	6.6	9.6	13.9	24.2	54.1	6.2	1.052	**104417**	**74**
4.3	6.6	9.6	13.9	24.2	54.1	6.2	1.052	**104419**	**74**
–	0.005 (25°C)	–	–	–	–	–	–	**104428**	**74**
–	0.005 (25°C)	–	–	–	–	–	–	**104420**	**75**
–	2.0	–	–	–	–	–	–	**104437**	**75**
–	0.04 (25°C)	–	–	–	–	–	–	**104481**	**75**
–	0.04 (25°C)	–	–	–	–	–	–	**104480**	**75**
–	0.07 (25°C)	–	–	–	–	–	–	**104484**	**75**
51.7	55.3	–	–	–	–	35.6	1.46	**106717**	**75**
79.2	94.1	118.8	–	–	–	48.5	–	**106721**	**75**
–	–	–	57	–	–	–	–	**106727**	**75**
3.1	6.8	13.1	22	33.9	49.7	6.4	1.048	**104912**	**75**
54	65.8	76.1	85.9	95.3	104.9	39.7	1.37	**104905**	**75**
105.5	111.5	117	127	140	156	–	–	**104928**	**75**
3.3	7.3	14.5	25.9	39.7	56.2	6.8	1.042	**104944**	**75**
28.1	34.2	40.3	45.6	51	56.2	25.5	1.174	**104933**	**75**
–	34.7	–	–	–	–	–	–	**104936**	**75**
59	63.7	67	70.9	75.1	79.2	38.9	1.378	**104952**	**75**
63	71.6	–	81	95	122	41.73	–	**104967**	**75**
4.7	12.5	26.3	45.6	73	103	11.1	1.077	**104864**	**75**
–	13.0	–	–	–	–	–	–	**104865**	**76**
14.3	22.7	33.9	48.6	68	–	18.5	–	**104877**	**76**
27.5	44.9	63.9	85	108	133	30.99	–	**105057**	**76**
15.0	28.9	–	–	–	–	–	–	**104994**	**76**
29.9	46	59.5	70.9	81.8	91.6	31.5	1.18	**104973**	**76**
15	28.9	42.7	56	68.9	82.7	22.4	1.16	**104984**	**76**

Detailed information Salts | EMSURE®

Salts P–S

	Product	Chemical formula
P	Potassium hexahydroantimonate(V) cryst. for analysis EMSURE®	$K[Sb(OH)_6]$
	Potassium hydrogen carbonate for analysis EMSURE® ACS	$KHCO_3$
	Potassium hydrogen diiodate for analysis EMSURE®	$KH(IO_3)_2$
	di-Potassium hydrogen phosphate anhydrous for analysis EMSURE®	K_2HPO_4
	di-Potassium hydrogen phosphate trihydrate for analysis EMSURE®	$K_2HPO_4 \cdot 3\ H_2O$
	Potassium hydrogen phthalate for analysis EMSURE® Reag. Ph Eur	$C_8H_5KO_4$
	Potassium hydrogen sulfate for analysis EMSURE® Reag. Ph Eur	$KHSO_4$
	Potassium iodate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	KIO_3
	Potassium iodide for analysis EMSURE® ACS, ISO, Reag. Ph Eur	KI
	Potassium nitrate for analysis EMSURE® ISO, Reag. Ph Eur	KNO_3
	Potassium nitrite cryst. for analysis EMSURE® ACS	KNO_2
	di-Potassium oxalate monohydrate for analysis EMSURE® ACS	$K_2C_2O_4 \cdot H_2O$
	Potassium perchlorate for analysis EMSURE® ACS	$KClO_4$
	Potassium permanganate for analysis EMSURE® ACS, Reag. Ph Eur	$KMnO_4$
	Potassium permanganate for analysis EMSURE® (max. 0.000005% Hg) ACS	$KMnO_4$
	Potassium peroxodisulfate for analysis EMSURE® (max. 0.001% N), ACS, Reag. Ph Eur	$K_2S_2O_8$
	Potassium peroxodisulfate for analysis EMSURE® ACS, Reag. Ph Eur	$K_2S_2O_8$
	Potassium sodium tartrate tetrahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$C_4H_4KNaO_6 \cdot 4\ H_2O$
	Potassium sulfate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	K_2SO_4
	Potassium sulfide about 44% small lumps, for analysis EMSURE®	–
	Potassium thiocyanate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	KSCN
S	Silver nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$AgNO_3$
	Sodium acetate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	CH_3COONa
	Sodium acetate trihydrate for analysis EMSURE® indifferent to potassium permanganate ACS, ISO, Reag. Ph Eur	$NaCH_3COO \cdot 3\ H_2O$
	Sodium ammonium hydrogen phosphate tetrahydrate for analysis EMSURE®	$NaNH_4HPO_4 \cdot 4\ H_2O$
	Sodium carbonate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	Na_2CO_3
	Sodium carbonate anhydrous for analysis EMSURE®, ISO	Na_2CO_3
	Sodium carbonate decahydrate for analysis EMSURE®, ISO, Reag. Ph Eur	$Na_2CO_3 \cdot 10\ H_2O$
	Sodium chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	NaCl
	tri-Sodium citrate dihydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$C_6H_5Na_3O_7 \cdot 2\ H_2O$
	Sodium dichromate dihydrate for analysis EMSURE® ACS	$Na_2Cr_2O_7 \cdot 2\ H_2O$
	Sodium dihydrogen phosphate dihydrate for analysis EMSURE® Reag. Ph Eur	$NaH_2PO_4 \cdot 2\ H_2O$
	Sodium dihydrogen phosphate monohydrate for analysis EMSURE® ACS, Reag. Ph Eur	$NaH_2PO_4 \cdot H_2O$
	tetra-Sodium diphosphate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Na_4P_2O_7 \cdot 10\ H_2O$
	Sodium disulfite (sodium metabisulfite) for analysis EMSURE® ACS, Reag. Ph Eur	$Na_2S_2O_5$
	Sodium dithionite for analysis	$Na_2S_2O_4$
	Sodium fluoride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	NaF
	Sodium formate for analysis EMSURE® ACS, Reag. Ph Eur	HCOONa
	Sodium hexanitrocobaltate(III) [sodium cobalt(III)nitrite] for analysis EMSURE® ACS, Reag. Ph Eur	$Na_3[Co(NO_2)_6]$
	Sodium hydrogen carbonate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$NaHCO_3$
	di-Sodium hydrogen phosphate anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	Na_2HPO_4
	di-Sodium hydrogen phosphate anhydrous for analysis EMSURE®, particle size about 0.2–1 mm (~ 18–80 mesh ASTM)	Na_2HPO_4
	di-Sodium hydrogen phosphate dihydrate for analysis EMSURE®	$Na_2HPO_4 \cdot 2\ H_2O$
	di-Sodium hydrogen phosphate dodecahydrate for analysis EMSURE® ISO, Reag. Ph Eur	$Na_2HPO_4 \cdot 12\ H_2O$
	di-Sodium hydrogen phosphate heptahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Na_2HPO_4 \cdot 7\ H_2O$
	Sodium hydrogen sulfate monohydrate for analysis EMSURE®	$NaHSO_4 \cdot H_2O$
	Sodium iodate for analysis EMSURE®	$NaIO_3$

– means: no values available

Solubility [g/100 g H_2O] at						Saturated solution [20°C]		Cat. No.	Page
0°C	20°C	40°C	60°C	80°C	100°C	Percentage	Density		
–	2.0	–	–	–	–	–	–	105110	76
22.6	33.3	45.3	60	–	–	24.98	1.18	104854	76
–	1.3	–	–	–	–	–	–	104867	76
–	–	–	266	–	–	–	–	105104	76
–	159	212.5	–	–	–	61.4	–	105099	76
–	8.0	–	–	–	–	–	–	104874	76
36.3	51.4	76.3	–	–	121.6	33.95	–	104885	76
4.7	8.1	12.9	18.5	24.8	32.3	7.5	1.064	105051	76
127.8	144.5	161	176.2	191.5	208	59.1	1.71	105043	77
13.3	31.7	63.9	109.9	169	245.2	24.1	1.16	105063	77
278.8	298.4	334.9	–	–	412.8	–	–	105067	77
–	36.0	–	–	–	–	–	–	105073	77
0.76	1.7	3.6	7.2	13.4	22.2	1.7	1.008	105076	77
2.8	6.4	12.6	22.4	–	–	6	1.04	105082	77
–	6.4	–	–	–	–	6	1.04	105084	77
–	0.5	1.1	–	–	–	0.468	–	105092	77
0.18	0.5	1.1	–	–	–	0.468	–	105091	77
–	63.0	–	–	–	–	–	–	108087	77
7.3	11.1	14.8	18.2	21.3	24.1	10	1.0807	105153	77
–	50.0	–	–	–	–	–	–	105134	77
177	218	–	–	–	–	68.55	1.42	105125	77
115	219.2	334.8	471	652	1024	68.6	2.18	101512	78
–	36.5	–	–	–	–	–	–	106268	78
36.3	46.4	65.4	138.0 (58°C)	–	–	31.7	1.17	106267	78
–	16.7	–	–	–	–	–	–	106682	78
7.1	21.4	48.5	46.5	45.8	45.5	–	–	106393	78
–	22.0	–	–	–	–	–	–	106392	78
6.9	21.7	–	–	–	–	17.8	1.1941	106391	78 (68)
–	35.9	36.4	37.1	38.1	39.2	26.4	1.201	106404	78
–	72.0	–	–	–	–	–	–	106448	78
163.2	180.2	220.5	283	385	–	64.3	–	106336	78
–	85.0	–	–	–	–	–	–	106342	78
–	–	158.6 (50°C)	–	–	–	–	–	106346	78
2.7	5.5	12.5	21.9	30	40.3	5.2	1.05	106591	78
–	65.3	71.1	79.9	88.7	100	39.5	–	106528	79
–	25.0	–	–	–	–	–	–	106507	79
3.6	4.1	–	–	–	–	3.94	1.04	106449	79
43.8	85.3	107	131	198	150	–	–	106443	79
–	72.0	–	–	–	–	–	–	102521	79
6.9	9.6	12.7	16	19.7	23.6	8.76	1.08	106329	79
–	–	–	–	–	104.1	–	–	106586	79
–	7.7	–	–	–	–	–	–	106559	79 (68)
–	–	–	83	92.4	–	–	–	106580	79
1.63	7.7	–	–	–	–	7.2	1.08	106579	79 (68)
–	–	55	–	–	–	–	–	106575	79 (68)
–	108.0	–	–	–	–	–	–	106352	79
2.5	9.1	–	23	27	32.8	–	–	106525	79

Detailed information Salts | EMSURE®

Salts S–Z

	Product	Chemical formula
S	Sodium iodide for analysis, Reag. Ph Eur	NaI
	Sodium metaperiodate for analysis EMSURE® ACS, Reag. Ph Eur	$NaIO_4$
	Sodium molybdate dihydrate for analysis EMSURE®	$Na_2MoO_4 \cdot 2\ H_2O$
	Sodium nitrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$NaNO_3$
	Sodium nitrite for analysis EMSURE® ACS, Reag. Ph Eur	$NaNO_2$
	di-Sodium oxalate for analysis EMSURE®	NaOOCCOONa
	Sodium perchlorate monohydrate for analysis EMSURE®	$NaClO_4 \cdot H_2O$
	Sodium peroxydisulfate for analysis EMSURE®	$Na_2S_2O_8$
	tri-Sodium phosphate dodecahydrate for analysis EMSURE®	$Na_3PO_4 \cdot 12\ H_2O$
	tri-Sodium phosphate dodecahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Na_3PO_4 \cdot 12\ H_2O$
	Sodium salicylate for analysis EMSURE®	$C_7H_5NaO_3$
	Sodium sulfate anhydrous for analysis EMSURE® ACS, ISO, Reag. Ph Eur	Na_2SO_4
	Sodium sulfate decahydrate for analysis EMSURE® ACS, Reag. Ph Eur	$Na_2SO_4 \cdot 10\ H_2O$
	Sodium sulfite anhydrous for analysis EMSURE® ACS, Reag. Ph Eur	Na_2SO_3
	di-Sodium tartrate dihydrate for analysis EMSURE®	$C_4H_4Na_2O_6 \cdot 2\ H_2O$
	Sodium thiosulfate pentahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$Na_2S_2O_3 \cdot 5\ H_2O$
	Sodium tungstate dihydrate for analysis EMSURE®	$Na_2WO_4 \cdot 2\ H_2O$
	Strontium chloride hexahydrate for analysis EMSURE® ACS, ISO	$SrCl_2 \cdot 6\ H_2O$
	Strontium nitrate for analysis EMSURE®	$Sr(NO_3)_2$
T	Tin(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur	$SnCl_2 \cdot 2\ H_2O$
	Tin(II) chloride dihydrate for analysis EMSURE® (max. 0.000001% Hg)	$SnCl_2 \cdot 2\ H_2O$
Z	Zinc acetate dihydrate for analysis EMSURE® ACS	$(CH_3COO)_2Zn \cdot 2\ H_2O$
	Zinc chloride for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$ZnCl_2$
	Zinc iodide for analysis EMSURE®	ZnI_2
	Zinc nitrate tetrahydrate for analysis EMSURE®	$Zn(NO_3)_2 \cdot 4\ H_2O$
	Zinc sulfate heptahydrate for analysis EMSURE® ACS, ISO, Reag. Ph Eur	$ZnSO_4 \cdot 7\ H_2O$

– means: no values available

Solubility [g/100 g H_2O] at						Saturated solution [20°C]		Cat. No.	Page
0°C	20°C	40°C	60°C	80°C	100°C	Percentage	Density		
–	–	–	–	295	303	–	–	**106523**	**79**
–	9.1	–	–	–	–	–	–	**106597**	**80**
–	84.0	–	–	–	–	–	–	**106521**	**80**
70.7	88.3	104.9	124.7	148	176	46.8	1.38	**106537**	**80**
73	84.5	95.7	112.3	135.5	163	45.8	1.33	**106549**	**80**
–	3.7	–	–	–	–	–	–	**106557**	**80**
167	181	243	–	–	–	64.4	1.757	**106564**	**80**
–	54.5	–	–	–	–	–	–	**106609**	**80 (68)**
–	28.5	–	–	–	–	–	–	**106572**	**80**
1.5	12.1	31	55	81	108	10.8	1.106	**106578**	**80**
–	100	–	–	–	–	–	–	**106601**	**80**
–	–	48.1	45.3	43.1	42.3	–	–	**106649**	**80**
4.56	19.2	–	–	–	–	16.1	1.15	**106648**	**80 (68)**
–	–	37	33.2	29	26.6	–	–	**106657**	**80**
(29)	29.0	–	–	–	–	–	–	**106663**	**80**
52.5	70.1	102.6	–	–	–	41.2	1.39	**106516**	**80**
–	73	73.9	–	90.2	96.9	–	–	**106673**	**81**
44.1	53.8	66.6	85.2	–	–	35	1.39	**107865**	**81**
–	–	91.2	94.2	97.2	101.2	–	–	**107872**	**81**
83.9	269.8 (15°C)	–	–	–	–	–	–	**107815**	**81 (68)**
–	118.7	–	–	–	–	–	–	**107814**	**81 (68)**
–	43	–	–	–	–	–	–	**108802**	**81**
–	–	453	488	541	–	–	–	**108816**	**81**
429.4	–	445.2	467.2	490	510.5	–	–	**108828**	**81**
–	–	211.5	–	–	–	–	–	**108833**	**81**
41.6	53.8	–	–	–	–	35	1.47	**108883**	**81**

Determination of mercury

The long discussed question of the toxicity of mercury is dependent on the type of binding involved: liquid, metallic mercury is practically non-toxic; however, mercury vapor, especially that released by organo-metallic compounds which can readily be formed in the biosphere, is extremely toxic and is an ever-present danger for humans and animals. For this reason the determination of mercury in environment foodstuffs is extremely important.

Digestion

As mercury occurs in numerous binding forms. The total material to be analyzed must first be chemically digested and the mercury converted into inorganic compounds before the mercury content in different samples can be determined.

Methods

Due to the different compositions of the sample materials three common digestion methods are normally employed:

- Digestion with sulfuric acid / nitric acid under reflux
- Digestion with nitric acid at high temperature and under pressure in a digestion vessel
- Digestion by UV irradiation

The mercury compound is dissolved or digested using oxidation processes involving oxidants or digestion agents. The excess oxidant or digestion agent is then removed. At the same time the mercury is reduced. Elemental mercury is then transferred to the measuring sell using inert gas.

Mercury analysis

The most common methods for the determination of mercury are:

Mercury content	Procedure
< 0.5 µg/l	Amalgam
0.2-10 µg/l	Cold vapor AAS
> 10 µg/l	Dithizone

As most mercury contamination is with the range 0.2 to 10 µg/l, the most usual procedure is that involving flameless atomic absorption spectrometry – the cold vapor AAS process.

Reagents for routine determination of mercury

	Mercury analysis	Digestion preparation	Digestion with sulfuric / nitric acid under reflux	Digestion with nitric acid in a digestion bomb	Digestion by UV irradiation	Cold vapor AAS	Cold vapor AAS	Cold vapor AAS subsequent to UV irradiation	Cold vapor AAS subsequent to wet-chemical digestion	Dithizone method	Dithizone method	Packaging size	Ord. No.
C	Calcium chloride fused, granular about 0.5–2.0 mm for elementary analysis						•	•	•			250 g 1 kg	1.02083.0250 1.02083.1000
	Chemizorb® Hg Reagents and accessories for absorbent for mercury						•	•	•		•	1 set	1.12576.0001
D	Dithizone for analysis (1,5-Diphenylthiocarbazone) Reag. Ph Eur										•	5 g 25 g	1.03092.0005 1.03092.0025
H	Hydrochloric acid fuming 37% for analysis (max. 0.001 ppm Hg) EMSURE®		•				•	•	•			2.5 l	1.13386.2500
	Hydroxylammonium chloride for analysis (≤ 0.000001% Hg) ACS, ISO						•	•	•		•	250 g	1.04619.0250
M	Magnesium perchlorate hydrate [about 83% $Mg(ClO_4)_2$] for elementary analysis						•	•	•			100 g 500 g	1.05875.0100 1.05875.0500
	Mercury ICP standard traceable to SRM from NIST $Hg(NO_3)_2$ in HNO_3 10% 1000 mg/l Hg CertiPUR®						•	•	•			100 ml	1.70333.0100
	Mercury standard solution traceable to SRM from NIST $Hg(NO_3)_2$ in HNO_3 2 mol/l 1000 mg/l Hg CertiPUR®						•	•	•		•	100 g 500 g	1.70226.0100 1.70226.0500
N	Nitric acid 65% for analysis (max. 0.005 ppm Hg) EMSURE® ISO		•	•			•	•	•			1 l 2.5 l	1.00452.1000 1.00452.2500
P	Perchloric acid 70% for analysis (max. 0.0000005% Hg) EMSURE® ACS, ISO, Reag. Ph Eur		•									1 l	1.00514.1000
	Potassium dichromate for analysis (max. 0.000001% Hg) EMSURE® ACS, ISO		•	•	•		•	•	•			500 g	1.04865.0500
	Potassium permanganate for analysis (max. 0.000005% Hg) EMSURE® ACS		•									1 kg	1.05084.1000
	Potassium peroxodisulfate for analysis (≤ 0.001% N) EMSURE® ACS, Reag. Ph Eur		•	•								250 g 5 kg	1.05092.0250 1.05092.5000
S	Silica gel beads, desiccant ~ 2–5 mm						•	•	•			1 kg	1.07735.1000
	Silica gel with indicator (orange gel), granulate ~ 1–3 mm						•	•	•			1 kg 5 kg	1.01969.1000 1.01969.5000
	Silicon anti-foaming agent						•	•	•			100 ml 500 ml	1.07743.0100 1.07743.0500
	Sodium borohydride for analysis						•		•			100 g	1.06371.0100
	Sulfuric acid 95–97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS, ISO, Reag. Ph Eur		•									2.5 l	1.00732.2500
	Sulfuric acid for 1000 ml, $c(H_2SO_4)$ = 0.5 mol/l (1 N) Titrisol®						•	•	•			1 ampoule	1.09981.0001
T	Tin(II) chloride dihydrate for analysis (max. 0.000001% Hg) EMSURE®						•	•	•			250 g 2.5 kg	1.07814.0250 1.07814.2500
W	Water for analysis EMSURE®		•	•	•		•	•	•			5 l	1.16754.5000

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