

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 27.02.2017

Version 8.10

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Catalogue No.	102733
Product name	Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
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CAS-No.	10125-13-0
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1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Reagent for analysis For additional information on uses please refer to the Merck Chemicals portal (www.merckgroup.com).
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1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone: +49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number	Please contact the regional company representation in your country.
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SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4, Oral, H302

Acute toxicity, Category 4, Dermal, H312

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 2, H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms



Signal word

Danger

Hazard statements

H302 + H312 Harmful if swallowed or in contact with skin

H315 Causes skin irritation.

H318 Causes serious eye damage.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

P313 Get medical advice/ attention.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.

Precautionary statements

P280 Wear eye protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

Contains: copper(II) chloride dihydrate

CAS-No. 10125-13-0

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

3.1 Substance

Formula	$\text{CuCl}_2 \cdot 2 \text{H}_2\text{O}$	$\text{Cl}_2\text{Cu} \cdot 2 \text{H}_2\text{O}$ (Hill)
EC-No.	231-210-2	
Molar mass	170,48 g/mol	

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Hazardous components (REGULATION (EC) No 1272/2008)

Chemical name (Concentration)

CAS-No.	Registration number	Classification
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copper(II) chloride dihydrate (<= 100 %)		
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10125-13-0	*)	
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Acute toxicity, Category 4, H302

Acute toxicity, Category 4, H312

Skin irritation, Category 2, H315

Serious eye damage, Category 1, H318

Acute aquatic toxicity, Category 1, H400

Chronic aquatic toxicity, Category 2, H411

M-Factor: 10

*) A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixture

Not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation: fresh air.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

Diarrhoea, Vomiting, CNS disorders

Irritation and corrosion

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Risk of serious damage to eyes.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Hydrogen chloride gas

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Protective equipment see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

Indications about waste treatment see section 13.

SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal containers.

Storage conditions

Tightly closed.

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection

Tightly fitting safety goggles

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment

protective clothing

Respiratory protection

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not let product enter drains.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	blue green
Odour	weak
Odour Threshold	Not applicable
pH	3,0 - 3,8 at 50 g/l 20 °C

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102733
Product name	Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Melting point	598 °C (anhydrous substance)
Boiling point/boiling range	Not applicable
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	No information available.
Relative vapour density	No information available.
Density	ca. 2,53 g/cm ³ at 20 °C
Relative density	No information available.
Water solubility	757 g/l at 20 °C
Partition coefficient: n-octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	110 °C Elimination of water of crystallisation
Viscosity, dynamic	No information available.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

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Explosive properties Not classified as explosive.

Oxidizing properties none

9.2 Other data

Ignition temperature Not applicable

Bulk density ca. 1.070 kg/m³

SECTION 10. Stability and reactivity

10.1 Reactivity

See section 10.3

10.2 Chemical stability

releases water of crystallisation when heated.

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Violent reactions possible with:

Alkali metals, Strong oxidizing agents

Risk of explosion with:

Acetylene

Possible formation of:

acetylidene

10.4 Conditions to avoid

Strong heating (decomposition).

10.5 Incompatible materials

various metals

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

10.6 Hazardous decomposition products

in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity

LD50 Rat: 584 mg/kg

(anhydrous substance) (RTECS)

Symptoms: After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Acute inhalation toxicity

Symptoms: Possible damages:, mucosal irritations

Acute dermal toxicity

LD50 Rat: 1.224 mg/kg

OECD Test Guideline 402

The value is given in analogy to the following substances: Copper (I)-chloride

Skin irritation

Causes skin irritation.

Rabbit

Result: Irritations

(ECHA) The value is given in analogy to the following substances: Copper (I)-chloride

Eye irritation

Rabbit

Result: Causes serious eye damage.

(ECHA) The value is given in analogy to the following substances: Copper (I)-chloride

Causes serious eye damage.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Sensitisation

In animal experiments: Guinea pig

Result: negative

Method: OECD Test Guideline 406

The value is given in analogy to the following substances: Copper (I)-chloride

Germ cell mutagenicity

This information is not available.

Carcinogenicity

This information is not available.

Reproductive toxicity

This information is not available.

Teratogenicity

This information is not available.

Specific target organ toxicity - single exposure

This information is not available.

Specific target organ toxicity - repeated exposure

This information is not available.

Aspiration hazard

This information is not available.

11.2 Further information

Systemic effects:

After absorption:

Headache, Diarrhoea, drop in blood pressure, Fever

After uptake of large quantities:

CNS disorders, haemolysis

Damage to:

Liver, Kidney

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

12.1 Toxicity

No information available.

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Discharge into the environment must be avoided.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

SECTION 13. Disposal considerations

Waste treatment methods

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 2802
14.2 Proper shipping name	COPPER CHLORIDE
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 2802
14.2 Proper shipping name	COPPER CHLORIDE
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	no

Sea transport (IMDG)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	102733
Product name	Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

14.1 UN number	UN 2802
14.2 Proper shipping name	COPPER CHLORIDE
14.3 Class	8
14.4 Packing group	III
14.5 Environmentally hazardous	yes
14.6 Special precautions for user	yes
EmS	F-A S-B
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Major Accident Hazard	SEVESO III
Legislation	ENVIRONMENTAL HAZARDS E1

Quantity 1: 100 t

Quantity 2: 200 t

Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work. Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.
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Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	not regulated
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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC	not regulated
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Substances of very high concern (SVHC)

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of $\geq 0.1\%$ (w/w).

National legislation

Storage class 8B

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Hazard pictograms



Signal word

Danger

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102733

Product name Copper(II) chloride dihydrate for analysis EMSURE® ACS, Reag. Ph Eur

Hazard statements

H302 + H312 Harmful if swallowed or in contact with skin

H315 Causes skin irritation.

H318 Causes serious eye damage.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P273 Avoid release to the environment.

P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P313 Get medical advice/ attention.

Contains: copper(II) chloride dihydrate

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation

This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.