

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

## Copper(II) chloride dihydrate for analysis, ACS

Revision date: 17.08.2023

Product code: 22694

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

Copper(II) chloride dihydrate for analysis, ACS

REACH Registration Number: 01-2119970306-36-XXXX  
CAS No: 10125-13-0  
EC No: 231-210-2

**1.2. Relevant identified uses of the substance or mixture and uses advised against****Use of the substance/mixture**

Laboratory chemical

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Uses advised against**

Do not use for private purposes (household).

**1.3. Details of the supplier of the safety data sheet**

Company name: AnalytiChem GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
E-mail: info@analytichem.de  
Contact person: Abteilung Produktsicherheit  
E-mail: produktsicherheit@analytichem.de  
Internet: www.analytichem.de  
Responsible Department: Abteilung Produktsicherheit

Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

**1.4. Emergency telephone number:**

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

**Further Information**

No data available

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 4; H312  
Acute Tox. 4; H302  
Skin Irrit. 2; H315  
Eye Dam. 1; H318  
Aquatic Acute 1; H400 (M-Factor (self-classification) = 10)  
Aquatic Chronic 2; H411

Full text of hazard statements: see SECTION 16.

**2.2. Label elements****Regulation (EC) No 1272/2008****Signal word:** Danger**Pictograms:**

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**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**

- P273 Avoid release to the environment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- 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.

**2.3. Other hazards**

No data available

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

- Sum formula: CuCl<sub>2</sub> \* 2 H<sub>2</sub>O
- Molecular weight: 170,48 g/mol

**Hazardous components**

CAS No	Chemical name	Quantity
	EC No Index No REACH No	
	Classification (Regulation (EC) No 1272/2008)	
10125-13-0	Kupfer-II-chlorid-2-hydrat	100 %
	01-2119970306-36-XXXX	
	Acute Tox. 4, Acute Tox. 4, Skin Irrit. 2, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 2; H312 H302 H315 H318 H400 H411	

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
10125-13-0		Kupfer-II-chlorid-2-hydrat	100 %
		dermal: LD50 = > 2000 mg/kg; oral: LD50 = 584 mg/kg Aquatic Acute 1; H400: M=10	

**Further Information**

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 = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

No data available

**After inhalation**

Provide fresh air.

**After contact with skin**

- Wash immediately with: Water
- Take off immediately all contaminated clothing and wash it before reuse.

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Call a physician immediately.

#### **After contact with eyes**

Rinse immediately carefully and thoroughly with eye-bath or water.  
Remove contact lenses, if present and easy to do. Continue rinsing.  
Consult an ophthalmologist.

#### **After ingestion**

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

#### **4.2. Most important symptoms and effects, both acute and delayed**

Risk of serious damage to eyes.  
Irritant  
corrosive  
Gastrointestinal complaints  
Vomiting

#### **4.3. Indication of any immediate medical attention and special treatment needed**

No data available

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

##### **Unsuitable extinguishing media**

no restriction

#### **5.2. Special hazards arising from the substance or mixture**

Non-combustible solids  
Hazardous combustion products  
In case of fire may be liberated: Hydrogen chloride (HCl)

#### **5.3. Advice for firefighters**

Wear a self-contained breathing apparatus and chemical protective clothing.  
Avoid contact with skin, eyes and clothes.

#### **Additional information**

Suppress gases/vapours/mists with water spray jet.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

### SECTION 6: Accidental release measures

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Do not breathe dust/fume/gas/mist/vapours/spray.

##### **For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

#### **6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

#### **6.3. Methods and material for containment and cleaning up**

##### **For containment**

Cover drains.

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Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Take up carefully when dry. Take up dust-free and set down dust-free.

#### For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

#### Other information

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

#### 6.4. Reference to other sections

Safe handling: see section 7  
Personal protection equipment: see section 8  
Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Avoid dust formation.  
Do not breathe dust.  
Read label before use.

##### Advice on protection against fire and explosion

No special fire protection measures are necessary.

##### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

##### Further information on handling

Draw up and observe skin protection programme.  
Wash hands and face before breaks and after work and take a shower if necessary.  
Take off immediately all contaminated clothing and wash it before reuse.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Corrosive to metals.  
Unsuitable container/equipment material: Metal  
Store in a dry place.

##### Further information on storage conditions

Keep container tightly closed.  
storage temperature +5°C - +30°C

#### 7.3. Specific end use(s)

Laboratory chemicals

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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**PNEC values**

CAS No	Substance	
Environmental compartment		Value
10125-13-0	Kupfer-II-chlorid-2-hydrat	
Freshwater		0,0078 mg/l
Marine water		0,0052 mg/l
Freshwater sediment		87 mg/kg
Marine sediment		676 mg/kg
Micro-organisms in sewage treatment plants (STP)		0,23 mg/l
Soil		65 mg/kg

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaust at critical locations.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

By long-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation KCL 741 Dermatril® L

Recommended material: NBR (Nitrile rubber) 0,11 mm

Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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](http://www.kcl.de)).

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Filtering device with filter or ventilator filtering device of type: P2

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#### Environmental exposure controls

Do not allow to enter into surface water or drains.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	greenish blue
Odour:	characteristic
Odour threshold:	not determined
Melting point/freezing point:	598 °C
Boiling point or initial boiling point and boiling range:	993 °C
Flammability:	not determined not applicable
Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not determined
Decomposition temperature:	110 °C
pH-Value (at 20 °C):	3,0 - 3,8 (50 g/l)
Viscosity / kinematic:	not determined
Water solubility: (at 20 °C)	757 g/L
Solubility in other solvents	not determined
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	No data available
Dispersion stability:	not determined
Vapour pressure:	No data available
Vapour pressure:	not determined
Density (at 20 °C):	2,53 g/cm <sup>3</sup>
Relative density:	not determined
Bulk density:	~1070 kg/m <sup>3</sup>
Relative vapour density:	not determined
Particle characteristics:	not determined

#### 9.2. Other information

##### Information with regard to physical hazard classes

Explosive properties	No data available
Sustaining combustion:	No data available
Self-ignition temperature	
Solid:	not determined
Gas:	not applicable
Oxidizing properties	
No data available	

##### Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	100%
Sublimation point:	not determined
Softening point:	not determined

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Pour point: not determined  
 not determined:  
 Viscosity / dynamic: not determined  
 Flow time: not determined

**Further Information**

not determined

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

No data available

**10.2. Chemical stability**

No data available

**10.3. Possibility of hazardous reactions**

Alkali metals  
 Oxidising agent, strong  
 Acetylene

**10.4. Conditions to avoid**

Light  
 Humidity

**10.5. Incompatible materials**

Metal

**10.6. Hazardous decomposition products**

In case of fire may be liberated:  
 SECTION 5: Firefighting measures

**Further information**

No data available

**SECTION 11: Toxicological information**

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

**Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Harmful if swallowed.  
 Harmful in contact with skin.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10125-13-0	Kupfer-II-chlorid-2-hydrat				
	oral	LD50 mg/kg	584	Rat	Publication (1991) The test material was administered to gr
	dermal	LD50 mg/kg	> 2000	Rat	Study report (2003) OECD Guideline 402

**Irritation and corrosivity**

Causes skin irritation.  
 Causes serious eye damage.  
 Risk of serious damage to eyes.

**Sensitising effects**

Based on available data, the classification criteria are not met.

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**Carcinogenic/mutagenic/toxic effects for reproduction**

Based on available data, the classification criteria are not met.

**STOT-single exposure**

Based on available data, the classification criteria are not met.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met.

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**Information on likely routes of exposure**

No data available

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

**Endocrine disrupting properties**

No data available

**Other information**

Liver and kidney damage

**Further information**

Risk of serious damage to eyes.

Irritant

corrosive

Gastrointestinal complaints

Vomiting

**SECTION 12: Ecological information**

**12.1. Toxicity**

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
10125-13-0	Kupfer-II-chlorid-2-hydrat					
	Acute fish toxicity	LC50 mg/l	0,193	96 h	Pimephales promelas	Study report (1996) measurements were conducted by standard
	Acute algae toxicity	ErC50 mg/l	0,152	72 h	Pseudokirchneriella subcapitata	Publication (2005) OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	0,007	48 h	Daphnia magna	Study report (1978) - Test were conducted on Daphnia magna t
	Fish toxicity	NOEC mg/l	0,123	12 d	Atherinops affinis	Mar. Environ. Res. 31: 17-35 (1991) Three tests are reported, designed to de
	Algae toxicity	NOEC mg/l	0,0102	19 d	other aquatic plant: giant kelp Macrocystis pyrifera	Mar. Ecol. Prog. Ser. 68: 147 - 156 (199) Tests were conducted to determine the ef
	Crustacea toxicity	NOEC mg/l	0,033	14 d	Penaeus mergulensis and Penaeus monodon	Bull. Environ. Contain. Toxicol. (1995) The effects of dissolved copper on the g



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**12.2. Persistence and degradability**

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

**12.3. Bioaccumulative potential**

No data available

**BCF**

CAS No	Chemical name	BCF	Species	Source
10125-13-0	Kupfer-II-chlorid-2-hydrat	0,02 - 20	Crangon crangon	Symp. Biologica. Hun

**12.4. Mobility in soil**

No data available

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

No data available

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

No data available

**12.7. Other adverse effects**

Discharge into the environment must be avoided.

**Further information**

Do not allow to enter into surface water or drains.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Do not empty into drains. Send to a physico-chemical treatment facility under observation of official regulations.

**Contaminated packaging**

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 2802
<b>14.2. UN proper shipping name:</b>	COPPER CHLORIDE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8
Classification code:	C2
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 2802
<b>14.2. UN proper shipping name:</b>	COPPER CHLORIDE
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8

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Classification code: C2  
 Limited quantity: 5 kg  
 Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 2802  
**14.2. UN proper shipping name:** COPPER CHLORIDE  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8  
 Marine pollutant: P  
 Special Provisions: -  
 Limited quantity: 500 g  
 Excepted quantity: E1  
 EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 2802  
**14.2. UN proper shipping name:** COPPER CHLORIDE  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8  
 Special Provisions: A803  
 Limited quantity Passenger: 5 kg  
 Passenger LQ: Y845  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 860  
 IATA-max. quantity - Passenger: 25 kg  
 IATA-packing instructions - Cargo: 864  
 IATA-max. quantity - Cargo: 100 kg

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: Yes  
 Danger releasing substance: Copper chloride

**14.7. Maritime transport in bulk according to IMO instruments**

not applicable

**SECTION 15: Regulatory information**

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

**EU regulatory information**

Information according to 2012/18/EU (SEVESO III): E1 Hazardous to the Aquatic Environment

**National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 3 - highly hazardous to water

**SECTION 16: Other information**

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#### Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route  
(European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service  
LC50: Lethal concentration, 50%  
LD50: Lethal dose, 50%  
Acute Tox: Acute toxicity  
Skin Irrit: Skin irritation  
Eye Dam: Eye damage  
Aquatic Acute: Acute aquatic hazard  
Aquatic Chronic: Chronic aquatic hazard

#### Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H302+H312	Harmful if swallowed or in contact with skin.
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.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.  
The receiver of our product is singularly responsible for adhering to existing laws and regulations.