

## SAFETY DATA SHEET

Creation Date 28-Nov-2010

Revision Date 24-Dec-2021

Revision Number 8

### 1. Identification

**Product Name** Copper(II) chloride dihydrate

**Cat No. :** AC206340000; AC206340025; AC206345000

**CAS No** 10125-13-0  
**Synonyms** Cupric chloride dihydrate

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                   |            |
|-----------------------------------|------------|
| Acute oral toxicity               | Category 4 |
| Acute dermal toxicity             | Category 4 |
| Skin Corrosion/Irritation         | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 1 |

#### Label Elements

##### **Signal Word**

Danger

##### **Hazard Statements**

Causes skin irritation  
Causes serious eye damage

Harmful if swallowed or in contact with skin



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Wear protective gloves/protective clothing/eye protection/face protection

#### Skin

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor/physician if you feel unwell

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

#### Eyes

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

Immediately call a POISON CENTER or doctor/physician

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Very toxic to aquatic life with long lasting effects

## 3. Composition/Information on Ingredients

| Component                      | CAS No     | Weight % |
|--------------------------------|------------|----------|
| Copper (II) chloride dihydrate | 10125-13-0 | >95      |
| Cupric chloride                | 7447-39-4  | -        |

## 4. First-aid measures

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### Most important symptoms and effects

Causes severe eye damage. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

#### Notes to Physician

Treat symptomatically

## 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | No information available  |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | Not applicable  |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | No data available   |
| <b>Lower</b>                            | No data available   |
| <b>Oxidizing Properties</b>             | Not oxidising   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

### Specific Hazards Arising from the Chemical

Corrosive material. Non-combustible. Thermal decomposition can lead to release of irritating gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

### Hazardous Combustion Products

Copper oxides. Hydrogen chloride gas.

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

### NFPA

|               |                     |                    |                         |
|---------------|---------------------|--------------------|-------------------------|
| <b>Health</b> | <b>Flammability</b> | <b>Instability</b> | <b>Physical hazards</b> |
| 3             | 0                   | 1                  | N/A                     |

## 6. Accidental release measures

|   |  |
|---|--|
| <b>Personal Precautions</b>                 | Use personal protective equipment as required. Ensure adequate ventilation. Avoid dust formation.  |
| <b>Environmental Precautions</b>            | Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained. Should not be released into the environment. |
| <b>Methods for Containment and Clean Up</b> | Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.   |

## 7. Handling and storage

|                 |   |
|-----------------|---|
| <b>Handling</b> | Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.   |
| <b>Storage.</b> | Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Store contents under argon. Corrosives area. Do not store in metal containers. Store under an inert atmosphere. Protect from moisture. Incompatible Materials. Strong oxidizing agents. Metals. |

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component                      | ACGIH TLV                | OSHA PEL | NIOSH IDLH  | Mexico OEL (TWA) |
|--------------------------------|--------------------------|----------|---|------------------|
| Copper (II) chloride dihydrate | TWA: 1 mg/m <sup>3</sup> |          | IDLH: 100 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> |                  |
| Cupric chloride                | TWA: 1 mg/m <sup>3</sup> |          | IDLH: 100 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> |                  |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment****Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

No protective equipment is needed under normal use conditions.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|  |   |
|--|---|
| Physical State                         | Solid                                   |
| Appearance                             | Blue green                              |
| Odor                                   | Odorless                                |
| Odor Threshold                         | No information available                |
| pH                                     | 3.0-3.8                                 |
| Melting Point/Range                    | 598 °C / 1108.4 °F                      |
| Boiling Point/Range                    | 993 °C / 1819.4 °F                      |
| Flash Point                            | No information available                |
| Evaporation Rate                       | Not applicable                          |
| Flammability (solid,gas)               | Not flammable                           |
| Flammability or explosive limits       |   |
| Upper                                  | No data available                       |
| Lower                                  | No data available                       |
| Vapor Pressure                         | No information available                |
| Vapor Density                          | Not applicable                          |
| Specific Gravity                       | 2.54 (H <sub>2</sub> O=1)               |
| Bulk Density                           | 1.07 kg/m <sup>3</sup>                  |
| Solubility                             | 1150 g/L @ 20 °C                        |
| Partition coefficient; n-octanol/water | No data available                       |
| Autoignition Temperature               | Not applicable                          |
| Decomposition Temperature              | 110 °C                                  |
| Viscosity                              | Not applicable                          |
| Molecular Formula                      | Cl <sub>2</sub> Cu . 2 H <sub>2</sub> O |
| Molecular Weight                       | 170.48                                  |

## 10. Stability and reactivity

**Reactive Hazard**

None known, based on information available

**Stability**

Hygroscopic.

|   |   |
|---|---|
| <b>Conditions to Avoid</b>              | Avoid dust formation. Incompatible products. Excess heat. Exposure to moist air or water. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Metals   |
| <b>Hazardous Decomposition Products</b> | Copper oxides, Hydrogen chloride gas  |
| <b>Hazardous Polymerization</b>         | Hazardous polymerization does not occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.   |

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Component Information

| Component       | LD50 Oral         | LD50 Dermal      | LC50 Inhalation |
|-----------------|-------------------|------------------|-----------------|
| Cupric chloride | 584 mg/kg ( Rat ) | 1224 mg/kg (Rat) | Not listed      |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** Irritating to eyes, respiratory system and skin

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component                      | CAS No     | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|--------------------------------|------------|------------|------------|------------|------------|------------|
| Copper (II) chloride dihydrate | 10125-13-0 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Cupric chloride                | 7447-39-4  | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component                      | Freshwater Algae | Freshwater Fish | Microtox                        | Water Flea |
|--------------------------------|------------------|-----------------|---------------------------------|------------|
| Copper (II) chloride dihydrate | Not listed       | Not listed      | = 0.16 mg/L EC50 Photobacterium | Not listed |

|                 |                           |  |  |                     |
|-----------------|---------------------------|--|--|---------------------|
|                 |                           |  | phosphoreum 30 min as<br>Cu++<br>= 0.27 mg/L EC50<br>Photobacterium<br>phosphoreum 15 min as<br>Cu++<br>= 1.29 mg/L EC50<br>Photobacterium<br>phosphoreum 5 min as<br>Cu++ |                     |
| Cupric chloride | EC50: 0.12 - 0.2 mg/L/96h | LC50: 0.120-0.130 mg/L/96h<br>(Carp)<br>LC50: 0.9 mg/L/96h (Bluegill<br>sunfish)<br>LC50: 0.08 mg/L/96h<br>(Rainbow trout) | Not listed   | EC50: 0.04 mg/L/48h |

**Persistence and Degradability** May persist based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its water solubility.

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

UN-No UN2802  
 Proper Shipping Name COPPER CHLORIDE  
 Hazard Class 8  
 Packing Group III

#### TDG

UN-No UN2802  
 Proper Shipping Name COPPER CHLORIDE  
 Hazard Class 8  
 Packing Group III

#### IATA

UN-No UN2802  
 Proper Shipping Name COPPER CHLORIDE  
 Hazard Class 8  
 Packing Group III

#### IMDG/IMO

UN-No UN2802  
 Proper Shipping Name COPPER CHLORIDE  
 Hazard Class 8  
 Packing Group III

### 15. Regulatory information

#### United States of America Inventory

| Component                      | CAS No     | TSCA | TSCA Inventory notification -<br>Active-Inactive | TSCA - EPA Regulatory<br>Flags |
|--------------------------------|------------|------|--|--------------------------------|
| Copper (II) chloride dihydrate | 10125-13-0 | -    | -  | -                              |
| Cupric chloride                | 7447-39-4  | X    | ACTIVE   | -                              |

#### **Legend:**

**TSCA** US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                      | CAS No     | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|--------------------------------|------------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Copper (II) chloride dihydrate | 10125-13-0 | -   | -   | -         | X     | -    | -    | X    | X     | -        |
| Cupric chloride                | 7447-39-4  | X   | -   | 231-210-2 | X     | X    | X    | X    | X     | KE-08923 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

| Component                      | CAS No     | Weight % | SARA 313 - Threshold Values % |
|--------------------------------|------------|----------|-------------------------------|
| Copper (II) chloride dihydrate | 10125-13-0 | >95      | 1.0                           |
| Cupric chloride                | 7447-39-4  | -        | 1.0                           |

SARA 311/312 Hazard Categories See section 2 for more information

**CWA (Clean Water Act)**

| Component                      | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|--------------------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Copper (II) chloride dihydrate | -                          | -                           | X                      | -                         |
| Cupric chloride                | X                          | 10 lb                       | X                      | -                         |

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

**CERCLA**

| Component       | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------------|--------------------------|----------------|
| Cupric chloride | 10 lb                    | -              |

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component                      | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|--------------------------------|---------------|------------|--------------|----------|--------------|
| Copper (II) chloride dihydrate | -             | X          | X            | -        | -            |
| Cupric chloride                | X             | X          | X            | -        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant Y

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

Authorisation/Restrictions according to EU REACH

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

| Component                      | CAS No     | OECD HPV       | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|--------------------------------|------------|----------------|------------------------------|---------------------------|--|
| Copper (II) chloride dihydrate | 10125-13-0 | Not applicable | Not applicable               | Not applicable            | Not applicable                             |
| Cupric chloride                | 7447-39-4  | Listed         | Not applicable               | Not applicable            | Not applicable                             |

| Component                      | CAS No     | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|--------------------------------|------------|---|--|----------------------------|------------------------------------|
| Copper (II) chloride dihydrate | 10125-13-0 | Not applicable  | Not applicable   | Not applicable             | Annex I - Y22                      |
| Cupric chloride                | 7447-39-4  | Not applicable  | Not applicable   | Not applicable             | Annex I - Y22                      |

## 16. Other information

Prepared By Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

Creation Date 28-Nov-2010

Revision Date 24-Dec-2021

Print Date 24-Dec-2021

Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**