

# Material Safety Data Sheet

## Copper(II) chloride dihydrate

ACC# 05625

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Copper(II) chloride dihydrate**Catalog Numbers:** AC206340000, AC206345000, AC270530000, AC270530010, AC270530025, AC315280000, AC315281000, AC405840000, AC405840050, AC405845000, C454-3, C454-500, C455-500**Synonyms:** Cupric chloride dihydrate.**Company Identification:**Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

| CAS#       | Chemical Name                 | Percent | EINECS/ELINCS |
|------------|-------------------------------|---------|---------------|
| 10125-13-0 | Copper(II) chloride dihydrate | 98      | unlisted      |

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: green solid.

**Warning!** Harmful if swallowed. Causes eye, skin, and respiratory tract irritation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Hygroscopic (absorbs moisture from the air).**Target Organs:** Respiratory system, eyes, skin.**Potential Health Effects****Eye:** Causes eye irritation.**Skin:** Causes skin irritation. May be harmful if absorbed through the skin.**Ingestion:** Harmful if swallowed. May cause irritation of the digestive tract.**Inhalation:** Causes respiratory tract irritation. May be harmful if inhaled.**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed. Individuals with Wilson's disease are unable to metabolize copper. Thus, copper accumulates in various tissues and may result in liver, kidney, and brain damage.

### Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.**Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.**Ingestion:** Do not induce vomiting. Get medical aid immediately. Call a poison control center.**Inhalation:** Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the

substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 1

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use with adequate ventilation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container. Store under argon.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

| Chemical Name                 | ACGIH       | NIOSH   | OSHA - Final PELs |
|-------------------------------|-------------|---|-------------------|
| Copper(II) chloride dihydrate | none listed | 1 mg/m <sup>3</sup> TWA (dust and mist, as Cu, except copper fume) (listed under Copper compounds, n.o.s.).100 mg/m <sup>3</sup> IDLH (dust and mist, as Cu) (listed under Copper compounds, n.o.s.). | none listed       |
| Cupric chloride anhydrous     | none listed | 1 mg/m <sup>3</sup> TWA (dust and mist, as Cu, except copper fume) (listed under Copper compounds, n.o.s.).100 mg/m <sup>3</sup> IDLH (dust and mist, as Cu) (listed under Copper compounds, n.o.s.). | none listed       |

**OSHA Vacated PELs:** Copper(II) chloride dihydrate: No OSHA Vacated PELs are listed for this chemical. Cupric chloride anhydrous: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** 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:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid

**Appearance:** blue - green

**Odor:** odorless

**pH:** 3 - 3.8 (5% aq.sol.)

**Vapor Pressure:** Not available.

**Vapor Density:** 5.9 (air=1)

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** 100 deg C (decom)

**Decomposition Temperature:** > 100 deg C

**Solubility:** 1150 g/L (20°C)

**Specific Gravity/Density:** 2.54 (water=1)

**Molecular Formula:** CuCl<sub>2</sub>·2H<sub>2</sub>O

**Molecular Weight:** 170.48

## Section 10 - Stability and Reactivity

**Chemical Stability:** Hygroscopic: absorbs moisture or water from the air.

**Conditions to Avoid:** Incompatible materials, dust generation, excess heat, exposure to moist air or water.

**Incompatibilities with Other Materials:** Alkali metals, strong oxidizing agents.

**Hazardous Decomposition Products:** Hydrogen chloride, metallic oxides.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**

**CAS#** 10125-13-0: GL7030000

**CAS#** 7447-39-4: GL7000000

**LD50/LC50:**

Not available.

CAS# 7447-39-4:

Oral, mouse: LD50 = 233 mg/kg;

Oral, rat: LD50 = 584 mg/kg;

Oral, rat: LD50 = 140 mg/kg;

**Carcinogenicity:**

CAS# 10125-13-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 7447-39-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found

**Teratogenicity:** No information found

**Reproductive Effects:** No information found

**Mutagenicity:** No information found

**Neurotoxicity:** No information found

**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. No information available.

**Environmental:** No information available.

**Physical:** No information available.

**Other:** Do not empty into drains.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

|                       | US DOT          | Canada TDG      |
|-----------------------|-----------------|-----------------|
| <b>Shipping Name:</b> | COPPER CHLORIDE | COPPER CHLORIDE |
| <b>Hazard Class:</b>  | 8               | 8               |
| <b>UN Number:</b>     | UN2802          | UN2802          |
| <b>Packing Group:</b> | III             | III             |

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 10125-13-0 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).

CAS# 7447-39-4 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

CAS# 7447-39-4: 10 lb final RQ; 4.54 kg final RQ

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### SARA Codes

CAS # 10125-13-0: immediate, delayed.

CAS # 7447-39-4: immediate, delayed.

#### Section 313

This material contains Copper(II) chloride dihydrate (listed as Copper compounds, n.o.s.), 98%, (CAS# 10125-13-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

This material contains Cupric chloride anhydrous (listed as Copper compounds, n.o.s.), -, (CAS# 7447-39-4) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**

CAS# 7447-39-4 is listed as a Hazardous Substance under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA. CAS# 10125-13-0 is listed as a Toxic Pollutant under the Clean Water Act. CAS# 7447-39-4 is listed as a Toxic Pollutant under the Clean Water Act.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 10125-13-0 can be found on the following state right to know lists: California, (listed as Copper compounds, n.o.s.), New Jersey, (listed as Copper compounds, n.o.s.), Pennsylvania, (listed as Copper compounds, n.o.s.).

CAS# 7447-39-4 can be found on the following state right to know lists: California, New Jersey, (listed as Copper compounds, n.o.s.), Pennsylvania, Massachusetts.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations****European Labeling in Accordance with EC Directives****Hazard Symbols:**

XN N

**Risk Phrases:**

R 22 Harmful if swallowed.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 29 Do not empty into drains.

S 37/39 Wear suitable gloves and eye/face protection.

S 57 Use appropriate containment to avoid environmental contamination.

**WGK (Water Danger/Protection)**

CAS# 10125-13-0: No information available.

CAS# 7447-39-4: 2

**Canada - DSL/NDSL**

CAS# 7447-39-4 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D2B, D1B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 10125-13-0 (listed as Copper compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

CAS# 7447-39-4 (listed as Copper compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

## Section 16 - Additional Information

**MSDS Creation Date:** 6/09/1999

**Revision #12 Date:** 11/25/2008

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*