

**Safety Data Sheet**

**1. IDENTIFICATION**

**Product Identifier:** Cupric Chloride, Dihydrate

**Product Code(s):** C1009, C1044, CSC1044

**Synonyms:** Copper (II) Chloride, Dihydrate; Cupric Dichloride, Dihydrate

**Recommended Use:** For manufacturing, industrial, and laboratory use only. Use as a catalyst or as a laboratory reagent.

**Uses Advised Against:** Not for food, drug, or household use.

**Supplier:** Rocky Mountain Reagents, Inc.  
4621 Technology Drive, Golden, CO 80403  
Phone: (303) 762-0800 Fax: (303) 762-1240

**Emergency Phone Number:** (800) 255-3924 (CHEM-TEL)

**2. HAZARDS IDENTIFICATION**

**Hazard Classifications:**

Acute Toxicity – Oral:	Category 4
Acute Toxicity – Dermal:	Category 4
Skin Corrosion/Irritation:	Category 2
Eye Damage/Irritation:	Category 2A
Corrosive to Metals:	Category 1

**Signal Word:** WARNING

**Hazard Statements:**

- Harmful if swallowed.
- Harmful in contact with skin.
- Causes skin irritation.
- Causes serious eye irritation.
- May be corrosive to metals.

**Pictograms:**



## Precautionary Statements:

- Prevention:** Wash thoroughly after handling.  
Do not eat, drink, or smoke while using this product.  
Wear protective gloves, protective clothing, eye protection, and face protection.  
Keep only in original container.
- Response:** If swallowed: Call a poison center or doctor if you feel unwell. Rinse mouth.  
If on skin: Wash with plenty of water. Call a poison center or doctor if you feel unwell. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.  
Absorb spillage to prevent material damage.
- Storage:** Store in corrosive resistant container with a resistant inner liner.
- Disposal:** Dispose of contents and container in accordance with local, regional, national, and international regulations.
- Hazards Not Otherwise Classified:** Toxic to aquatic life with long lasting effects.
- Toxicity Statement:** Not applicable.

## 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Component	Common Name / Synonyms	CAS#	Chemical Formula	% by Weight
Cupric Chloride, Dihydrate	Copper (II) Chloride, Dihydrate	10125-13-0	CuCl <sub>2</sub> • 2H <sub>2</sub> O	≥ 97.0

**Trade Secret Statement:** Not applicable.

## 4. FIRST AID MEASURES

### First Aid Procedures:

- Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician if symptoms occur.
- Ingestion:** Rinse mouth. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Skin Contact:** Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.
- Eye Contact:** Check for and remove contact lenses, if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if irritation persists.
- General Advice:** Poison information centers in each state can provide additional assistance for scheduled poisons. Ensure that those providing first aid and medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Symptoms and Effects:** Inhalation may cause respiratory irritation. Ingestion may cause headache, nausea, vomiting, burns, weak pulse, cold sweat, convulsions. Skin contact may cause irritation,

burns, rash, allergic reaction, and skin discoloration. Eye contact may cause irritation, burns, and conjunctivitis.

**Immediate Medical Care/  
Special Treatment:**

Get medical attention if feeling unwell or concerned. Treat symptomatically.

## 5. FIREFIGHTING MEASURES

**Suitable Extinguishing Media:** Water spray, dry powder, alcohol resistant foam, carbon dioxide.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream, as it may scatter and spread fire.

**Hazardous Combustion Products:** Cupric oxides, hydrogen chloride.

**Specific Hazards:** Excessive thermal conditions may yield corrosive and/or toxic fumes.

**Special Protective Equipment/  
Precautions for Firefighters:** As in any fire, wear MSHA/NIOSH-approved (or equivalent), self-contained, positive-pressure or pressure-demand breathing apparatus and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions and Protective Equipment:** Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Keep upwind. Wear appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin, and clothing.

**Emergency Procedures:** In case of chemical emergency, or if unsure how to address an accidental release, consult a professional (see Section 1).

**Methods for Containment:** Prevent entry into waterways, sewer, basements, or confined areas. Avoid generation of product dust. Product should not be released to the environment. Contain and recover waste when possible.

**Methods for Cleanup:** Sweep up or collect spill and place in a non-combustible container for reclamation or disposal. Do not flush to sewer. Clean contaminated surface thoroughly. Residues from spills can be diluted with water. Never return spills in original containers for reuse. Clean up in accordance with all applicable regulations.

## 7. HANDLING AND STORAGE

**Handling:** Wear personal protective equipment (see Section 8). Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes, and clothing. Avoid generation of dust. Do not breathe product dust. Limit exposure to moisture. Do not ingest. When using, do not eat, drink, or smoke. Keep away from incompatible materials (see Section 10). Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty, as they retain product residues. Observe all warnings and precautions listed for this product.

**Storage:** Store in a cool, dry, ventilated area. Store away from heat and incompatible materials (see Section 10). Store in original container. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Exposure Limits:** Copper: ACGIH (TLV): 1 mg/m<sup>3</sup>  
NIOSH (TWA): 1 mg/m<sup>3</sup>

**Engineering Controls:** Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Personal Protective Measures:

**Eye/Face Protection:** Wear safety glasses with side shields or safety goggles. Wear a face shield. Maintain approved eye wash station and accessible rinse facilities in work area.

**Skin Protection:** Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

**Respiratory Protection:** An air-purifying, NIOSH-approved respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

**Specific Requirements for Personal Protective Equipment:** Ensure that glove material is compatible with this product. This information is available from glove manufacturers.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

*Unless otherwise indicated, all properties are given at 25 °C and standard pressure.*

**Appearance:** Green, opaque, crystalline solid.

**Odor:** Odorless.

**Odor Threshold:** No information found.

**Formula Weight:** 170.48

**pH:** < 4.0 (0.2 M aqueous)

**Melting/Freezing Point:** 110 °C

**Boiling Point/Range:** No information found.

**Decomposition Temperature:** > 110 °C

**Flash Point:** Not applicable.

**Auto-ignition Temperature:** Not applicable.

**Flammability:** Not flammable.

**Flammability/Explosive Limits:** Not applicable.

**Solubility:** > 50% by weight in water.

**Vapor Pressure:** No information found.

**Vapor Density:** No information found.

**Specific Gravity:** 2.51 (Water = 1)

**Evaporation Rate:** No information found.

**Viscosity:** No information found.  
**Partition Coefficient (n-octanol/water):** No information found.

## 10. STABILITY AND REACTIVITY

**Reactivity Data:** May be corrosive to many materials, especially to metals.

**Chemical Stability:** Stable under normal conditions. Hygroscopic.

**Conditions to Avoid:** Excessive heat, exposure to moisture, incompatible materials.

**Incompatible Materials:** Metals, strong acids, alkali metals.

**Hazardous Decomposition Products:** Cupric oxides, hydrogen chloride.

**Possibility of Hazardous Reactions:** May react vigorously or violently with the incompatible materials listed above. Excessive thermal conditions or contact with incompatible materials may yield hazardous decomposition products listed above.

**Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Routes of Exposure:** Inhalation, ingestion, skin contact, eye contact.

**Acute Effects:** Harmful if swallowed or contacted with the skin or eyes. May be harmful if inhaled.

**Chronic Effects:** Prolonged or repeated exposure may cause liver effects, kidney effects, allergic reaction, dermatitis, conjunctivitis, and anemia.

**Toxicological Data:**  
LD<sub>50</sub> Oral, Rat: 336 mg/kg  
LD<sub>50</sub> Dermal, Rabbit: 1224 mg/kg  
Irritating to eyes and skin based on animal data.

**Symptoms of Exposure:** Irritation, burns, headache, nausea, vomiting, cold sweat, weak pulse, jaundice, convulsions, rash, skin discoloration.

**Carcinogenic Effects:** This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicological Data:**  
LC<sub>50</sub>, Carp (Cyprinus carpio): 0.12 - 0.23 mg/L 96 h  
LC<sub>50</sub>, Bluegill (Lepomis macrochirus): 0.9 mg/L 96 h

**Persistence and Degradability:** May bioaccumulate and may not be readily biodegradable.

**Environmental Effects:** Toxic to all aquatic organisms. Avoid exposure to the environment.

## 13. DISPOSAL INFORMATION

**Disposal Instructions:** Dispose of this material and its container to an approved waste collection point. Minimize exposure to product waste (see Section 8). Do not dispose unused waste down drains or

into sewers. All wastes must be handled in accordance with local, state, and federal regulations.

**Contaminated Packaging:** Because emptied containers may retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities.

**Waste Codes:** D002: Waste Corrosive Material (pH ≤ 2 or pH ≥ 12.5 or corrosive to steel)

## 14. TRANSPORT INFORMATION

**DOT:**

**UN Number:** UN2802

**Proper Shipping Name:** Copper chloride

**Hazard Class:** 8

**Packing Group:** III

**ERG Number:** 154

**Environmental Hazard Regulations:** Cupric Chloride: IMDG Marine Pollutant

**Other Transport Precautions:** DOT Reportable Quantity: 10 lb

## 15. REGULATORY INFORMATION

**U.S. Federal Regulations:**

**OSHA:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Inventory:** All components of this product are on the US TSCA Inventory.

**U.S. EPCRA (SARA Title III):**

**Section 302:** No information found.

**Sections 311/312:**

Hazard Category	List (Yes/No)
Section 311 – Hazardous Chemical	Yes
Immediate Hazard	Yes
Delayed Hazard	Yes
Fire Hazard	No
Pressure Hazard	No
Reactivity Hazard	No

**Section 313:** Copper (II) Chloride Dihydrate

**CERCLA Reportable Quantities:** 10 lb

**International Inventories:**

Country or Region	Inventory Name	On Inventory (Yes/No)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

\*A "Yes" indicates that the listed components of this product comply with the inventory requirements administered by the governing country or region.

**16. OTHER INFORMATION****Disclaimer:**

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**Issue Date:**

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**Reason for Revision:**

Not applicable.