Max Industries

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Material Safety Data Sheet
Cupric Chloride Dihydrate
MSDS

Section 1: Chemical Product and Company Identification

Product Name: Cupric Chloride Dihydrate

CAS#: 10125-13-0

RTECS: GL7030000

CI#: Not available.

Synonym: Copper trace; Copper (2+) chloride dihydrate;

Copper Chloride Dihydrate

Chemical Name: Copper (II) Chloride Dihydrate

Chemical Formula: CuCl2.2H2O

Contact Information:

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Cupric Chloride Dihydrate	10125-13-0	100

Toxicological Data on Ingredients: Cupric chloride dihydrate LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (permeator). Corrosive to eyes and skin. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, liver, skin. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:
Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:
If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: metals

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:
Noncombustible. When heated to decomposition it emits toxic fumes of hydrogen chloride. When heated to decomposition it emits corrosive fumes. Contact with metals may evolve flammable hydrogen gas.

Special Remarks on Explosion Hazards:
Containers may explode when heated. When mixed with potassium or sodium, it produces a strong explosion on impact.

Section 6: Accidental Release Measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill:
Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:
Keep container dry. Do not ingest. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Deliquescent

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:
Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:
TWA: 1 (mg (Cu)/m) from ACGIH (TLV) [United States] TWA: 1 (mg (Cu)/m) from OSHA (PEL) [United States] TWA: 1 STEL: 1 (mg (Cu)/m) [United Kingdom (UK)] TWA: 1 (mg (Cu)/m) [Australia] TWA: 1 (mg (Cu)/m) [France]Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Crystals solid. Deliquescent crystals solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 170.48 g/mole

Color: Bluish-green

pH (1% soln/water): Not available.

Boiling Point: Decomposition temperature: 992.78°C (1819°F)

Melting Point: 100°C (212°F)

Critical Temperature: Not available.

Specific Gravity: 2.54 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 5.9 (Air = 1)

Volatility: 0% (v/v). 0% (w/w).

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, acetone.

Solubility:
Easily soluble in cold water, hot water, methanol. Soluble in acetone. Very slightly soluble in diethyl ether. Moderately soluble in acetone and Ethyl Acetate. Freely soluble in ethanol. Solubility in Water: 76 parts in 100 parts water @ 25 deg. C

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, exposure to moist air

Incompatibility with various substances: Reactive with oxidizing agents, metals, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:
Deliquescent in moist air. Efflorescent in dry air. Water loss occurs from 70-200 C. Contact with metals may evolve flammable hydrogen gas. Contact with acids or acid fumes may evolve highly toxic hydrogen chloride fumes. Also incompatible with potassium, sodium, hydrazine, nitromethane, acetylene, sodium hypobromite.

Special Remarks on Corrosivity: It may corrode metals in the presence of moisture

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans:
MUTAGENIC EFFECTS: Mutagenic for bacteria and/or yeast. May cause damage to the following organs: kidneys, lungs, liver, skin.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:
May affect genetic material (mutagenic). May cause adverse reproductive effects.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: Causes skin irritation. Skin contact may result in severe irritation, with itching, erythema, burning pain, and may produce systemic toxicity. It may also cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause skin burns. Eyes: Causes severe irritation with symptoms of redness, pain blurred, discoloration. May cause eye burns and loss of vision. May cause eye damage such permanent corneal opacification, chemical conjunctivitis, ulceration. Inhalation: May be harmful if inhaled. Causes respiratory tract (nose, throat, lungs), and mucous membrane irritation causing coughing sore throat, wheezing, and shortness of breath. It may cause ulceration and perforation of the nasal septum. It may produce delayed pulmonary edema. When heated this compound may give off copper fume, which can cause "fume metal fever" with symptoms similar to the common cold, including chills

and stiffness of the head. Ingestion: Harmful if swallowed. Ingestion of sufficient concentrations may result in metallic taste, salivation, headache, nausea, vomiting, burning in the mouth, epigastrium (esophagus and stomach), diaphoresis, abdominal/gastric pain, gastrointestinal bleeding, and bloody diarrhea. The vomitous is characteristically greenish-blue. Other systemic effects may occur including hemolysis, anemia, and anuria, oliguria, hematuria, acute kidney tubular necrosis, jaundice, hepatomegaly (i.e. Liver and kidney damage) (secondary to hemolysis). May affect behavior/central nervous system (somnolence, convulsions). Rarely methemoglobinemia has been reported.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: Copper chloride UNNA: 2802 PG: III

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Federal and State Regulations: SARA 313 toxic chemical notification and release reporting: Copper compounds

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):
CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive solid.

DSCL (EEC):
R22- Harmful if swallowed. R37/38- Irritating to respiratory system and skin. R41- Risk of serious damage to eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S28- After contact with skin, wash immediately with plenty of water. S37/39- Wear suitable gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 0

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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