Section 1 - Product and Company Information

Product Name: COPPER(II) CHLORIDE, 97%
Product Number: 222011
Brand: Sigma-Aldrich
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name: COPPER(II) CHLORIDE
CAS #: 7447-39-4
SARA 313: Yes
Formula: CuCl₂
Synonyms: Copper dichloride, Copper(II) chloride, Cupric chloride, Cupric dichloride

Section 3 - Hazards Identification

Emergency Overview:
Harmful if swallowed. Irritating to eyes, respiratory system, and skin.
Target organ(s): Liver, Kidneys.

HMSI Rating:
Health: 2
Flammability: 0
Reactivity: 1

NFPA Rating:
Health: 2
Flammability: 0
Reactivity: 1

Section 4 - First Aid Measures

Eye Exposure:
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Suitable Media:
Nonflammable. Use extinguishing media appropriate to surrounding fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill:
Evacuate area.

Procedure(s) of Personal Protection:
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Method for Cleaning Up:
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling:
User Exposure:
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage:
Suitable:
Store in a cool dry place. Handle and store under argon. Keep tightly closed.

Section 8 - Exposure Controls / PPE

Engineering Controls:
Safety shower and eyewash. Mechanical exhaust required.

Personal Protective Equipment:
Respiratory:
N95/MSHA-approved respirator.
Hand:
Chemical-resistant gloves.
Eye:
Chemical safety goggles.

General Hygiene Measures:
Wash thoroughly after handling.
Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight: 134.45 AMU

pH
N/A

BF/BP Range
N/A

MP/MP Range
0°C

Freezing Point
N/A

Vapor Pressure
N/A

Vapor Density
N/A

Saturated Vapor Conc.
N/A

SG/Density
3.386 g/cm3

Bulk Density
N/A

Odor Threshold
N/A

Volatile
N/A

VOC Content
N/A

Water Content
N/A

Solvent Content
N/A

Evaporation Rate
N/A

Viscosity
N/A

Partition Coefficient
N/A

Decomposition Temp.
N/A

Flash Point -F
N/A

Flash Point °C
N/A

Explosion Limits
N/A

Autoignition Temp
N/A

Solubility
N/A

Section 10 - Stability and Reactivity

Stability
Stable.

Materials to Avoid
Alkali metals.

Hazardous Decomposition Products
Hydrogen chloride gas

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
Causes skin irritation.

Skin Absorption
May be harmful if absorbed through the skin.

Eye Contact
Causes eye irritation.

Inhalation
May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion
Harmful if swallowed.

Target Organ(s) or System(s)

Signs and Symptoms of Exposure
Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerated arteriosclerosis. Depending on the intensity and duration of exposure, effects may vary from mild irritation to severe destruction of tissue. May cause decrease in blood pressure. Gastrointestinal disturbances.

RTECS Number: GL700000

Toxicity Data

Oral - Rat: 594 mg/kg (LD50)
Remark: Behavioral-Somatone (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.

Intraperitoneal - Rat: 14700 UG/KG (LD50)
Remark: Behavioral-Somatone (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.

Intravenous - Rat: 5 MG/KG (LD50)
Remark: Behavioral-Somatone (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.

Oral - Mouse: 253 mg/kg (LD50)
Remark: Behavioral-Somatone (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold.

Intraperitoneal - Mouse: 7400 UG/KG (LD50)

Intravenous - Mouse: 17500 UG/KG (LD50)

Chronic Exposure - Mutagen
Species
Mammal

Cell Type
Lymphocyte

Mutation Test
DNA damage

Chronic Exposure - Reproductive Hazard

Species
Rat

Route of Application
Intraperitoneal

Exposure Time
(1-210 PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implant per total number of implants).

Effects on Embryo or Fetus: Extra embryonic structures (e.g., placenta, umbilical cord). Effects on Embryo or Fetus: Foldetoxicity (except death), e.g., startled fetus.

Rat

52 MG/KG

Intraperitoneal

(26D MALE)


Mouse

35 MG/KG

Intraperitoneal

(12-180 PREG)

Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Effects on Embryo or Fetus: Fetal death.

Section 12 - Ecological Information

Additional Results/Data from Relevant Scientific Experiments
Because of harmful effects on water organisms, this material should not be introduced into drains. Avoid contamination of the environment.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Disperse or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.
Section 14 - Transport Information

DOT
Proper Shipping Name: Copper chloride
UN No.: 2502
Class: 8
Packing Group: Packing Group III
Hazard Label: Corrosive
PIH: Not PIH

IATA
Proper Shipping Name: Copper chloride
IATA Number: 2502
Hazard Class: 8
Packing Group: III

Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: Xn
Indication of Danger
Harmful
Risk Statements
R: 22 36/37/38
Harmful if swallowed. Irritating to eyes, respiratory system, and skin.
Safety Statements
S: 26 36
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Classification and Label Text
Indication of Danger
Harmful
Risk Statements
Harmful if swallowed. Irritating to eyes, respiratory system, and skin.
Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.
US Statements
Target organ(s): Liver. Kidneys.

United States Regulatory Information
SARA Listed: Yes
Notes: This product is subject to SARA Section 313 reporting requirements - copper compounds.

TSCA Inventory Item: Yes

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the WHMIS, and the MSDS contains all the information required by the CNL.

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich inc. shall not be held liable for any damage resulting from handling or from contact with this above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2002 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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