

SAFETY DATA SHEET

Version 3.10
Revision Date 11/20/2014
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1. PRODUCT AND COMPANY IDENTIFICATION

| | | | |
|--|--|--------------|--|
| Product name | : Copper(I) chloride | | |
| Product Number | : 256528 | | |
| Brand | : Sigma-Aldrich | | |
| Product Use | : For laboratory research purposes. | | |
| Supplier | : Sigma-Aldrich Canada Co. 2149 Winston Park Drive OAKVILLE ON L6H 6J8 CANADA | Manufacturer | : Sigma-Aldrich Corporation 3050 Spruce St. St. Louis, Missouri 63103 USA |
| Telephone | : +1 9058299500 | | |
| Fax | : +1 9058299292 | | |
| Emergency Phone # (For both supplier and manufacturer) | : +1-703-527-3887 (CHEMTREC) | | |
| Preparation Information | : Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956 | | |

2. HAZARDS IDENTIFICATION

Emergency Overview

Target Organs

Liver, Kidney

WHMIS Classification

| | | |
|-----|--|---|
| D1B | Toxic Material Causing Immediate and Serious Toxic Effects | Toxic by ingestion |
| D2B | Toxic Material Causing Other Toxic Effects | Moderate skin irritant Severe eye irritant |

GHS Classification

Acute toxicity, Oral (Category 4)
Skin corrosion/irritation (Category 2)
Serious eye damage/eye irritation (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram



Signal word: Danger

Hazard statement(s)

| | |
|------|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statement(s)

| | |
|------|--|
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/ eye protection/ face protection. |

P305 + P351 + P338

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

P501

Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2

Chronic Health Hazard: *

Flammability: 0

Physical hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.

Skin May be harmful if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

Ingestion Toxic if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Cuprous chloride

Formula : ClCu

Molecular weight : 99.00 g/mol

| CAS-No. | EC-No. | Index-No. | Concentration |
|-------------------------|-----------|--------------|---------------|
| Cuprous chloride | | | |
| 7758-89-6 | 231-842-9 | 029-001-00-4 | <=100% |

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Not flammable or combustible.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Copper oxides

Explosion data - sensitivity to mechanical impact

No data available

Explosion data - sensitivity to static discharge

No data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Air, light, and moisture sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fumehood to avoid exposure.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

| | |
|--------|----------|
| Form | granules |
| Colour | beige |

Safety data

| | |
|--|---|
| pH | 5 at 50 g/l at 20 °C (68 °F) |
| Melting point/freezing point | Melting point/range: 430 °C (806 °F) - lit. |
| Boiling point | 1,490 °C (2,714 °F) - lit. |
| Flash point | Not applicable |
| Ignition temperature | No data available |
| Auto-ignition temperature | No data available |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Vapour pressure | 1.7 hPa (1.3 mmHg) at 546 °C (1,015 °F) |
| Density | 4.140 g/cm ³ |
| Water solubility | 0.047 g/l at 20 °C (68 °F) - slightly soluble |
| Partition coefficient: n-octanol/water | No data available |
| Relative vapour density | No data available |
| Odour | No data available |
| Odour Threshold | No data available |
| Evaporation rate | No data available |

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Air Avoid moisture. Light.

Materials to avoid

Oxidizing agents, Alkali metals

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas, Copper oxides
Other decomposition products - No data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - Rat - 336 mg/kg

Inhalation LC50

LC50 Inhalation - Mouse - 1,008 mg/m³

Dermal LD50

No data available

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit - Irritating to skin.

Serious eye damage/eye irritation

Eyes - Rabbit - Risk of serious damage to eyes.

Respiratory or skin sensitisation

Maximisation Test (GPMT) - Guinea pig - OECD Test Guideline 406 - Does not cause skin sensitisation.

Germ cell mutagenicity

Genotoxicity in vitro - Rat - Ascites tumor

Cytogenetic analysis

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive toxicity

No data available

Teratogenicity

No data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

Aspiration hazard

No data available

Potential health effects

| | |
|-------------------|--|
| Inhalation | May be harmful if inhaled. Causes respiratory tract irritation. |
| Ingestion | Toxic if swallowed. |
| Skin | May be harmful if absorbed through skin. Causes skin irritation. |
| Eyes | Causes eye irritation. |

Signs and Symptoms of Exposure

Symptoms of systemic copper poisoning may include: capillary damage, headache, cold sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice, convulsions, paralysis, and coma. Death may occur from shock or renal failure. 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 accelerates arteriosclerosis.

Synergistic effects

No data available

Additional Information

RTECS: GL6990000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.05 - 0.36 mg/l - 96.0 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

Very toxic to aquatic life with long lasting effects.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 2802 Class: 8 Packing group: III

Proper shipping name: Copper chloride

Reportable Quantity (RQ):

Marine pollutant: No

Poison Inhalation Hazard: No

IMDG

UN number: 2802 Class: 8 Packing group: III EMS-No: F-A, S-B

Proper shipping name: COPPER CHLORIDE

Marine pollutant: Marine pollutant

IATA

UN number: 2802 Class: 8 Packing group: III

Proper shipping name: Copper chloride

15. REGULATORY INFORMATION**WHMIS Classification**

D1B Toxic Material Causing Immediate and Serious Toxic by ingestion
Toxic Effects

D2B Toxic Material Causing Other Toxic Effects Moderate skin irritant
Severe eye irritant

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

16. OTHER INFORMATION**Text of H-code(s) and R-phrase(s) mentioned in Section 3**

Skin Irrit. Дразнене на кожата

Further information

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