

Safety Data Sheet **COPPER (I) CHLORIDE**

SDS no. 1FDME151 • Version 1.0 • Date of issue: 2024-01-25

SECTION 1: Identification

GHS Product identifier

Product name COPPER (I) CHLORIDE

Other means of identification

Copper (I) Chloride AR (Cuprous chloride) CA092-500G
Copper (I) Chloride LR (Cuprous chloride) CL092-500G
Copper (I) Chloride TG (Cuprous chloride) CT092-25KG
Cuprous Chloride

Recommended use of the chemical and restrictions on use

Catalyst, preservative and fungicide, desulfurizing and decolourizing agent in petroleum industry, absorbent for carbon monoxide and laboratory reagent.

Supplier's details

Name ChemSupply Australia Pty Ltd
Address 38-50 Bedford Street
5013 Gillman South Australia
Australia

Telephone 08 8440 2000
email www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4

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- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

GHS label elements, including precautionary statements

Pictograms



Signal word

Warning

Hazard statement(s)

H302

Harmful if swallowed

H410

Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P264

Wash hands thoroughly after handling.

P270

Do not eat, drink or smoke when using this product.

P301+P312

IF SWALLOWED: Call a POISON CENTER/doctor/phycian if you feel unwell,

P501

Dispose of contents/container to an approved waste disposal facility

P273

Avoid release to the environment.

P391

Collect spillage.

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 98.99

Components

Component	CAS no.	Concentration
Copper (I) Chloride (EC no.: 231-842-9; Index no.: 029-001-00-4)	7758-89-6	90 - 100 % (weight)
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H302 - Harmful if swallowed; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

First Aid Facilities: Maintain eyewash fountain and drench facilities in work area.

If inhaled

If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.

In case of skin contact

Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. If rapid recovery does not occur, obtain medical attention

In case of eye contact

Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. If rapid recovery does not occur, obtain medical attention

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If swallowed

Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist.

Most important symptoms/effects, acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Specific Methods: Small fire: Use dry chemical, CO2 or water spray.

Large fire: Use dry chemical, water spray, fog or foam - Do NOT use water jets.

Specific hazards arising from the chemical

Irritating, toxic and corrosive fumes and vapours, including hydrogen chloride gas, copper fumes, chlorinated compounds, oxides of copper and chloride and chlorine gas or ionic chloride, Cl⁻. Contact with acids or acid fumes may release highly toxic hydrogen chloride fumes. Contact with metals may evolve flammable hydrogen gas.

Material does not burn.

Special protective actions for fire-fighters

Wear SCBA and chemical splash suit. Fully encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effective for these materials.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation, contact with skin, eyes and clothing.

Use personal protective equipment listed in Section 8.

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Prevent from entering into drains, ditches, rivers or the sea.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. When using do not eat, drink or smoke. Avoid prolonged or repeated contact with skin, eyes and clothing. Wash hands and face thoroughly after working with material. Keep away from incompatibles. Only use in well-ventilated areas.

Conditions for safe storage, including any incompatibilities

Store away from incompatibles such as oxidizing agents, alkali metals, potassium and lithium nitride; air sensitive; light sensitive and moisture sensitive.

SECTION 8: Exposure controls/personal protection

Control parameters

CAS: (not specified)

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Copper, dusts & mists (as
Cu)
AU/SWA (Australia): 1 mg/m³ inhalation

Appropriate engineering controls

Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White, cubic crystals. Exposed to light, turns brown; Exposed to air, turns blue-green.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	430 °C
Boiling point or initial boiling point and boiling range	1490 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	~ 5 (slurry, 50 g/l, H ₂ O, 20 °C)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Practically insoluble in water. Solubility in Organic Solvents: Soluble in acids, ammonia and ether. Insoluble in alcohol and acetone.
Partition coefficient n-octanol/water (log value)	No data available.

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Vapor pressure
Evaporation rate
Density and/or relative density
Relative vapor density
Particle characteristics

No data available.
No data available.
Specific Gravity: 4.14
No data available.
No data available.

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

No data available.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Exposed to light turns brown; Exposed to air turns blue-green.

Possibility of hazardous reactions

Copper chloride reacts violently with lithium nitride.

Hazardous Polymerization: Will not occur.

Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Oxidizing agents, alkali metals, potassium, acetylene, hydrazine, lithium nitride and nitromethane. Water, moisture and air.

Hazardous decomposition products

Irritating, toxic and corrosive fumes and vapours, including hydrogen chloride gas, copper fumes, chlorinated compounds, oxides of copper and chloride and chlorine gas or ionic chloride, Cl⁻. Contact with acids or acid fumes may release highly toxic hydrogen chloride fumes. Contact with metals may evolve flammable hydrogen gas.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Acute Toxicity - Oral: LD50 (rat): 140 mg/kg

Ingestion: Harmful if swallowed. Ingestion of dust causes irritation of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. Symptoms may include of burning pain in the mouth, esophagus, and stomach. Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste, and diarrhea may occur. If vomiting does not occur immediately systemic copper poisoning may occur, symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous excitation followed by depression, jaundice, convulsions, blood effects, paralysis and coma. Death may occur from shock or renal failure. Toxic effect on the liver!

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Inhalation: Inhalation of dust causes irritation to the mucous membranes of the respiratory tract (nose, throat, lungs), symptoms may include sore throat, coughing, burning of the throat, and shortness of breath. May result in ulceration and perforation of respiratory tract. When heated, this compound may give off copper fume, which can cause symptoms similar to the common cold, including chills and stuffiness of the head.

Skin corrosion/irritation

May causes skin irritation with symptoms of redness, inflammation, stinging and pain.

Serious eye damage/irritation

May causes irritation, redness, pain, discolouration and damage. May cause corneal damage, conjunctivitis, ulceration, clouding of the cornea, or blindness.

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

No data available.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Prolonged or repeated skin exposure may cause dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discolouration of the skin or hair, blood and liver damage, ulceration and perforation of the nasal septum, runny nose, metallic taste, atrophic changes and irritation of the mucous membranes, unconsciousness or death. Chronic copper poisoning is characterised by hepatic cirrhosis, brain damage and demyelination, kidney defects and copper deposition in the cornea as demonstrated via Wilson's disease.

SECTION 12: Ecological information

Toxicity

Very toxic to aquatic life with long lasting effects.

Quantitative data on the ecological effect of this product are not available.

Persistence and degradability

Methods for the determination of biodegradability are not applicable to inorganic substances.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not allow to enter waters, waste water, or soil!

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 2802

Class: 8

Packing Group: III

Proper Shipping Name: COPPER CHLORIDE

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 2802

Class: 8

Packing Group: III

EMS Number:

Proper Shipping Name: COPPER CHLORIDE

IATA

UN Number: 2802

Class: 8

Packing Group: III

Proper Shipping Name: COPPER CHLORIDE

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer

ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)