

Safety Data Sheet **COPPER (II) BROMIDE**

SDS no. X9RGWNPU • Version 1.0 • Date of issue: 2024-01-30

SECTION 1: Identification

GHS Product identifier

Product name COPPER (II) BROMIDE

Other means of identification

COPPER (II) BROMIDE LR CL247

Cupric bromide

Copper bromide

Recommended use of the chemical and restrictions on use

Photography (intensifier), organic synthesis (brominating agent), battery electrolyte, wood preservative 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
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1

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- Skin corrosion/irritation, Cat. 1B

GHS label elements, including precautionary statements

Pictograms



Signal word

Danger

Hazard statement(s)

H302

Harmful if swallowed

H314

Causes severe skin burns and eye damage

H400

Very toxic to aquatic life

H410

Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P264

Wash hands thoroughly after handling.

P270

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

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312

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

P301+P330+P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P304+P340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338

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

P310

Immediately call a POISON CENTER/doctor/physician

P363

Wash contaminated clothing before reuse.

P391

Collect spillage.

P405

Store locked up.

P501

Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 223.36

Components

Component	CAS no.	Concentration
Copper (II) bromide (EC no.: 232-167-2)	7789-45-9	<= 100 % (weight)
CLASSIFICATIONS: Hazardous to the aquatic environment, long-term (chronic), Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Acute toxicity, oral, Cat. 4; Skin corrosion/irritation, Cat. 1B. HAZARDS: H302 - Harmful if swallowed; H314 - Causes severe skin burns and eye damage; 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

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General advice	First Aid Facilities: Maintain eyewash fountain 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. Consult a physician.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

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

Use measures suitable for extinguishing surrounding fire.

Specific hazards arising from the chemical

Irritating and toxic fumes and gases, hydrogen bromide, copper fumes, oxides of the contained metal and halogen, possibly also free, ionic halogen, ie. bromine gas.

Material does not burn. Fire or heat may produce irritating, poisonous and/or corrosive gases. Containers may explode when heated.

Runoff may pollute waterways.

Special protective actions for fire-fighters

Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, clothes and eyes. Avoid ingestion and inhalation of this product.

Wear protective clothing specified for normal operations (see Section 8)

Environmental precautions

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

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.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or Handling repeated exposure. Minimize dust generation and accumulation. Keep containers closed when not in use. Work in fumehood and use only with adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Wear suitable protective clothing. Contaminated clothing should be removed and washed before re-use. Wash hands and face thoroughly after working with material. Keep container dry. Ensure a high level of personal hygiene is maintained when using this product. That is; always wash hands before eating, drinking, smoking or using the toilet.

Conditions for safe storage, including any incompatibilities

Keep containers securely sealed and protected against physical damage. Keep container tightly closed and in a cool, well-ventilated place. Keep dry and protect from direct sunlight.

SECTION 8: Exposure controls/personal protection

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

Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

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	Black powder or crystals deliquescent.
Color	No data available.
Odor	Characteristics
Odor threshold	No data available.
Melting point/freezing point	498 °C
Boiling point or initial boiling point and boiling range	900 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.

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Flash point
Explosive properties
Auto-ignition temperature
Decomposition temperature
Oxidizing properties
pH
Kinematic viscosity
Solubility

No data available.
No data available.
No data available.
No data available.
No data available.
No data available.
No data available.
Solubility in Water: Very soluble. Solubility in Organic Solvents:
Soluble in alcohol and acetone.
No data available.
No data available.
No data available.
Specific Gravity: 4.71 (25 °C)
No data available.
No data available.

Partition coefficient n-octanol/water (log value)
Vapor pressure
Evaporation rate
Density and/or relative density
Relative vapor density
Particle characteristics

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
Deliquescent.

Possibility of hazardous reactions
Hazardous Polymerization: Will not occur.

Conditions to avoid
Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials
Potassium, alkali metals, strong oxidizing agents, bases, acetylene, sodium hypobromite, nitromethane and moisture.

Hazardous decomposition products
Irritating and toxic fumes and gases, hydrogen bromide, copper fumes, oxides of the contained metal and halogen, possibly also free, ionic halogen, ie. bromine gas.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Acute Toxicity - Oral: LD50 (rat): 536 mg/kg

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Ingestion: Harmful if swallowed. Single doses of bromide or copper salts can cause burning pain in the mouth, oesophagus, and stomach. Hemorrhagic gastritis, nausea, vomiting, abdominal pain, metallic taste, and diarrhea may occur. If vomiting does not occur immediately, systemic poisoning can occur. For copper salts, symptoms may include capillary damage, headache, cold sweat, weak pulse, kidney and liver damage, central nervous system excitation followed by depression, blood effects, jaundice, paralysis and coma. Death may occur from shock or renal failure. Form bromide salts, symptoms of systemic poisoning may include drowsiness, irritability, dizziness, confusion, skin rash, blurred vision and other eye effects, mania and coma.

Inhalation: Causes burns to the respiratory tract, symptoms may include coughing, sore throat, shortness of breath, irritation and inflammation. May result in ulceration, oedemas, 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

Causes burns. May act as an irritant, producing itching eczema, redness and pain.

Serious eye damage/irritation

Causes burns. May produce conjunctivitis or even ulceration of the cornea.

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 to copper salts may cause dermatitis. Prolonged or repeated exposure to dusts of copper salts may cause discoloration of the skin or hair, hepatic cirrhosis, blood effects, demyelination, ulceration and perforation of the nasal septum, runny nose, metallic taste, atrophic changes and irritation of the mucous membranes, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has led to hemolytic anemia and accelerates arteriosclerosis. Symptoms of chronic bromide poisoning may include skin rashes, central nervous system depression, ataxia, psychoses, memory loss, appetite loss and coma.

SECTION 12: Ecological information

Toxicity

Highly toxic to aquatic life. Avoid release into the environment, may cause long-term adverse effects in the aquatic environment.

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Copper ions are toxic to bacteria, algae, protozoa and fish at concentrations below 1 mg/l.

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 discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (COPPER (II) BROMIDE)

Marine pollutant: Yes

Hazchem emergency action code (EAC)

2X

IMDG

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (COPPER (II) BROMIDE)

Marine pollutant: Yes

IATA

UN Number: 3260

Class: 8

Packing Group: III

Proper Shipping Name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (COPPER (II) BROMIDE)

Marine pollutant: Yes

SECTION 15: Regulatory information

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

Australia SUSMP

Poison Schedule: S6

Canadian Domestic Substances List (DSL)

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Chemical name: Copper bromide (CuBr₂)
CAS: 7789-45-9

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)