

Material Safety Data Sheet

COPPER (I) OXIDE

Section 1 - Product Identification

Product Name : Copper (I) Oxide
CAS No. : 1317-9-1
Synonym : Cuprous oxide
Company Identification : Tradeasia International Pte. Limited
Address :
133 Cecil Street # 12-03 Keck Seng Tower, Singapore
Tel: +65-6227 6365
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Email: contact@chemtradeasia.com

Section 2 - Composition/Information on Ingredients

Substances

Name of substance	Copper (I) Oxide
Identifiers	
CAS No	1317-9-1
Molecular formula	CuO
Molar Mass	143.09 g/mol

Section 3 - Hazardous Ingredients & Occupational Exposure Limits

3.1 Emergency Overview

OSHA Hazards

Toxic by ingestion

GHS Classification

Acute toxicity, Oral (Category 4)

Acute toxicity, Dermal (Category 5)

Eye irritation (Category 2B)

Acute aquatic toxicity (Category 1)

3.2 GHS Label elements, including precautionary statements

Pictogram



Signal word - Warning

Hazard statement(s)

H302 Harmful if swallowed.

H313 May be harmful in contact with skin.

H320 Causes eye irritation.

H400 Very toxic to aquatic life.

Precautionary statement(s)

P273 Avoid release to the environment.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

3.3 Potential Health Effects

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

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

Eyes. May cause eye irritation.

Ingestion. Toxic if swallowed.

Section 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..

Section 5 – Employee Protection

Extinguishing Media: CO₂, ABC extinguisher, or water spray.

Special Fire Fighting Procedures: Material is non-flammable. Use firefighting measures appropriate to surrounding materials.

Special Exposure Hazards: Cuprous oxide is stable in dry air, but can oxidize to cupric oxide in the presence of moist air at temperatures above 100°C.

Additional Information: Collect contaminated firefighting water separately. It must not enter the sewer system.

Personal Protective Equipment: Wear self-contained breathing apparatus.

Section 6 – Accidental Release Measures

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, 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.

Section 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 and moisture sensitive. Keep in a dry place.

Section 8 – Exposure Controls/Personal Protection (later)

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection. Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection. Handle with gloves.

Eye protection. Safety glasses

Skin and body protection. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance

Form - powder

Colour - dark red

Safety data

pH no - data available

Melting point - 1,230 °C (2,246 °F)

Boiling point - no data available

Flash point - not applicable

Ignition temperature - no data available

Lower explosion limit - no data available

Upper explosion - limit no data available

Density - 6 g/mL at 25 °C (77 °F)

Water solubility - no data available

Section 10 – Stability and Reactivity

Storage stability

Stable under recommended storage conditions.

Conditions to avoid

Air Avoid moisture.

Materials to avoid

Oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Copper oxides

Section 11 – Toxicological Information

Acute toxicity

Oral LD50 - LD50 Oral - rat - 470 mg/kg

Inhalation LC50 - LC50 Inhalation - rat - 4 h - > 50,000 mg/m³

Dermal LD50 - LD50 Dermal - rat - > 2,000 mg/kg

Other information on acute toxicity - no data available

Skin corrosion/irritation - Skin - rabbit - No skin irritation
Serious eye damage/eye irritation - Eyes - rabbit - Mild eye irritation
Respiratory or skin sensitization - no data available
Germ cell mutagenicity - no data available

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.

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

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

Reproductive toxicity

Reproductive toxicity - rat - Inhalation

Effects on Fertility: Male fertility index (e.g., # males impregnating females per # males exposed to fertile nonpregnant females).

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. May cause respiratory tract irritation.

Ingestion: Toxic if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause 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: GL8050000

Section 12 – Ecological Information

Toxicity.

Toxicity to fish. LC50 - Cyprinodon variegatus (sheepshead minnow) - > 0.17 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 0.5 mg/l - 48 h

Persistence and degradability. Data not available.

Bioaccumulative potential. Data not available.

Mobility in soil. Data not available.

Results of PBT and vPvB assessment. Data not available.

Other adverse effects. Data not available.

Section 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.

Section 14 – Transport Information

DOT Classification: : Not a dangerous good.

Identification: : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Dicopper oxide) UN: 3077 Class: 9 PG: III

Special Provisions for Transport: Not applicable.

Section 15 – Regulatory Information

1. US Federal regulations

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Copper (I) Oxide is subject to the reporting requirements of sections 313 as a chemical with Acute Health Hazard.

2. International regulations

CANADA

All components of this product are on the Canadian DSL list.

EU-Regulations

Not applicable

3. National regulations

No additional information available

4. US State regulations

California Prop 65 Warning: This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

CAS# 1308-38-9 can also be found on the following state right to know lists: New Jersey, Massachusetts, Pennsylvania.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall Tradeasia International Pte. Ltd. Be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Tradeasia International Pte. Ltd. has been advised of the possibility of such damages