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Material Safety Data Sheet

COPPER (II) OXIDE

Section 1 - Product Identification

Product Name : Copper (II) Oxide
CAS No. : 1317-38-0
Synonym : Cupric oxide; Copper monoxide.
Company Identification : Tradeasia International Pte. Limited
Address :
133 Cecil Street # 12-03 Keck Seng Tower, Singapore
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Section 2 – Composition/Information on Ingredients

Substances

Name of substance	Copper (II) Oxide
Identifiers	
CAS No	1317-38-0
Molecular formula	CuO
Molar Mass	79.545 g/mol

Section 3 – Hazardous Ingredients & Occupational Exposure Limits

Classification according to Regulation (EC) No 1272/2008

Short-term (acute) aquatic hazard (Category 1), H400
Long-term (chronic) aquatic hazard (Category 1), H410

Labelling according Regulation (EC) No 1272/2008

Pictogram 

Signal word Warning

Hazard statement(s)

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements none

Reduced Labeling (<= 125 ml)

Pictogram 

Signal word Warning

Hazard statement(s) none

Precautionary statement(s) none

Supplemental Hazard Statements none

Section 4 – First-Aid Measures

Eyes: Immediately flush eyes with excess water for 15 minutes, lifting lower and upper eyelids occasionally.
Skin: Immediately flush skin with excess water for 15 minutes while removing contaminated clothing.
Ingestion: Call Poison Control immediately. Rinse mouth with cold water. Give victim 1-2 cups of water or milk to drink. Induce vomiting immediately.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration

Section 5 – Employee Protection

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.
Flash Point: Not applicable.
Autoignition Temperature: Not applicable.
Explosion Limits, Lower:Not: available.
Upper: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 – Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

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. Normal measures for preventive fire protection.
Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place.

Section 8 – Exposure Controls/Personal Protection (later)

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Exposure guidelines: Copper (II) Oxide: OSHA PEL: 1 mg/m3 , ACGIH: TLV: Not Available, STEL: Not Available.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State: Powder
Appearance: black
Odor: odorless
pH: 7 (50g/L aq. sol.)
Vapor Pressure: Not applicable.
Vapor Density: Not available.
Evaporation Rate:Not applicable.
Viscosity: Not applicable.
Boiling Point: Not available.
Freezing/Melting Point:1326 deg C
Decomposition Temperature:Not available.
Solubility: Insoluble.
Specific Gravity/Density:Not available.
Molecular Formula:CuO
Molecular Weight:79.54

Other information

No data available.

Section 10 – Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, reducing agents, alkali metals, finely powdered metals, acetylene, azides, hydrazine derivatives.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, oxides of copper, copper fumes.
Hazardous Polymerization: Will not occur.

Section 11 – Toxicological Information

Acute toxicity

LD50 Oral - Rat - male - > 2.500 mg/kg
(OECD Test Guideline 423)
Symptoms: Possible damages:, Vomiting, Pain, Diarrhea
Symptoms: Irritation symptoms in the respiratory tract.
LD50 Dermal - Rat - male and female - > 2.000 mg/kg
(OECD Test Guideline 402)

Carcinogenicity - No data available

Reproductive toxicity - No data available
Specific target organ toxicity - single exposure - No data available
Specific target organ toxicity - repeated exposure - 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., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects - no data available
Additional Information - RTECS: GL7900000

Section 12 – Ecological Information

Toxicity
Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 25.4 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 0.011 - 0.039 mg/l - 48 h

Persistence and degradability: The methods for determining the biological degradability are not applicable to inorganic substances.
Bioaccumulative potential: no data available
Mobility in soil: no data available
PBT and vPvB assessment: no data available
Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

Section 13 – Disposal Considerations

Product
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. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

Section 14 – Transport Information

DOTS

Not a dangerous good.

IMDG

UN number: 3077

Class: 9

Packing group: III

EMS-No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper oxide)

Marine pollutant: Marine pollutant

IATA

UN number: 3077

Class: 9

Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Copper oxide)

Further Information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

Section 15 – Regulatory Information

1. US Federal regulations

CAS# 1317-38-0 is listed on the TSCA inventory.

Subject to reporting levels established by SARA Title III, Section 313: This material contains Copper(II) oxide (listed as Copper compounds, n.o.s.), 97.5+%, (CAS# 1317-38-0) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

2. International regulations

CANADA

Canada - DSL/NDSL

CAS# 1317-38-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D2B.

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

Canadian Ingredient Disclosure List

CAS# 1317-38-0 (listed as Copper compounds, n.o.s.) is listed on the Canadian Ingredient Disclosure List.

EU-Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN N

Risk Phrases:

R 22 Harmful if swallowed.

R 50 Very toxic to aquatic organisms.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 29 Do not empty into drains.
S 61 Avoid release to the environment. Refer to special instructions
/safety data sheets.

3. National regulations

No additional information available

4. US State regulations

CAS# 1317-38-0 can be found on the following state right to know lists: California, (listed as Copper compounds, n.o.s.), New Jersey, (listed as Copper compounds, n.o.s.), Pennsylvania, (listed as Copper compounds, n.o.s.).

Section 16 - Additional Information

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product