



Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300
Poison Center: (800) 562-8236
Revision Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Copper (I) oxide

Formula: Cu₂O

SECTION I - GENERAL INFORMATION

Manufacturer: Super Conductor Materials, Inc.

The information below is believed to be accurate and represents the best information available to Super Conductor Materials, Inc. However, SCM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 143.08

CAS #	OSHA PEL	ACGIH TLV	%
1317-39-1	1.0mg/m ³	1.0mg/m ³	0.0-100.0%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1800.00°C

Vapor Pressure (vs. air or mmHg): N/A

Melting Point: 1235.00°C

Density: 6.0 g/cm³

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Appearance and odor: Purple to dark red powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Unknown

Explosive Limits: LEL: N/A

UEL: N/A

Extinguishing Media: Use suitable extinguishing agent for surrounding material and type of fire

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards:

At 1800C, copper oxide loses oxygen. It may have a violent reaction when heated with aluminum, and a potentially explosive reaction when in contact with concentrated peroxyformic acid. Also, if this product is involved in a fire, metal oxide fume can be released.



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SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Aluminum, concentrated peroxyformic acid, air, oxidizing agents, water and moisture.

Hazardous Decomposition or Byproducts: Oxygen and metal oxide fume

Hazardous Polymerization: Will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Route of entry: Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: No

Copper compounds: In animals, inhalation of copper dust has caused hemolysis of the red blood cells, deposition of hemofuscin in the liver and pancreas, and injury to the lung cells; injection of the dust has caused cirrhosis of the liver and pancreas, and a condition closely resembling hemochromatosis or bronzed diabetes. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Signs and Symptoms of Overexposure:

Inhalation: May cause a red, dry throat, metallic taste in mouth, congestion of the nasal and pharyngeal, sneezing, headache, excitability, dizziness and difficulty breathing.

Ingestion: Acute copper toxicity may cause: fever, tachycardia, and hypotension, hemolytic anemia with intravascular hemolysis, oliguria, uremia, coma and cardiovascular collapse. Chronic copper toxicity may cause: nausea, vomiting, epigastric pain, yellow watery diarrhea, dizziness, general debility, jaundice, and green stools, saliva and vomitus.

Skin: May cause redness, itching and swelling.

Eye: May cause redness, itching, burning and watering.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause a metallic taste in the mouth, congestion of the nasal mucous membranes, irritation to the respiratory tract.

Chronic: May cause ulceration and perforation of the nasal septum and pharyngeal congestion.

Ingestion:

Acute: Moderately toxic by ingestion. May cause acute copper toxicity.

Chronic: May cause irritation to the gastrointestinal tract and chronic copper toxicity. May cause damage to the nervous system, kidneys and enlarge the liver.

Skin:

Acute: May cause irritation.

Chronic: May cause dermatitis.

Eye:

Acute: May cause irritation to the conjunctivae.

Chronic: No chronic health effects recorded.

Target Organ: May affect the respiratory system, skin, liver central nervous system, and kidneys.

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: Pre-existing respiratory, gastric disorders and an increased risk for individuals with Wilson's disease



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Emergency and First Aid Procedures:

- Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention
- Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person
- Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist
- Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste disposal method:

Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area in a tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent skin contact.

- Ventilation:* Local Exhaust: To maintain concentration at low exposure levels.
Mechanical (General): Recommended.

Work/Hygienic/Maintenance Practices:

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established