



# Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300

Poison Center: (800) 562-8236

Revision Date: January 8<sup>th</sup>, 2019

## SAFETY DATA SHEET

Identity: Copper Phosphide

Formula: Cu<sub>3</sub>P

### 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: 221.59

CAS #	OSHA PEL	ACGIH TLV	%
12019-57-7	1 mg/m <sup>3</sup>	1 mg/m <sup>3</sup>	0.0 – 100.0%

### SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

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

Melting Point: N/A

Specific Gravity: 6.4 – 6.8 gm/cc

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

*Appearance and odor:* Gray-black 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:*

When heated to decomposition, copper phosphide may emit toxic fumes of Pox.



SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (instability):* None

*Incompatibility:* Not recorded

*Hazardous Decomposition or Byproducts:* Oxides of phosphorus

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

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

To the best of our knowledge the chemical, physical and toxicological properties of copper phosphide have not been thoroughly investigated and recorded.

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.

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, 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: Poison by intraperitoneal route. 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.



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*Eye:*

Acute: May cause irritation to the conjunctiva.

Chronic: No chronic health effects recorded.

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

*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 and in 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 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