

Material Safety Data Sheet

Identity: Copper sulfide

Formula: Cu₂S

SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM 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: 159.15

CAS #	OSHA PEL	ACGIH TLV	%
1317-40-4	1 mg/m ³	1 mg/m ³	0-100

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

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

Melting Point: 1100.0 °C

Density: N/A

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Insoluble

Specific gravity (water = 1): 5.6 g/cc

Appearance and odor: Bluish grey powder and pieces, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Method Used: Non-flammable*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 sulfide may emit toxic oxides of sulfur and copper. When heated in the absence of air, it may form copper and copper sulfide (CuS)

SECTION V - REACTIVITY DATA

Stability: Stable
Conditions to Avoid (stability): None
Incompatibility: N/A

Hazardous Decomposition or Byproducts: Oxides of sulfur and copper
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

Signs and Symptoms of Overexposure:

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

Ingestion: May cause fever, hypotension, oliguria, uremia, coma and cardiovascular collapse. May also cause nausea, vomiting, epigastric pain, yellow watery diarrhea, dizziness, and/or jaundice.

Skin: May cause redness, itching and swelling

Eye: May cause redness, itching, burning and watering

Health Hazards (Acute and Chronic):

Inhalation:

Acute: May cause metallic taste, congestion of nasal mucous membranes, and irritation to 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: Irritation to the gastrointestinal tract and damage to nervous system, kidneys and enlargement of liver

Skin:

Acute: May cause irritation

Chronic: may cause dermatitis

Eye:

Acute: May cause irritation to the conjunctivae

Chronic: None recorded

Target Organs: May affect 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 and gastric disorders and increased risk for individuals with Wilson's disease

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 rubber 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