



Super Conductor Materials, Inc.

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Chemtrec: (800) 424-9300

Poison Center: (800) 562-8236

Revisions Date: January 8th, 2019

SAFETY DATA SHEET

Identity: Silicon Sulfide

Formula: SiS₂

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: 92.21

CAS #	OSHA PEL	ACGIH TLV	%
13759-10-9	N/A	N/A	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: 1090.00 C (1994.0 F)

Density: 2.02 g/cm³

Evaporation Rate: N/A

Flash Point: N/A

Solubility in water: Decomposes, with evolution to H₂S

Appearance and odor: White-grey clumps and pieces, hydrogen sulfide 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. DO NOT USE WATER.

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, silicon sulfide may emit toxic fumes of SO_x. SO₂ and H₂S gas will be evolved under fire conditions.

-Contact with moisture or water may liberate hydrogen sulfide which may form explosive



mixtures with air.

-Flammable when exposed to flame or by spontaneous chemical reaction.

-Many sulfide ignite easily in air at room temperature; others require a higher temperature or presence of an oxidizer.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (instability): Water and moisture

Incompatibility: Strong oxidizers

Hazardous Decomposition or Byproducts: Silicon and sulfur oxides, hydrogen sulfide

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 silicon sulfide have not been thoroughly investigated and recorded.

Inorganic silicon compounds may be acute inhaled irritants. Prolonged inhalation may cause pulmonary fibrosis, known as silicosis.

Sulfides have variable toxicity. The alkalies sulfides are similar in action to alkalies. They cause irritation of the skin and are corrosive by ingestion. Sulfides of the heavy metals are generally insoluble and hence have little toxic action except through the liberation of hydrogen sulfide. Hydrogen sulfide, if generated, is toxic, a severe irritant and flammable. It is a human poison by inhalation. A severe irritant to the eyes and mucous membranes. An asphyxiant. The irritant action has been explained on the basis that hydrogen sulfide combines with the alkali present in moist surface tissues to form sodium sulfide, a caustic. Hydrogen sulfide does not combine with the hemoglobin of the blood; its asphyxiation is due to paralysis of the respiratory center. It is an insidious poison since sense of smell may be fatigued. The odor and irritating effects do not offer a dependable warning to workers who may be exposed to gradually increasing amounts and therefore become used to it. Effects include conjunctivitis, headache, nausea, dizziness, coughing, pulmonary edema and possible death.

Signs and Symptoms of Overexposure:

Inhalation: May cause throat dryness, coughing and burning sensation.

Ingestion: May cause nausea and vomiting.

Skin: May cause redness, itching, inflammation and chemical burns.

Eye: May cause redness, itching, inflammation, watering and chemical burns.

Health Hazards (Acute and Chronic):

Inhalation:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause irritation to the nose, throat, and mucous membranes.

Chronic: Prolonged or repeated exposure may cause pneumoconiosis, coma and pulmonary edema.



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Ingestion:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause gastrointestinal irritation.

Chronic: No chronic health effects recorded.

Skin:

Acute: SEVERE IRRITANT AND CORROSIVE. May cause irritation to moist skin due to the liberation of hydrogen sulfide.

Chronic: No chronic health effects recorded.

Eye:

Acute: SEVERE IRRITANT AND CORROSIVE.

Chronic: No chronic health effects recorded.

Target Organs: May affect the eyes, skin and respiratory system.

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

Medical Conditions Aggravated by Exposure: Pre-existing respiratory disorders.

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.

Precautions: Silicon sulfide decomposes to hydrogen sulfide in moist air. Handle and store in a controlled environment and in an inert gas such as argon.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

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



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Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Special: Handle in an enclosed, controlled environment

Mechanical (General): Recommended.

Others: Handle in an inert gas such as argon

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
