

Material Safety Data Sheet

Identity: Silicon Monoxide

Formula: SiO

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 - PRODUCT INFORMATION/HAZARDOUS INGREDIENTS

Molecular weight: 44.08

<u>CAS #</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>%</u>
10097-28-6	N/A	N/A	0.0-100.0%

SECTION III - PHYSICAL/ CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 1880.0 °C

Specific Gravity (H₂O=1): 2.13

Melting Point: 1702.00 °C

Vapor Pressure: N/A

Evaporation Rate: N/A

Vapor Density: N/A

Solubility in water: Insoluble

Percent Volatile: N/A

Appearance and odor: Black powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION DATA

Flash Point: N/A

Method Used: Non-flammable

Explosive Limits: LEL: N/A UEL: N/A

Extinguishing Media:

Use suitable extinguishing media for surrounding materials 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:

Silicon monoxide may emit toxic fumes if involved in fire. May be flammable and possibly pyrophoric on contact with air and extremely elevated temperatures.

SECTION V - REACTIVITY DATA

Stability: Stable

Conditions to Avoid (stability): None

Incompatibility: Strong acids and bases

Hazardous Decomposition or Byproducts: Silicon dioxide

Hazardous Polymerization: will not occur

Conditions to avoid (hazardous polymerization): None

SECTION VI - HEALTH HAZARD DATA

Routes of entry:

Inhalation?	Yes
Skin?	No
Eyes?	No
Ingestion?	No
Other?	No

Signs and Symptoms of Exposure:

Inhalation: Coughing, shortness in breath, wheezing, and cyanosis

Ingestion: No acute or chronic health effects recorded

Skin: May cause redness

Eye: May cause redness, itching and watering

Health Hazards (Acute and Chronic):

To the best of our knowledge, the chemical, physical and toxicological properties of silicon monoxide have not been thoroughly investigated and recorded

Inhalation:

Acute: May cause irritation to the respiratory system

Chronic: May cause pneumoconiosis, pulmonary fibrosis and silicosis

Ingestion:

Acute: No acute effects recorded

Chronic: No chronic effects recorded

Skin:

Acute: May cause abrasive irritation

Chronic: No chronic health effects recorded

Eye:

Acute: May cause abrasive irritation

Chronic: No chronic health effects recorded

Target Organs: May affect respiratory system

Carcinogenicity: NTP? No

IARC Monographs? No

OSHA? Yes

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: No acute or chronic health effects have been recorded by ingestion. Seek medical attention

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 skin contact

Respiratory Protection (Specify Type): NIOSH approved dust respirator.

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 and smoking. Do not blow dust off clothing or skin with compressed air.