

MATERIAL SAFETY DATA SHEET**I PRODUCT IDENTIFICATION**

Trade Name: Silicon Oxide **Chemical Family:** Metal oxide
Formula: SiO₂ **CAS #:** 7631-86-9
Synonyms: Fused quartz, fused silica, silica, quartz glass, quartz sand, vitreous quartz, silicon dioxide

II HAZARDOUS INGREDIENTS

Hazardous Component	%	OSHA/PEL	ACGIH/TLV	Sec. 302	Sec. 304	Sec. 313
Silicon Dioxide	0-100	10 mg/m ³ /% respirable SiO ₂ ⁺²	.1 mg/m ³ res	No	No	No

HMIS Ratings (0-4): Health: 1 **Flammability:** 0 **Reactivity:** 0 **HMIS Protective Equip:** E: glasses, gloves, dust resp.

III PHYSICAL DATA

Boiling Point:	2230 °C	Melting Point:	N/E or N/A
Vapor Density:	N/E or N/A	Vapor Pressure:	N/E or N/A
% Volatiles:	N/E or N/A	Solubility in H₂O:	Insoluble
Appearance and Odor:	White to clear pieces or powder, no odor.	Specific Gravity (H₂O=1):	2.65

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/E or N/A **Method Used:** Non-flammable
Flammable Limits: Lower: N/A **Upper:** 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 & Explosion Hazard: None recorded.

V HEALTH HAZARD INFORMATION

Effects of Exposure: Silica is the chief cause of pulmonary dust disease. The prolonged inhalation of dusts containing free silica may result in the development of a disabling, pulmonary fibrosis known as silicosis. The action of crystalline silica on the lungs results in the production of a diffuse, nodular fibrosis in which the parenchyma and the lymphatic systems are involved. This fibrosis is, to a certain extent, progressive, and may continue to increase for several years after exposure is terminated. The first and most common symptoms is shortness of breath. Further progress of the disease results in marked fatigue, extreme dyspnea and cyanosis, loss of appetite, pleuritic pain and total incapacity to work. If tuberculosis does not supervene, the condition may eventually cause death either from cardiac failure or from destruction of lung tissue, with resultant anoxemia.

Acute Effects:

Inhalation: Toxic by inhalation. May cause coughing, dyspnea and wheezing.
Ingestion: No acute health effects recorded.
Skin: May cause abrasive irritation.
Eye: May cause abrasive irritation.
Chronic Effects:

Inhalation: May cause pneumoconiosis, pulmonary fibrosis and silicosis.

Other: No other chronic health effects recorded.

Routes of Entry: Inhalation.

Target Organs: May affect the respiratory system.

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

Carcinogenicity: NTP: No IARC: No OSHA: Yes

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove victim to fresh air, keep warm and quiet, give oxygen if breathing is difficult and seek medical attention if symptoms persist.

INGESTION:

EYES: Symptoms are redness, pain. Irrigate with plenty of water. Seek medical attention.

SKIN: Wash off contamination with soap and water.

VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: N/A

Incompatibility (Material to Avoid): Heating with powdered magnesium may cause explosion.

Hazardous Decomposition Products: N/A

Hazardous Polymerization: Will not occur

VII SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled: Sweep up and transfer to a sealed container.

Waste Disposal Method: Dispose of in accordance with applicable federal, state and local regulations.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: Dust respirator if TLV is exceeded.

Ventilation: Local exhaust

Protective Gloves: Rubber

Eye Protection: Safety Glasses

Other Protective Equipment: N/A

IX SPECIAL PRECAUTIONS

Other Handling and Storage Conditions: Store in airtight containers in a dry place.

Precautions to Be Taken in Handling and Storing: Avoid contact with eyes and inhalation of dust.

The above information is believed to be correct, but does not purport to be all inclusive and shall only be used as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product.

Issued by: S. Dierks

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