

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

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

II HAZARDOUS INGREDIENTS

<u>Hazardous Components</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Silicon Dioxide	0-100	10 mg/m ³ /% respirable SiO ₂ ⁺²	.1 mg/m ³ res

HMIS Ratings (0-4): Health: 1 Flammability: 0 Reactivity: 0
HMIS Protective Equipment: E: glasses, gloves, dust respirator.

Sec. 302	Sec. 304	Sec. 313
No	No	No

III PHYSICAL DATA

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

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/E or N/A **Method Used:** Non-flammable
Explosive 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 and Explosion Hazards: 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 symptom 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 Contact: May cause abrasive irritation.

Eye Contact: May cause abrasive irritation.

Chronic Effects:

Inhalation: May cause pneumoconiosis, pulmonary fibrosis and silicosis.

Other: No other chronic health effects recorded.

Target Organs: May affect the respiratory system.

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

Carcinogenicity: NTP: No IARC: No OSHA: Yes

Routes of Entry: Inhalation.

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: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention if symptoms persist. 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, seek medical attention if symptoms persist.

EYE: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Material to Avoid): Strong oxidizing agents, fluorine, oxygen difluoride, chlorine trifluoride and manganese trioxide.

Hazardous Decomposition Products: On contact with hydrofluoric acid, silicon dioxide may emit silicon tetrafluoride.

Hazardous Polymerization: Will not occur

VII SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Wear appropriate respiratory and protective equipment specified in Section VIII. Isolate spill area and provide ventilation. 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 Local, State and Federal Waste Disposal Regulations.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH/MSHA approved respirator.

Ventilation Requirements: Use local exhaust to control any air contaminants to within their PELs or TLVs during the use of this product. Good general ventilation is recommended.

Protective Gloves: Butyl or chlorinated polyethylene

Eye Protection: Safety glasses

Other Protective Clothing or Equipment: Protective gear suitable to prevent contamination.

IX SPECIAL PRECAUTIONS

Precautions to be Taken in Handling and Storage: Store in a cool, dry area. Store in a tightly sealed container. Wash thoroughly after handling.

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.

Prepared by: S. Dierks

Dated: May 1997