



MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Quartz

IDENTITY: Quartz, Silicon Dioxide

SYNONYMS: Sand, Silica Sand, Quartz, Crystalline Silica, Flint, Ground Silica.

MOLECULAR FORMULA: SiO₂

SECTION 1 – PHYSICAL/CHEMICAL CHARACTERISTICS

APPEARANCE: White or tan sand; granular, crushed, or ground.

BOILING POINT: 4046°F/2230°C Odor: None

VAPOR PRESSURE (mm Hg.): None Specific Gravity (Water = 1): 2.65

VAPOR DENSITY (Air = 1): None Melting Point: 3110°F/1710°C

SOLUBILITY IN WATER: Insoluble in water Evaporation Rate (Butyl Acetate = 1): None

SECTION 2 – FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: None

LOWER EXPLOSIVE LIMIT: None

AUTO IGNITION TEMPERATURE: Not combustible

UPPER EXPLOSIVE LIMIT: None

FLAMMABLE LIMITS: N/A

SPECIAL FIRE FIGHTING PROCEDURES: None

EXTINGUISHING MEDIA: Not Combustible

UNUSUAL FIRE AND EXPLOSION HAZARDS: None

HAZARDOUS COMBUSTION PRODUCTS: None

SECTION 3 – REACTIVITY DATA

STABILITY: Crystalline silica (quartz) is stable.

INCOMPATIBILITY (MATERIALS TO AVOID): Contact with powerful oxidizing agents, such as fluorine, chlorine trifluoride and oxygen difluoride, may cause fires.

HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Silica will dissolve in hydrofluoric acid and produce a corrosive gas - silicon tetrafluoride.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 4 – HEALTH HAZARD DATA

POTENTIAL HEALTH EFFECTS: Potential health effects may vary depending upon the duration and degree of exposure. To reduce or eliminate health hazards associated with this product, use exposure controls or personal protection methods..

EYE CONTACT: (Acute/Chronic) Exposure to airborne dust may cause immediate or delayed irritation or inflammation of the cornea.

INHALATION: (Chronic) Inhalation exposure to free silica may cause delayed lung injury, including silicosis, a disabling and potentially fatal lung disease, and/or cause or aggravate other lung diseases or conditions.

CARCINOGENIC POTENTIAL: This product contains free silica, which IARC classifies as a known human carcinogen. The NTP, in its ninth Annual Report on Carcinogens, classified “silica, crystalline (respirable)” as a known carcinogen.

SECTION 5 – FIRST AID PROCEDURES

INHALATION: No specific first-aid is necessary since the adverse health effects associated with exposure to crystalline silica (quartz) result from chronic exposures. If there is a gross inhalation of crystalline silica (quartz), remove the person immediately to fresh air, give artificial respiration as needed, seek medical attention as needed.

EYE CONTACT: Wash immediately with water. If irritation persists, seek medical attention.

SKIN CONTACT: Not applicable.

INGESTION: Not applicable

SECTION 6 – COMPOSITION/INFORMATION ON INGREDIENTS

Typical chemical composition:

	Chemical Formula	Typical %, by Weight	CAS #
Crystalline Silica (Quartz)	SiO ₂	99.0 – 99.9	14808-60-7
Aluminum Oxide	Al ₂ O ₃	< 0.8	1344-28-1
Iron Oxide	Fe ₂ O ₃	< 0.1	1309-37-1
Titanium Oxide	TiO ₂	< 0.1	13463-67-7

SECTION 7 – TOXICOLOGICAL INFORMATION

Conditions aggravated by exposure: Eye disease, Skin disorders and Chronic Respiratory conditions.