


EXHIBIT 4

- International Programme on Chemical Safety (INCHEM), Crystalline
Silica, Quartz,
CAS# 14808-60-7 & 1317-79-9, ICSC: 0808

QUARTZ ICSC: 0808
 Crystalline silica, quartz November 2016
 Crystalline silicon dioxide, quartz
 Silicic anhydride
CAS #: 14808-60-7; 1317-79-9
EC Number: 238-878-4

	ACUTE HAZARDS	PREVENTION	FIRE FIGHTING
FIRE & EXPLOSION	Not combustible.		In case of fire in the surroundings, use appropriate extinguishing media.

PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!			
	SYMPTOMS	PREVENTION	FIRST AID
Inhalation	Cough.	Avoid inhalation of dust. Use local exhaust or breathing protection.	Fresh air, rest.
Skin	Redness.	Protective gloves. Protective clothing.	Rinse and then wash skin with water and soap.
Eyes	Redness. Pain.	Wear safety goggles or eye protection in combination with breathing protection.	Rinse with plenty of water (remove contact lenses if easily possible).
Ingestion	No acute symptoms expected.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth.

SPILLAGE DISPOSAL	CLASSIFICATION & LABELLING
Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.	<p>According to UN GHS Criteria</p>  <p>DANGER</p> <p>May cause cancer if inhaled Causes damage to the lungs, the immune system and the kidneys through prolonged or repeated exposure if inhaled</p> <p>Transportation UN Classification</p>
STORAGE	
Separated from strong oxidizers.	
PACKAGING	

QUARTZ

PHYSICAL & CHEMICAL INFORMATION

Physical State; Appearance
COLOURLESS WHITE CRYSTALS.

Physical dangers
No data.

Chemical dangers
Reacts violently with strong oxidants. This generates fire and explosion hazard.

Formula: SiO₂
Molecular mass: 60.1
Boiling point: 2230°C
Melting point: 1610°C
Density: 2.6 g/m³
Solubility in water: none

EXPOSURE & HEALTH EFFECTS

Routes of exposure
Exposure mainly occurs via inhalation.

Effects of short-term exposure
May cause mechanical irritation to the eyes, respiratory tract and skin.

Inhalation risk
A harmful concentration of airborne particles can be reached quickly when dispersed.

Effects of long-term or repeated exposure
The substance may have effects on the lungs. This may result in silicosis. May cause autoimmune diseases. The substance may have effects on the kidneys. This substance is carcinogenic to humans.

OCCUPATIONAL EXPOSURE LIMITS

TLV: (respirable fraction): 0.025 mg/m³, as TWA; A2 (suspected human carcinogen).
MAK: carcinogen category: 1

ENVIRONMENT

NOTES

Depending on the degree of exposure, periodic medical examination is suggested.
Do NOT take working clothes home.

ADDITIONAL INFORMATION

EC Classification

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See Also:
Toxicological Abbreviations



Your Query "14808-60-7" matched 2 documents out of 8787.
2 documents displayed.

1.0000 ICSC 0808 - QUARTZ

10-09-18, <http://www.inchem.org/documents/icsc/icsc/eics0808.htm>

Summary: ACUTE HAZARDS PREVENTION FIRE FIGHTING FIRE & EXPLOSION Not combustible. Routes of exposure Exposure mainly occurs via inhalation. Effects of long-term or repeated exposure The substance may have effects on the lungs.

1.0000 CRYSTALLINE SILICA, QUARTZ

10-09-18, <http://www.inchem.org/documents/cicads/cicads/cicad24.htm>

Summary: Silicosis, lung cancer, and pulmonary tuberculosis are associated with occupational exposure to quartz dust. Uncertainties exist in the evaluation of epidemiological studies and the risk assessment of health effects related to quartz dust exposure. That is, the prevalence of radiographic silicosis increased with average silica dust exposure, cumulative quartz exposure, duration of employment, or all of these measures.

**International Programme
on Chemical Safety (IPCS)**



**World Health
Organization**

in partnership with



IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS

A cooperative agreement among FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, World Bank and OECD