

Material Safety Data Sheet (MSDS)

Quartz (Crystalline Silica)

Chemical Name: Silicon Dioxide / Crystalline Silica (SiO₂) | CAS No. 14808-60-7

1. Identification of the Substance and Supplier

Product Name	Quartz (Crystalline Silica)
Chemical Formula	SiO ₂
CAS No.	14808-60-7
Synonyms	Quartz, silica, silicon dioxide, silica sand, quartz powder
Product Use	Ferro-alloys, glass, foundry, solar/electronics, refractories, chemicals
Supplier	Ochnology Solution Pvt. Ltd., B-153, Sector-4 Defence Colony, Dehradun, Uttarakhand, India – 248001
Contact	projects@ochnology.com +91 9286823642/43

2. Hazards Identification

GHS Classification: STOT RE Cat. 1 (lungs, via inhalation of respirable dust). Inhaled crystalline silica is an IARC Group 1 carcinogen. Signal word: DANGER.

- May cause damage to lungs through prolonged or repeated inhalation of respirable dust (H372)
- Inhaled crystalline silica is classified as carcinogenic to humans (IARC Group 1)
- Repeated inhalation of respirable dust can cause silicosis (a serious lung disease)
- Dust may cause mechanical irritation to eyes and respiratory tract

3. Composition / Information on Ingredients

Component	CAS No.	Concentration
Crystalline Silica (Quartz, SiO ₂)	14808-60-7	>95%
Other oxides (Fe ₂ O ₃ , Al ₂ O ₃ , etc.)	Various	Balance

4. First-Aid Measures

Inhalation: Move to fresh air. Seek medical attention if respiratory irritation or breathing difficulty persists.

Skin Contact: Wash with soap and water. Dust may cause mild mechanical abrasion.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present. Seek medical attention if irritation persists.

Ingestion: Rinse mouth with water. Seek medical attention if discomfort occurs.

5. Fire-Fighting Measures

- Non-combustible material; does not present a fire or explosion hazard
- Use extinguishing media appropriate to the surrounding fire
- No special protective equipment required for the material itself
- Firefighters should wear standard protective gear for the surrounding fire

6. Accidental Release Measures

- Avoid generating airborne dust during clean-up
- Collect using wet methods or vacuum with HEPA filtration where possible
- Wear appropriate PPE (respirator, goggles, gloves) during clean-up
- Place collected material in suitable labelled containers for reuse or disposal

7. Handling and Storage

- Minimise dust generation; use wet methods or local exhaust ventilation
- Avoid inhalation of dust – respirable crystalline silica is hazardous
- Use appropriate respiratory protection where dust limits may be exceeded
- Store in a dry, covered area; keep away from contaminants

8. Exposure Controls / Personal Protection

- Respirable crystalline silica OEL: 0.05 mg/m³ (8-hr TWA) – typical reference value; confirm local limit
- Provide effective local exhaust ventilation and use wet dust-suppression methods
- Respiratory protection: N95 / P2 or higher respirator suitable for respirable silica
- Eye protection: safety goggles; Hand protection: gloves; wear suitable work clothing

9. Physical and Chemical Properties

Property	Value
Appearance	White / colourless to grey crystalline solid, granules

	or powder
Odour	Odourless
pH	Approx. 7 (neutral; insoluble)
Melting Point	Approx. 1,710°C
Solubility in Water	Insoluble
Hardness (Mohs)	7
Bulk Density	Approx. 1.4 – 1.6 g/cm ³ (form dependent)

10. Stability and Reactivity

- Stable under normal conditions of storage and use
- Non-reactive; very high melting point
- Incompatible with hydrofluoric acid and strong fluorinating agents
- No hazardous polymerization occurs

11. Toxicological Information

- Low acute toxicity by ingestion or skin contact
- Repeated/prolonged inhalation of respirable crystalline silica dust can cause silicosis
- Crystalline silica (inhaled) is classified by IARC as Group 1 (carcinogenic to humans)
- Dust may cause mechanical irritation to eyes and respiratory tract

12. Ecological Information

- Not classified as hazardous to the aquatic environment
- Naturally occurring inert mineral; no significant bioaccumulation
- No significant ecological effects expected under normal use
- Avoid release of large quantities of dust into the environment

13. Disposal Considerations

- Dispose of in accordance with local, state, and national regulations
- Inert material; may be disposed of as non-hazardous solid waste where permitted
- Preferably reuse or recycle; avoid dust release during disposal

14. Transport Information

UN Number	Not regulated
Proper Shipping Name	Not classified as dangerous goods
Hazard Class	Not applicable
Packing Group	Not applicable
Remarks	Not regulated for transport by road, rail, sea, or air

15. Regulatory Information

- Not classified as a physical or environmental hazard under GHS
- Respirable crystalline silica subject to occupational exposure regulations (carcinogen via inhalation)
- Listed on major chemical inventories as silica / quartz (CAS 14808-60-7)

16. Other Information

This MSDS has been prepared in accordance with the GHS 16-section format. The principal health concern is inhalation of respirable crystalline silica dust; appropriate dust controls and respiratory protection must be used. Information relates to the specific material designated.

Disclaimer: The information in this MSDS is provided in good faith and is based on current knowledge. It is intended as a guide for safe handling, use, storage, and disposal, and is not a warranty of quality. Ochnology Solution Pvt. Ltd. accepts no liability for loss or damage arising from its use. Users are responsible for ensuring suitability and safety for their own conditions of use.