

## MATERIAL SAFETY DATA SHEET (MSDS)

**Product Name:** Silica Sand, Granules, Powder, Lumps

### SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**Chemical Name:** Quartz (SiO<sub>2</sub>)

**CAS Number:** 14808-60-7

**Company Name:** COREJEM EXPORTS LLP.

**Product:** Silica - Sand, Granules, Powder, Lumps

### SECTION 2: HAZARDS IDENTIFICATION

#### GHS Classification:

- Carcinogenicity (Category 1A)
- Specific Target Organ Toxicity - Repeated Exposure (Category 1, Lungs)

#### Label Elements:

- **Signal Word:**  
Danger **Hazard**
- **Statements:**  
H350: May cause cancer (inhalation).  
H372: Causes damage to organs (lungs) through prolonged or repeated exposure (inhalation).

#### Precautionary Statements:

- P201: Obtain special instructions before use.
- P260: Do not breathe dust.
- P270: Do not eat, drink, or smoke when using this product.
- P280: Wear protective gloves, clothing, eye protection, and face protection.
- P501: Dispose of contents/container in accordance with local regulations.

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

- **Chemical Name:** Quartz (Silica, Crystalline)  
**CAS Number:** 14808-60-7
- **Composition:** 95-100% Silica (SiO<sub>2</sub>)

### SECTION 4: FIRST AID MEASURES

- **Inhalation:** Move to fresh air. If breathing is difficult, seek medical attention.
- **Skin Contact:** Wash with soap and water. Seek medical advice if irritation occurs.
- **Eye Contact:** Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
- **Ingestion:** Rinse mouth and drink plenty of water. Seek medical attention if symptoms occur.

## SECTION 5: FIRE-FIGHTING MEASURES

- **Flammability:** Non-flammable
- **Extinguishing Media:** Use any standard fire-fighting medium.
- **Fire Fighting Instructions:** Wear self-contained breathing apparatus if necessary.
- **Hazardous Decomposition Products:** None under normal conditions.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

- **Personal Precautions:** Avoid generating dust. Use personal protective equipment.
- **Environmental Precautions:** Avoid contamination of water sources.
- **Cleanup Methods:** Use vacuuming or wet sweeping to minimize dust exposure. Dispose of material per local regulations.

## SECTION 7: HANDLING AND STORAGE

- **Handling:** Avoid inhalation of dust. Use local exhaust ventilation.
- **Storage:** Store in a dry, well-ventilated area. Keep containers closed when not in use.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- **Occupational Exposure Limits (OELs):**  
OSHA PEL: 50 µg/m<sup>3</sup> (respirable crystalline silica)  
ACGIH TLV: 25 µg/m<sup>3</sup> (respirable fraction)
- **Engineering Controls:** Use local exhaust ventilation or dust collection systems.
- **Personal Protective Equipment (PPE):**
  - **Respiratory Protection:** NIOSH-approved respirators when exposure exceeds limits.
  - **Eye Protection:** Safety goggles or face shield.
  - **Skin Protection:** Protective gloves and clothing.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:** White or tan granular solid **Odor:** Odorless
- **pH:** 6.5 - 7.5
- **Boiling Point:** Not applicable
- **Melting Point:** 1710°C (3110°F)
- **Flash Point:** Not applicable
- **Solubility in Water:** Insoluble
- **Density:** 2.65 g/cm<sup>3</sup>

## SECTION 10: STABILITY AND REACTIVITY

**Reactivity:** Stable under normal conditions.

**Chemical Stability:** Stable under normal temperatures and pressures.

**Incompatible Materials:** Hydrofluoric acid.

**Hazardous Decomposition Products:** None under normal conditions.

## SECTION 11: TOXICOLOGICAL INFORMATION

- **Routes of Exposure:** Inhalation, skin, and eye contact
- **Acute Toxicity:** Not acutely toxic
- **Chronic Effects:** Prolonged inhalation may cause silicosis, lung damage, or lung cancer.
- **Carcinogenicity:**

IARC: Group 1 (Carcinogenic to humans)

NTP: Known human carcinogen

## SECTION 12: ECOLOGICAL INFORMATION

- **Environmental Effects:** Non-toxic to aquatic and terrestrial organisms.
- **Persistence and Degradability:** Non-degradable.
- **Bioaccumulate Potential:** Does not bioaccumulate.

## SECTION 13: DISPOSAL CONSIDERATIONS

- **Waste Disposal Methods:** Dispose of in accordance with local, regional, and national regulations.
- **Packaging Disposal:** Follow applicable regulations for container disposal.

## SECTION 14: TRANSPORT INFORMATION

- **DOT Classification:** Not regulated
- **UN Number:** Not applicable
- **Hazard Class:** Not applicable
- **Packing Group:** Not applicable

## SECTION 15: REGULATORY INFORMATION

- **OSHA:** Regulated under respirable crystalline silica standards.
- **TSCA:** Listed on the TSCA inventory.
- **CERCLA:** Not listed as a hazardous substance.
- **SARA Title III:** Not listed.

The exposure limits are time-weighted average concentrations for an eight-hour workday and a 40-hour work week.

Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870°C, it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470°C, it can change to a form of crystalline known as cristobalite. The

OSHA PEL for crystalline silica as tridymite and cristobalite is one-half of the OSHA PEL for crystalline silica (quartz).

**Emergency Overview:** The crystalline silica produced by The Parry Company material is a white or tan, and is primarily used as water filter media. It is not flammable, combustible, or explosive. It does not cause burns or severe skin or eye irritation. A single exposure will not result in serious adverse health effects. Crystalline silica (quartz) is not known to be an environmental hazard. Crystalline silica (quartz) is incompatible with hydrofluoric acid, fluorine, chlorine trifluoride or oxygen difluoride.

## **Potential Health Effects:**

**Silicosis:** Respirable crystalline silica (quartz) may cause silicosis, a fibrosis (scarring) of the lungs. Silicosis may be progressive; it may lead to disability and death.

**Cancer:** Crystalline silica (quartz) inhaled from occupational sources is classified as carcinogenic to humans.

**Autoimmune Diseases:** There are some studies that show excess numbers of cases of scleroderma and other connective tissue disorders in workers exposed to respirable crystalline silica.

**Tuberculosis:** Silicosis increase the risk of tuberculosis.

**Nephrotoxicity:** There are some studies that show an increased incidence of chronic kidney disease and end-stage renal disease in workers exposed to respirable crystalline silica.\

**Eye Contact:** Crystalline silica (quartz) may cause abrasion of the cornea.

**Skin Contact:** Not applicable

**Ingestion:** Not applicable.

**Chronic Effects:** The adverse health effects-silicosis, cancer, autoimmune diseases, tuberculosis, and nephrotoxicity-are chronic effects.

**Signs and Symptoms of Exposure:** Generally, there are no signs or symptoms of exposure to crystalline silica (quartz).

**Medical Conditions Generally Aggravated by Exposure:** The condition of individuals with lung disease (e.g., bronchitis, emphysema, chronic obstructive pulmonary disease) can be aggravated by exposure.

Toxicological Information, for additional detail on potential adverse health effects.

## **FIRST AID MEASURES**

### **Symptoms of Overexposure:**

**Inhaled:** Shortness of breath, coughing, reduced pulmonary function. Prolonged inhalation of respirable silica may result in permanent lung damage, silicosis. 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.

**Swallowed:** May cause gastrointestinal discomfort. Give one or two glasses of water. If discomfort persists, see a physician.

**First Aid:** Emergency procedures.

**Eye Contact:** Wash with water for at least fifteen (15) minutes. If irritation or redness persists see a physician.

**Skin Contact:** Wash with soap and water. If irritation persists see a physician.

**Ventilation and Engineering Controls:** Local mechanical to reduce respirable silica to below safe levels.

**Respiratory Protection (Type):** Use NIOSH approved equipment. Positive pressure supplied air-type recommended. Appropriate respiratory protection for respirable particulates is based on consideration of air borne workplace concentrations and duration of exposure arising from the intended end use. Please refer to the most recent standards of ANSI (Z88.2), OSHA (29CFR 1910.134), MSHA (30 CFR Parts 56 & 57), and NIOSH RDL. IF you are unsure as to the type of respirator to be used please consult your employer.

**Eye Protection (Type):** Safety Glasses

**Gloves (Specify Material):** Not normally required.

**Other Protective Clothing and Equipment:** Not normally required.

**Work Practices, Hygiene Practices:** Clean up spills promptly. Do not engage in activities that will generate respirable silica particles.

**Other handling and Storage Requirements:** Avoid generating dust. There are no special storage requirements. Train all exposed persons in all sections of this MSDS and the proper handling of silica before they work with this product.

See OSHA Hazard Communication Rule CFR 1910.1200, 1915.99, 1917.28 and 1928.21, state, local worker, or community "Right to Know" laws and regulations. We recommend that smoking be prohibited in all areas where respirators must be used. Warn your employees (and your customer users in case of resale) by posting and other means of the hazard and OSHA precautions to be used. Provide training about the OSHA precautions. See control measures in Section 8.

#### **EXPOSURE CONTROL/PERSONAL PROTECTION**

**Local Exhaust:** Use sufficient local exhaust to reduce the level of respirable crystalline silica to below the PEL. See ACGIH "Industrial Ventilation, A Manual of Recommended Practice" (latest edition).

**Respiratory Protection:** The following chart specifies the types of respirators, which may provide respiratory protection for crystalline silica:

#### **PARTICULATE CONCENTRATION MINIMUM RESPIRATORY PROTECTION\***

##### **10 x PEL or Less**

- Any particulate respirator, except single-use or quarter-mask respirator. Any fume respirator or high efficiency particulate filter respirator.
- Any supplied-air respirator.
- Any self-contained breathing apparatus.

##### **50 x PEL or Less**

- A high efficiency particulate filter with a full-face piece.
- Any supplied-air respirator with a full-face piece, helmet, or hood. Any self-contained breathing apparatus with a full-face mask.

##### **500 x PEL or Less**

A type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode.

##### **Greater than 500 x PEL or Entry and Escape from Unknown Concentrations**

Self-contained breathing apparatus with a full-face piece operated in pressure-demand mode. A combination respirator which includes a Type C supplied-air respirator with a full-face piece operated in pressure-demand or other positive pressure continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

## **TOXICOLOGICAL INFORMATION**

**Silicosis:** The major concern is silicosis, caused by inhalation and retention of respirable crystalline silica dust. Silicosis can exist in several forms, chronic (or ordinary), accelerated, or acute.

Chronic or Ordinary Silicosis (often referred to as Simple Silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low levels of airborne respirable crystalline silica dust. It is further defined as either simple or complicated silicosis. Lung lesions (shown as radiographic opacities) less than 1 centimeter in diameter characterize simple silicosis, primarily in the upper lung zones. Often, simple silicosis is not associated with symptoms, detectable changes in lung function or disability. Simple silicosis may be progressive and may develop into complicated silicosis or progressive massive fibrosis (PMF). Complicated silicosis or PMF is characterized by lung lesions (shown as radiographic opacities) greater than 1 centimeter in diameter. Although there may be no symptoms associated with complicated silicosis or PMF, the symptoms, if present, are shortness of breath, wheezing, cough and sputum production. Complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease (cor pulmonale).

Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five (5) years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid.

Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica over a very short period of time, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis can be fatal.

### **Cancer:**

**IARC:** The International Agency of Research on Cancer (IARC) concluded that there was “sufficient evidence in humans for the carcinogenicity of crystalline silica in the forms of quartz and cristobalite from occupational sources”, and that there is “sufficient evidence in experimental animals for the carcinogenicity of quartz and cristobalite.” The overall IARC evaluation was that “crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).” The IARC evaluation noted that “carcinogenicity was not detected in all industrial circumstances studies.

Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs.” For further information on the IARC evaluation, see IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 68, “Silica, Some Silicates...” (1997).

**NTP:** The National Toxicology Program, in its Ninth Annual Report on Carcinogens, classified “silica, crystalline (respirable)” as a known human carcinogen.

**OSHA:** Crystalline silica (quartz) is not regulated by the US Occupational Safety and Health Administration as a carcinogen.

There have been many articles published on the carcinogenicity of crystalline silica, which the reader should consult for additional information. The following are examples of recently published articles:

**Autoimmune Diseases:** There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of several autoimmune disorders, – scleroderma, systemic lupus erythematosus, rheumatoid arthritis and diseases affecting the kidneys. For a review of the subject, the following may be consulted:

**Tuberculosis:** Individuals with silicosis are at increased risk to develop pulmonary tuberculosis, if exposed to persons with tuberculosis. The following may be consulted for further information:

**Kidney Disease:** There is evidence that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis is associated with the increased incidence of kidney diseases, including end stage renal disease. For additional information on the subject, the following may be consulted:

**General:** The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust.

**RCRA:** Crystalline silica (quartz) is not classified as a hazardous waste under the Resource Conservation and Recovery Act, or its regulations, 40 CFR §261 et. seq.

The above applies to materials as sold by Fairmount Minerals, LTD. The material may be contaminated during use, and it is the responsibility of the user to assess the appropriate disposal of the used material.

#### **TRANSPORT INFORMATION**

Crystalline silica (quartz) is not a hazardous material for purposes of transportation under the US Department of Transportation Table of Hazardous Materials, 49 CFR §172.101.

#### **SECTION 16: OTHER INFORMATION**

- **NFPA Rating:**  
Health: 2  
Flammability: 0  
Reactivity: 0