

**Section 1: IDENTIFICATION**

**Product Name:** Silica Sand; Silica; Sand; Quartz

**Synonyms:** Not available.

**Product Use:** Waste stream.

**Restrictions on Use:** Not available.

**Manufacturer/Supplier:** Harvest Operations Corp.  
Suite 1500, 700-2nd Street SW  
Calgary AB T2P 2W1

**Phone Number:** Main: 403-265-1178  
Toll Free: 1-866-666-1178

**Emergency Phone:** 1-800-760-2826 (Harvest Operations 24-hr Emergency number)  
1-613-996-6666 (CANUTEC)

**Date of Preparation of SDS:** May 5, 2015

**Section 2: HAZARD(S) IDENTIFICATION**

**GHS INFORMATION**

**Classification:** Carcinogenicity, Category 1A  
Specific Target Organ Toxicity (Repeated Exposure), Category 1

**LABEL ELEMENTS**

**Hazard**

**Pictogram(s):**



**Signal Word:** Danger

**Hazard Statements:** May cause cancer.

Causes damage to organs through prolonged or repeated exposure.

**Precautionary Statements**

**Prevention:** Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust or fumes.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves, protective clothing and eye protection.

**Response:** If exposed or concerned: Get medical advice/attention.

**Storage:** Not available.

**Disposal:** Dispose of contents/container in accordance with applicable regional, national and local laws and regulations.

**Hazards Not Otherwise Classified:** Not applicable.

**Ingredients with Unknown Toxicity:** None.



## Silica Sand; Silica; Sand; Quartz

SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET

Date of Preparation: May 5, 2015

This material is considered hazardous by the OSHA Hazard Communication Standard, (29 CFR 1910.1200).

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredient(s)	Common name / Synonyms	CAS No.	% wt./wt.
Quartz (SiO <sub>2</sub> )	Quartz	14808-60-7	90 - 100
Petroleum	Not available.	8002-05-9	< 0.01

### Section 4: FIRST-AID MEASURES

- Inhalation:** If inhaled: Call a poison center or doctor if you feel unwell.
- Acute and delayed symptoms and effects:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Acute silicosis from overexposure to Silica (Quartz, SiO<sub>2</sub>) dust has occurred. Coughing and irritation of throat are early symptoms.
- Eye Contact:** If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor if you feel unwell.
- Acute and delayed symptoms and effects:** May cause mechanical irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.
- Skin Contact:** If on skin: Wash with plenty of soap and water. Call a poison center or doctor if you feel unwell.
- Acute and delayed symptoms and effects:** May cause mechanical irritation. Signs/symptoms may include localized redness, swelling, and itching.
- Ingestion:** If swallowed: Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
- Acute and delayed symptoms and effects:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).
- Note to Physicians:** Symptoms may not appear immediately.

### Section 5: FIRE-FIGHTING MEASURES

#### FLAMMABILITY AND EXPLOSION INFORMATION

Not flammable or combustible by OSHA/WHMIS criteria.

- Sensitivity to Mechanical Impact:** This material is not sensitive to mechanical impact.
- Sensitivity to Static Discharge:** This material is not sensitive to static discharge.

**MEANS OF EXTINCTION**

**Suitable Extinguishing Media:** Use appropriate extinguishing media for surrounding fire.

**Unsuitable Extinguishing Media:** Not available.

**Products of Combustion:** Oxides of carbon. Aldehydes.

**Protection of Firefighters:** Fire may produce irritating, corrosive and/or toxic gases. Runoff from fire control or dilution water may cause pollution. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**Section 6: ACCIDENTAL RELEASE MEASURES**

**Emergency Procedures:** Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**Personal Precautions:** Avoid generating dust. Do not breathe dust. Do not touch or walk through spilled material. Use personal protection recommended in Section 8.

**Environmental Precautions:** Keep out of drains, sewers, ditches, and waterways.

**Methods for Containment:** Build dike or berm to contain. Do not flush to sewer or allow to enter waterways.

**Methods for Clean-Up:** Sweep up and shovel into suitable containers for disposal.

**Other Information:** See Section 13 for disposal considerations.

**Section 7: HANDLING AND STORAGE**

**Handling:**

Do not swallow. Do not breathe dust or fumes. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. See Section 8 for information on Personal Protective Equipment.

**Storage:**

Store in sealed vessels and tanks. Store away from incompatible materials. See Section 10 for information on Incompatible Materials. Keep out of the reach of children.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Exposure Guidelines**

**Component**

Quartz [CAS No. 14808-60-7]

**ACGIH:** 0.025 mg/m<sup>3</sup> (TWA); A2; Respirable fraction (2009)

**OSHA:** 30 / (%SiO<sub>2</sub> + 2) mg/m<sup>3</sup> Quartz (Total dust) (TWA), 10 / (%SiO<sub>2</sub> + 2) mg/m<sup>3</sup> Quartz (Respirable) & 250 / (%SiO<sub>2</sub> + 5) mppcf Quartz (Respirable) (TWA); See Table Z3.

0.1 mg/m<sup>3</sup> (As respirable quartz) (TWA) [Vacated];

**SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET**

Petroleum [CAS No. 8002-05-9]

**ACGIH:** No TLV established.

**OSHA:** 500 ppm (TWA), 2000 mg/m<sup>3</sup> (TWA);  
400 ppm (TWA) [Vacated];

**TLV:** Threshold Limit Value

**TWA:** Time-Weighted Average

**Engineering Controls:** Ventilation should be used to keep airborne particles below the recommended exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**



**Eye/Face Protection:** Wear safety glasses. Indirect vented, dust-tight goggles are required if dust is generated when handling this product. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSA-Z94.3-92 and OSHA regulations in 29 CFR 1910.133 for Personal Protective Equipment.

**Hand Protection:** Wear protective gloves. Consult manufacturer specifications for further information.

**Skin and Body Protection:** Wear protective clothing.

**Respiratory Protection:** If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator that meets the requirements of CSA Standard CAN/CSA-Z94.4-11, with particulate filter, or self-contained breathing apparatus (SCBA) must be used. Supplied air breathing apparatus (SABA) must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

**General Hygiene Considerations:** Handle according to established industrial hygiene and safety practices. Consult a competent industrial hygienist to determine hazard potential and/or the PPE manufacturers to ensure adequate protection.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Granular solid.  
**Colour:** Grey.  
**Odour:** Odourless.  
**Odour Threshold:** Not available.  
**Physical State:** Solid. (Granular.)

**SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET**

<b>pH:</b>	6.2 to 9.5
<b>Melting Point / Freezing Point:</b>	1610 °C (2930 °F)
<b>Initial Boiling Point:</b>	Not available.
<b>Boiling Range:</b>	2230 °C (4046 °F)
<b>Flash Point:</b>	> 75 °C (167 °F) (PMCC)
<b>Evaporation Rate:</b>	Not available.
<b>Flammability (solid, gas):</b>	See Section 5.
<b>Lower Flammability Limit:</b>	Not available.
<b>Upper Flammability Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density:</b>	2.5 to 2.8 (Water = 1)
<b>Solubilities:</b>	Insoluble in water.
<b>Partition Coefficient: n-Octanol/Water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Percent Volatile, wt. %:</b>	Not available.
<b>VOC content, wt. %:</b>	Not available.
<b>Density:</b>	Not available.
<b>Coefficient of Water/Oil Distribution:</b>	Not available.

<b>Section 10: STABILITY AND REACTIVITY</b>
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<b>Reactivity:</b>	Contact with incompatible materials.
<b>Chemical Stability:</b>	Stable under normal storage conditions.
<b>Possibility of Hazardous Reactions:</b>	None known.
<b>Conditions to Avoid:</b>	Contact with incompatible materials.
<b>Incompatible Materials:</b>	Strong bases. Strong oxidizers. Hydrofluoric acid. Fluorine containing compounds.
<b>Hazardous Decomposition Products:</b>	Not available.

**Section 11: TOXICOLOGICAL INFORMATION**

**EFFECTS OF ACUTE EXPOSURE**

**Product Toxicity**

**Oral:** Not available.

**Dermal:** Not available.

**Inhalation:** Not available.

**Component Toxicity**

Component	CAS No.	LD <sub>50</sub> oral	LD <sub>50</sub> dermal	LC <sub>50</sub>
Quartz	14808-60-7	Not available.	Not available.	0.3 mg/m <sup>3</sup> (human); 10Y
Petroleum	8002-05-9	4300 mg/kg (rat)	Not available.	Not available.

**Likely Routes of Exposure:** Eye contact. Skin contact. Inhalation. Ingestion.

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Bone marrow. Liver. Reproductive system. Central nervous system.

**Symptoms (including delayed and immediate effects)**

**Inhalation:** May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Acute silicosis from overexposure to Silica (Quartz, SiO<sub>2</sub>) dust has occurred. Coughing and irritation of throat are early symptoms.

**Eye:** May cause mechanical irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

**Skin:** May cause mechanical irritation. Signs/symptoms may include localized redness, swelling, and itching.

**Ingestion:** May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Medical Conditions Aggravated By Exposure:** Not available.

**EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)**

**Target Organs:** Skin. Eyes. Gastrointestinal tract. Respiratory system. Lungs. Blood. Bone marrow. Liver. Reproductive system. Central nervous system.

**Chronic Effects:** Hazardous by OSHA/WHMIS criteria. May cause chronic effects. Prolonged or repeated contact may dry skin and cause irritation. Repeated exposure to Silica (Quartz, SiO<sub>2</sub>) can cause silicosis, a form of lung scarring that can cause shortness of breath, reduced lung function, and in severe cases, death. Repeated dermal application of crude oils in rats produced systemic toxicity in blood, liver, thymus and bone marrow.

**Carcinogenicity:** May cause cancer. Respirable Silica (Quartz, SiO<sub>2</sub>) dust is classified as a human carcinogen. Lifetime skin painting studies in animals with whole crude oils and crude oil fractions have produced tumours in animals following prolonged and repeated skin contact.

**Component Carcinogenicity**

Component	ACGIH	IARC	NTP	OSHA	Prop 65
Quartz	A2	Group 1	List 1	OSHA Carcinogen.	Listed.
Petroleum	Not listed.	Group 3	Not listed.	OSHA Carcinogen.	Not listed.

**Mutagenicity:** Not available.

**Reproductive Effects:** Studies exist which report a link to crude oil and reproductive effects including menstrual disorders.

**Developmental Effects**

**Teratogenicity:** Not available.

**Embryotoxicity:** Repeated dermal application of crude oils to pregnant rats produced maternal toxicity and fetal developmental toxicity and fetal tumours.

**Toxicologically Synergistic Materials:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity:** Not available.

**Persistence / Degradability:** Not available.

**Bioaccumulation / Accumulation:** Not available.

**Mobility in Environment:** Not available.

**Other Adverse Effects:** Not available.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal Instructions:** Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

**Section 14: TRANSPORT INFORMATION**

**U.S. Department of Transportation (DOT)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET**

**Canada Transportation of Dangerous Goods (TDG)**

**Proper Shipping Name:** Not regulated.

**Class:** Not applicable.

**UN Number:** Not applicable.

**Packing Group:** Not applicable.

**Label Code:** Not applicable.

**Section 15: REGULATORY INFORMATION**

**Chemical Inventories**

**US (TSCA)**

The components of this product are in compliance with the chemical notification requirements of TSCA.

**Canada (DSL)**

The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999.

**Federal Regulations**

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**WHMIS Classification:** Class D2A - Carcinogenicity.  
Class D2A - Chronic toxic effects.

**Hazard Symbols:**



**United States**

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**SARA Title III**

No components are listed.

**State Regulations**

**Massachusetts**

US Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000)

**Component**

Quartz

**CAS No.**

14808-60-7

**RTK List**

E

Petroleum

8002-05-9

Listed.

**Note:** E = Extraordinarily Hazardous Substance





**Silica Sand; Silica; Sand; Quartz**

Date of Preparation: May 5, 2015

**SAFETY DATA SHEET / MATERIAL SAFETY DATA SHEET**

**New Jersey**

US New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5)

Component	CAS No.	RTK List
Quartz	14808-60-7	SHHS
Petroleum	8002-05-9	SHHS

**Note:** SHHS = Special Health Hazard Substance

**Pennsylvania**

US Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323)

Component	CAS No.	RTK List
Quartz	14808-60-7	Listed.
Petroleum	8002-05-9	Listed.

**California**

**California Prop 65:** WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Component	Type of Toxicity
Quartz	cancer

**Section 16: OTHER INFORMATION**

**Disclaimer:**

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for his own particular use.

**Date of Preparation of SDS:** May 5, 2015

**SDS Expiry Date (Canada):** May 4, 2018

**Version:** 2.0

**GHS SDS Prepared by:** **Deerfoot Consulting Inc.**  
**Phone: (403) 720-3700**