

SECTION 1: IDENTIFICATION

Product Identifier

Product Name: FloPRO™

Intended Use of the Product

Proppant. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company

Preferred Sands
One Radnor Corporate Center
100 Matsonford Road Ste 101
Radnor, PA 19087
(484) 684-1233

www.preferred.com

Emergency Telephone Number: (800) 424-9300 (CHEMTREC)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Comb. Dust
Carc. 1A H350
STOT SE 3 H335
STOT RE 1 H372

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US)



Signal Word (GHS-US)

: Danger

Hazard Statements (GHS-US)

: Comb. Dust - May form combustible dust concentrations in air
H335 - May cause respiratory irritation
H350 - May cause cancer (Inhalation)
H372 - Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation)

Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust.
P264 - Wash hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271+P280 - Use only outdoors or in a well-ventilated area. Wear respiratory protection.
P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container according to local, regional, national, territorial, provincial, and international regulations.

Other Hazards

Other Hazards Not Contributing to the Classification: Dust may cause mechanical irritation to eyes, nose, throat, lungs. Exposure may aggravate pre-existing conditions and/or increase the risk of certain disease. There is some evidence that exposure to respirable crystalline silica (quartz) is associated with increased incidence of kidney diseases, including end stage renal disease.

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**Mixture**

| Name | Product identifier (CAS) | % (w/w) | Classification (GHS-US) |
|----------------------|--------------------------|---------|---|
| Silica Sand (Quartz) | 14808-60-7 | >99.5 | Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372 |
| Aqueous Dispersion | Mixture | <0.5 | Not a hazardous substance or mixture according to regulation (EC No. 1272/2008) |

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES**Description of First Aid Measures**

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water. Do not rub.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

Ingestion: Rinse mouth. Do NOT induce vomiting.

Most Important Symptoms and Effects Both Acute and Delayed

Symptoms/Injuries: Irritation of respiratory tract.

Symptoms/Injuries After Inhalation: Chronic inhalation of respirable quartz (crystalline silica) may cause silicosis, a fibrosis or scarring of the lungs. Silicosis may be progressive and may lead to disability and death. Adverse health effects such as lung disease, silicosis, cancer, autoimmune disease, tuberculosis and nephrotoxicity can occur with exposure. There are generally no symptoms or signs of exposure to quartz. Chronic silicosis often has no symptoms. Acute silicosis can occur with exposures to very high concentrations of respirable quartz over a very short time period, sometimes as short as a few months. The symptoms of acute silicosis include progressive shortness of breath, fever, cough and weight loss. Acute silicosis is fatal.

Symptoms/Injuries After Skin Contact: Prolonged contact with dust may cause mechanical irritation.

Symptoms/Injuries After Eye Contact: Prolonged contact will cause mechanical irritation and may result in corneal injury.

Symptoms/Injuries After Ingestion: None expected under normal conditions of use.

Chronic Symptoms: Prolonged and frequent exposure through inhalation may cause cancer or damage lungs.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If you feel unwell, seek medical advice.

SECTION 5: FIRE-FIGHTING MEASURES**Extinguishing Media**

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

Unsuitable Extinguishing Media: None known.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Combustible Dust.

Explosion Hazard: Organic dust in sufficient quantities can result in an explosive mixture in air. Personnel that encounter organic dust must take precautions to eliminate static electricity as most static electric discharges release a sufficient amount of energy to ignite a sufficient dust cloud.

Reactivity: Product is stable.

Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire

Firefighting Instructions: Fight fire from safe distance and protected location.

Hazardous Combustion Products: May release toxic fumes, including Formaldehyde, Silicon Oxides, and Carbon Oxides

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal Precautions, Protective Equipment and Emergency Procedures**

General Measures: Do not breathe dust. Avoid generating dust. Keep away from heat, sparks, open flame and static discharges.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions Not available

Methods and Material for Containment and Cleaning Up

For Containment: Contain and collect as any solid.

Methods for Cleaning Up: Avoid generation of dust during clean-up of spills. Use only non-sparking tools.

Reference to Other Sections See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE**Precautions for Safe Handling**

Additional Hazards When Processed: Good housekeeping is needed during storage, transfer, handling, and use of this material to avoid excessive dust accumulation.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Use only outdoors or in a well-ventilated area. Do not breathe dust.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a well-ventilated place.

Incompatible Materials: Strong bases. Strong acids. Strong oxidizers.

Specific End Use(s) Proppant. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Control Parameters**

| Quartz (14808-60-7) | | |
|--------------------------------|--------------------------------------|---|
| USA ACGIH | ACGIH TWA (mg/m ³) | 0.025 mg/m ³ |
| USA OSHA | OSHA PEL (STEL) (mg/m ³) | 250 mppcf/%SiO ₂ +5, 10mg/m ³ /%SiO ₂ +2 |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 0.05 mg/m ³ |
| USA IDLH | US IDLH (mg/m ³) | 50 mg/m ³ |
| Alberta | OEL TWA (mg/m ³) | 0.025 mg/m ³ |
| British Columbia | OEL TWA (mg/m ³) | 0.025 mg/m ³ |
| Saskatchewan | OEL TWA (mg/m ³) | 0.05 mg/m ³ |
| Yukon | OEL TWA (mg/m ³) | 300 particle/mL |
| Particles Not Otherwise | | |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 15 mg/m ³ (total dust) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 5 mg/m ³ (respirable fraction) |

| | | |
|-----------|--------------------------------|---|
| USA ACGIH | ACGIH TWA (mg/m ³) | 10 mg/m ³ (total dust) |
| USA ACGIH | ACGIH TWA (mg/m ³) | 3 mg/m ³ (respirable fraction) |

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment: Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Not available

Hand Protection: Impermeable protective gloves.

Eye Protection: In case of dust production: protective goggles.

Skin and Body Protection: Wear suitable working clothes.

Respiratory Protection: Use NIOSH-approved air-purifying or supplied-air respirator where airborne concentrations of dust are expected to exceed exposure limits.

Other Information: When using, do not eat, drink or smoke

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

| | |
|---|---|
| Physical State | : Solid |
| Appearance | : White/Brownish Granular Sand |
| Odor | : Odorless |
| Odor Threshold | : Not available |
| pH | : 6.5 - 7.5 (in solution) |
| Relative Evaporation Rate (butyl acetate=1) | : Not available |
| Melting/Freezing Point | : Not available |
| Boiling Point | : Not available |
| Flash Point | : Not flammable |
| Auto-ignition Temperature | : Not available |
| Decomposition Temperature | : Not available |
| Flammability (solid, gas) | : Not available |
| Upper and Lower Flammable Limits | : Not available |
| Vapor Pressure | : Not available |
| Relative Vapor Density at 20 °C | : Not available |
| Relative Density/Specific Gravity | : Not available |
| Density | : Not available |
| Solubility | : Insoluble in water. |
| Partition coefficient: n-octanol/water | : Not available |
| Viscosity | : Not available |
| Explosion Data – Sensitivity to Mechanical Impact | : Not expected to present an explosion hazard due to mechanical impact. |
| Explosion Data – Sensitivity to Static Discharge | : Not expected to present an explosion hazard due to static discharge. |

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Product is stable.

Chemical Stability: Product itself is not explosive but if organic dust is generated, dust clouds suspended in air can be combustible.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur. When heated above 150C (300F) product can form formaldehyde vapors

Conditions to Avoid: Sparks, heat, open flame and other sources of ignition. Avoid creating or spreading dust.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers.

Hazardous Decomposition Products: Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride. Ethanol may be released during decomposition.

SECTION 11: TOXICOLOGICAL INFORMATION**Information on Toxicological Effects - Product**

Product General Toxicity Information: No investigations were carried out with the preparation itself. The properties of this product which are hazardous to health have been calculated as per regulation (EC) No. 1272/2008. See Section 2 "Hazards Identification.

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified (pH: 6.5 - 7.5) in solution)

Serious Eye Damage/Irritation: Not classified (pH: 6.5 - 7.5) (in solution

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: May cause cancer (Inhalation).

Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs (lung/respiratory system) through prolonged or repeated exposure (Inhalation).

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May cause respiratory irritation. Repeated or prolonged exposure to respirable (airborne) crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss.

Symptoms/Injuries After Skin Contact: Prolonged contact with large amounts of dust may cause mechanical irritation.

Symptoms/Injuries After Eye Contact: Repeated or prolonged contact will cause mechanical irritation. Prolonged contact may result in corneal injury.

Symptoms/Injuries After Ingestion: None expected under normal conditions of use.

Chronic Symptoms: Prolonged and frequent exposure through inhalation may cause cancer. Repeated or prolonged inhalation may damage lungs.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

| | |
|--|--------------------------|
| Quartz (14808-60-67) Oral Rat | > 5000mg/kg |
| Quartz (14808-60-7) | |
| IARC Group | 1 |
| National Toxicity Program (NTP) Status | Known Human Carcinogens. |

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Persistence and Degradability Not available

Bioaccumulative Potential Not available

Mobility in Soil Not available

Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT Not regulated for transport

14.2 In Accordance with IMDG Not regulated for transport

14.3 In Accordance with IATA Not regulated for transport

14.4 In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION**Information on ingredients /Non – Hazardous Components**

This products may contain the following non-hazardous components

| Non-Hazardous Ingredients | CAS# | Percent (Wt) |
|---|--------------------------|--------------|
| 2-Propenoic Acid, polymer with ethene | 9010-77-9 | <0.5% |
| Acrylic Polymer (Non-Hazardous Mixture) | Mixture | <0.5% |
| Polymer | NJTSR #56705700001-5539P | <0.5 |

US Federal Regulations


| Preferred RCS FloPRO | |
|---|--|
| SARA Section 311/312 Hazard Classes | Immediate (acute) health hazard Delayed (chronic) health hazard |
| Quartz (14808-60-7) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

US State Regulations

| Quartz (14808-60-7) | |
|---|--|
| U.S. - California - Proposition 65 - Carcinogens List | WARNING: This product contains chemicals known to the State of California to cause cancer. |

| Quartz (14808-60-7) | |
|--|--|
| RTK - U.S. - Massachusetts - Right To Know List | |
| RTK - U.S. - New Jersey - Right to Know Hazardous Substance List | |
| RTK - U.S. - Pennsylvania - RTK (Right to Know) List | |

Canadian Regulations

| Preferred FlowPRO (DP Formula) | |
|---|--|
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |
|  | |
| Quartz (14808-60-7) | |
| Listed on the Canadian DSL (Domestic Substances List) inventory. | |
| Listed on the Canadian Ingredient Disclosure List | |
| WHMIS Classification | Class D Division 2 Subdivision A - Very toxic material causing other toxic effects |

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

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 31 July 20155
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text

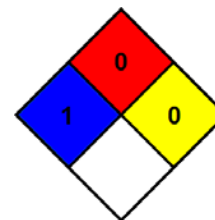
| Phrases | | |
|------------|--|--|
| Carc. | | Carcinogenicity Category 1A |
| Comb. Dust | | Combustible Dust |
| STOT RE 1 | | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3 | | Specific target organ toxicity (single exposure) Category 3 |
| Comb. Dust | | May form combustible dust concentrations in air |
| H335 | | May cause respiratory irritation |
| H350 | | May cause cancer |
| H372 | | Causes damage to organs through prolonged or repeated exposure |

Preferred FloPRO™

Safety Data Sheet

according to Federal Register/Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

- NFPA Health Hazard** : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
- NFPA Fire Hazard** : 0 - Materials that will not burn.
- NFPA Reactivity** : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

- Health** : 1 Slight Hazard - Irritation or minor reversible injury possible
- Flammability** : 0 Minimal Hazard
- Physical** : 0 Minimal Hazard
- Personal Protection** : E

Party Responsible for the Preparation of This Document

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