SECTION 1: IDENTIFICATION

1.1. Product Identifier
Product Form: Substance  
Product Name: Atlas Sand Company, LLC  
CAS No: 14808-60-7  
Product Code: 20/40, 30/50, 40/70, 100 mesh  
Synonyms: Frac Sand, Crystalline Silica Sand, Proppant

1.2. Intended Use of the Product
Use of the Substance/Mixture: Oil/Gas Well Stimulation. For professional use only.

1.3. Name, Address, and Telephone of the Responsible Party
Company Atlas Sand Company, LLC  
5914 W. Courtyard Drive  
Suite 200  
Austin, TX 78730  
512-220-1200  
www.atlassand.com

1.4. Emergency Telephone Number
Emergency Number: For Hazardous Materials [or Dangerous Goods] Incident Call CHEMTREC Day or Night  
Within USA and Canada: 1-800-424-9300 or +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture
GHS-US Classification  
Carc. 1A H350  
STOT SE 3 H335  
STOT RE 1 H372

Full text of hazard classes and H-statements: see section 16

2.2. Label Elements
GHS-US Labeling  
Hazard Pictograms (GHS-US): 

Signal Word (GHS-US): Danger  
Hazard Statements (GHS-US):  
H335 - May cause respiratory irritation.  
H350 - May cause cancer.  
H372 - Causes damage to organs through prolonged or repeated exposure.

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, forearms, and other exposed areas thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves, protective clothing, and eye protection.  
P304+P340 - If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P312 - Call a poison center or doctor if you feel unwell.  
P314 - Get medical advice/attention if you feel unwell.  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.
2.3. Other Hazards
Exposure may aggravate pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier (CAS No)</th>
<th>%</th>
<th>GHS-US classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz</td>
<td>14808-60-7</td>
<td>&gt; 97</td>
<td>Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372</td>
</tr>
</tbody>
</table>

3.2. Mixture
Not applicable

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures
First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
First-aid Measures After Skin Contact: Remove contaminated clothing. If exposed or concerned: Get medical advice/attention. Drench affected area with water for at least 15 minutes.
First-aid Measures After Eye Contact: Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.
First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed
Symptoms/Injuries: May cause respiratory irritation. May cause cancer. Causes damage to organs through prolonged or repeated exposure. Health effects from silica exposures include: silicosis, a disabling, non-reversible and sometimes fatal lung disease; other non-malignant respiratory diseases, such as chronic bronchitis; lung cancer; and kidney disease, including nephritis and end-stage renal disease.
Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes.
Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion.
Symptoms/Injuries After Eye Contact: Eye contact with dust may cause mechanical irritation.
Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.
Chronic Symptoms: May cause cancer. Causes damage to organs through prolonged or repeated exposure. 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.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture
Fire Hazard: Product is not flammable.
Explosion Hazard: Product is not explosive.
Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Use water spray or fog for cooling exposed containers.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Silicon oxides.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not handle until all safety precautions have been read and understood.

6.1.1. For Non-Emergency Personnel

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

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Contain solid spills with appropriate barriers and prevent migration and entry into sewers or streams.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Recover the product by vacuuming, shoveling or sweeping. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Avoid contact with eyes, skin and clothing.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Hydrofluoric acid.

7.3. Specific End Use(s)

Oil/Gas Well Stimulation. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), or OSHA (PEL).

<table>
<thead>
<tr>
<th>Substance</th>
<th>ACGIH TWA (mg/m³)</th>
<th>ACGIH chemical category</th>
<th>NIOSH REL (mg/m³)</th>
<th>US IDLH (mg/m³)</th>
<th>US OSHA PEL (TWA) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (14808-60-7)</td>
<td>0.025 mg/m³ (respirable particulate matter)</td>
<td>A2 - Suspected Human Carcinogen</td>
<td>0.05 mg/m³ (respirable dust)</td>
<td>50 mg/m³ (respirable dust)</td>
<td>50 µg/m³</td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

Appropriate Engineering Controls: Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.


Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves.

Eye and Face Protection: Chemical safety goggles.
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Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.
Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1. Information on Basic Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Solid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Free flowing sand: white to tan</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>3110 °C (5630 °F)</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Vapor Density at 20°C</td>
<td>No data available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>2.59</td>
</tr>
<tr>
<td>Solubility</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other Information: No additional information available

SECTION 10: STABILITY AND REACTIVITY
10.1. Reactivity: Hazardous reactions will not occur under normal conditions.
10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. Conditions to Avoid: Direct sunlight, extremely high or low temperatures, and incompatible materials.
10.5. Incompatible Materials: Hydrofluoric acid.
10.6. Hazardous Decomposition Products: None known.

SECTION 11: TOXICOLOGICAL INFORMATION
11.1. Information on Toxicological Effects

<table>
<thead>
<tr>
<th>Acute Toxicity</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50 Oral Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
<tr>
<td>LD50 Dermal Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Carcinogenicity: May cause cancer.

<table>
<thead>
<tr>
<th>Quartz (14808-60-7)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC group</td>
<td>1</td>
</tr>
<tr>
<td>National Toxicology Program (NTP) Status</td>
<td>Known Human Carcinogens.</td>
</tr>
<tr>
<td>OSHA Hazard Communication Carcinogen List</td>
<td>In OSHA Hazard Communication Carcinogen list.</td>
</tr>
</tbody>
</table>

Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.
Specific Target Organ Toxicity (Repeated Exposure): Causes damage to organs through prolonged or repeated exposure.
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Irritation of the respiratory tract and the other mucous membranes.
Symptoms/Injuries After Skin Contact: Direct contact may cause irritation by mechanical abrasion.

08/31/2017 EN [English US] 4/6
Symptoms/Injuries After Eye Contact: Eye contact with dust may cause mechanical irritation.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: May cause cancer. Causes damage to organs through prolonged or repeated exposure. 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.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecology - General: Not classified.

12.2. Persistence and Degradability

<table>
<thead>
<tr>
<th>Persistance and Degradability</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlas Sand Company, LLC (14808-60-7)</td>
<td></td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative Potential

<table>
<thead>
<tr>
<th>Bioaccumulative Potential</th>
<th>Not established.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlas Sand Company, LLC (14808-60-7)</td>
<td></td>
</tr>
</tbody>
</table>

12.4. Mobility in Soil
No additional information available

12.5. Other Adverse Effects
Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste Treatment Methods
Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Additional Information: Container may remain hazardous when empty. Continue to observe all precautions.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

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

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Immediate (acute) health hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (14808-60-7)</td>
<td>Delayed (chronic) health hazard</td>
</tr>
</tbody>
</table>

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US State Regulations

<table>
<thead>
<tr>
<th>U.S. - California - Proposition 65 - Carcinogens List</th>
<th>WARNING: This product contains chemicals known to the State of California to cause cancer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartz (14808-60-7)</td>
<td></td>
</tr>
</tbody>
</table>

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

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

Date of Preparation or Latest Revision: 08/31/2017
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. 1A                                      | Carcinogenicity Category 1A |
| STOT RE 1          | Specific target organ toxicity (repeated exposure) Category 1 |
| STOT SE 3         | Specific target organ toxicity (single exposure) Category 3 |
| H335              | May cause respiratory irritation |
### Atlas Sand Company, LLC

**Safety Data Sheet**

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

<table>
<thead>
<tr>
<th>Hazard Statement</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

SDS US (GHS HazCom)