

# Natural Sand Material Safety Data Sheet

Date of Preparation: June 1, 2015 (Supersedes previous editions)

## 1. IDENTIFICATION

Chemical Name: Natural Sand  
Trade Name: Sand  
Product Use/ Synonym(s): Construction Aggregate/None  
Manufacturer: Fortress Proppants  
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Natchez MS 39121  
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## 2. Hazard(s) Identification

**Classifications:** Eye Irritation—Category 2  
Carcinogenicity—Category 2

**Signal Word(s):** Warning, Danger

**Hazard Statements:** Causes severe skin burns and eye damage at elevated temperatures.  
Causes skin irritation.  
Causes eye irritation.

**Precautionary Statements:**

**Prevention:** Do not handle until all safety precautions are read and understood.  
Wash hands and contacted skin thoroughly after handling.  
Wear protective clothing such as long sleeves, eye protection, etc.

**Response:** Skin contact: Flush with water. See Section 4 for first aid measures.  
Eye contact: Flush with water. See Section 4 for first aid measures.  
Inhalation: Remove person to fresh air. See Section 4 for first aid measures.

**Storage:** Store in appropriate container or containment structure.

**Disposal:** Dispose of contents/containers in accordance with local, state and national regulations.

## 3. Composition/Information on Ingredients

Component(s) Chemical Name	CAS Registry No.	%(Approx)	Exposure Limits
Natural Sand*	None	100	See Section 6
* Quartz (Crystalline Silica) content typically greater than 95%.	14808-60-7	>95%	



## 4. First Aid Measures

**Primary Route(s) of Exposure:**                      X   Inhalation             Skin                         Ingestion

**Medical Conditions Aggravated by Exposure.** Inhaling respirable dust and or crystalline silica may aggravate existing respiratory system disease(s) and/or dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions.

**Inhalation:** Remove to fresh air. Encourage coughing, spitting and nose blowing. If breathing is irregular or stopped, administer First Aid and seek medical attention. Use of sand and gravel for construction purposes is not believed to cause additional acute toxic effects. However, repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.

**Eye Contact:** Immediately flush eye(s) with clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from the eye(s). Contact a physician if irritation persists or later develops.

**Skin Contact:** Wash with soap and water. Contact a physician if irritation persists or later develops.

**Ingestion:** If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Contact a physician if irritation persists or later develops.

**In all cases beyond routine first aid, seek professional medical attention.**

## 5. FIRE-Fighting Measures

Flashpoint (Method Used):	Not Flammable
Flammable Limits in Air:	Not Flammable
Extinguishing Agents:	Not Flammable
Unusual Fire & Explosion Hazards:	None known.

## 6. Accidental Release Measures

**Emergency Procedures:** Personal protection and controls identified in Section 8 should be used as appropriate. Disposal of cold material must be in accordance with Federal and state regulations. Contact the production asphalt plant to determine the recycling potential.

**Personal Protective Equipment:** Use appropriate protective equipment and clothing during cleanup. See Section 8.



**Environmental Precautions:** Prevent materials from entering streams, drainages or sewers. Spills entering surface waters that cause a sheen must be reported to National Response Center and/or local regulatory authority.

## 7. Handling and Storage

**Personal Protective Equipment:** Use appropriate protective equipment identified in Section 8. Materials should be removed regularly from footwear to prevent accidents. Do not use flammable solvents or thinner to clean footwear.

This product is not intended or designed for use as an abrasive blasting material, and should not be used for abrasive blasting. Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section 8 of this SDS should be applied as appropriate. Do not store near food and beverages or smoking materials.

## 8. Exposure Controls/Personal Protection

**Respiratory Protection.** For respirable quartz levels that exceed or are likely to exceed a permissible exposure limit, a NIOSH approved dust respirator or positive-pressure, full-face respirator or equivalent is recommended. Respirator use must comply with applicable MSHA or OSHA standards, which include provisions for a user training program, respirator repair and cleaning, respirator fit testing, and other requirements.

**Ventilation.** Local exhaust or general ventilation steps adequate to maintain exposures below appropriate exposure limits.

**Skin Protection.** See "Hygiene" section below. If manual handling occurs, appropriate gloves are recommended to protect from abrasion.

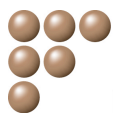
**Eye Protection.** Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.

**Hygiene.** Wash dust-exposed skin with soap and water before eating, drinking, smoking, and using toilet facilities. Wash work clothes after each use.

**Other Control Measures.** Respirable dust and quartz levels should be monitored regularly. Dust and quartz levels in excess of exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed workstations.

## 9. Physical and Chemical Properties

Appearance and Odor:	Angular or round, multicolored particles. No odor.
Specific Gravity:	2.55-2.80
Boiling Point:	4046°F
Melting Point:	3050°F
Vapor Density in Air (Air = 1):	Not Applicable
Vapor Pressure:	Not Applicable
% Volatile, By Volume:	0%
Evaporation Rate:	Not Applicable
Solubility in Water:	Negligible



**Exposure Limits** (When exposure to this product and other chemicals is concurrent, exposure limit must be defined in the workplace). Unless specified, limits are expressed as eight-hour time-weighted averages (TWA). Limits for cristobalites and tridymites (other forms of crystalline silica) are equal to one-half the limits for quartz. Respirable crystalline silica (quartz): ACGTH, TLV, OSHA PEL, and MSHA PEL = 0.1.

**Abbreviations.** TLV<sup>®</sup> =threshold limit value of the American Conference of Governmental Industrial Hygienists (ACGIH); MSHA PEL =permissible exposure limit of the Mine Safety & Health Administration (MSHA); OSHA PEL =permissible exposure limit of the Occupational Safety & Health Administration (OSHA); mg/m<sup>3</sup>=milligrams of substance per cubic meter of air.

**Other:** 2001 ACGIH TLV<sup>®</sup>=10mg/M<sup>3</sup> (inhalable/total particulate, not otherwise specified), 2001 ACGIH TLV<sup>®</sup> =3mg/M<sup>3</sup> (respirable particulate, not otherwise specified); OSHA PEL =15mg/M<sup>3</sup> (total particulate, not otherwise regulated), OSHA PEL=5mg/M<sup>3</sup> (respirable particulate, not otherwise regulated).Respirable Crystalline Silica (SiO<sub>2</sub> quartz):ACGIH TLV<sup>®</sup> ==0.05mg/M<sup>3</sup>; MSHA and OSHA PEL=10mg/m<sup>3</sup> ÷ ((%SiO<sub>2</sub> +2), for respirable dust containing crystalline silica. Total dust, respirable and nonrespirable: 1973 ACGIH TLV<sup>®</sup> ==30mg/M<sup>3</sup> ÷ (%quartz +3). Total Dust: MSHA PEL =10mg/m<sup>3</sup>, for nuisance particulates listed in Appendix E of the 1973 ACGIH TLV<sup>®</sup> booklet. {Appendix E includes :alundum (Al<sub>2</sub>O<sub>3</sub>); calcium carbonate; cellulose (paper fiber); portland cement; corundum (Al<sub>2</sub>O<sub>3</sub>); emery; glass [fibrous (<5-7 μ m in diameter)or dust ];glycerin mist; graphite (synthetic); gypsum; vegetable oil mists (except castor, cashew nut, or similar irritant oils); kaolin; limestone; magnesite; marble; pentaerythritol; plaster of paris; rouge; silicon carbide; starch; sucrose; tin oxide; and titanium dioxide.} Per ACGIH, adverse effects are not likely to occur in the workplace provided exposure levels do not exceed the appropriate TLVs/PELs. However, because of the wide variation in individual susceptibility, lower exposure limits may be appropriate for individuals including those with pre-existing conditions such as those described below.

## 10. Stability and Reactivity

**Stability:** Stable

**Conditions to Avoid:** Avoid contact with strong oxidizing agent and Fluorine.

**Incompatibility (Materials to avoid):** Strong, oxidizing agents may react with hydrocarbons. Contact with fluorine may cause fire and/or explosions.

**Hazardous Decomposition:** Hazardous vapors may collect in enclosed vessels or areas if not properly ventilated Silica containing respirable dust particles may be generated by handling. When heated, quartz is slowly transformed in tridymite (above 860 C) and cristobalite (above 1470 C). Both are considered more fibrogenic to the lungs than quartz.

**Hazardous Polymerization:** Not known to polymerize.

## 11. Toxicological Information

**Chronic Toxicity.** Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of appropriate exposure limits has caused silicosis, a lung disease. Not all individuals with silicosis will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms of silicosis may include, but are not limited to, the following: shortness of breath; difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Smoking may increase the risk of developing lung disorders, including emphysema and lung cancer. Persons with silicosis have an increased risk of pulmonary tuberculosis infection. Respirable dust containing newly broken silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size. Respirable silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures of respirable dust containing newly broken particles of silica. There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with adverse health effects involving the kidney, scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. However, this evidence has been obtained primarily



from case reports involving individuals working in high exposure situations or those who have already developed silicosis; and therefore, this evidence does not conclusively prove a causal relationship between silica or silicosis and these adverse health effects. Studies of persons with silicosis also indicate an increased risk of developing lung cancer, a risk that increases with the duration of exposure. Many of these studies of silicotics do not account for lung cancer confounders, especially smoking. Sand and gravel are not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or OSHA. In October 96, an IARC Working Group re-assessing crystalline silica, a component of this product, designated crystalline silica as carcinogenic (Group 1). The NTP'S Report on Carcinogens, 9th edition, lists respirable crystalline silica as a "known human carcinogen." In year 2000, the American Conference of Governmental Industrial Hygienists (ACGIH) listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2). The classifications are based on sufficient evidence of carcinogenicity in experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

**Potential Health Effects:**

- Inhalation:** See Section 4. Repeated overexposures to very high levels of respirable crystalline silica (quartz, cristobalite, tridymite) for periods as short as six months have caused acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.
  
- Eye Contact:** See Section 4.
  
- Skin Contact:** See Section 4.
  
- Ingestion:** See Section 4.

## 12. Ecological Information

**Information:** Dispose of contents/containers in accordance with local, state and national regulations.

## 13. Disposal Information

**Disposal:** Disposal of material must be in accordance with Federal and state regulations. Contact the asphalt plant to determine the recycling potential. See Sections 6 and 7 for additional information.

## 14. Transportation Information

DOT Hazard Classification: None

Placard Required: None

Label Required. Label as required by the OSHA Hazard Communication Standard [29 CFR 1910.1200 (f)] and applicable state and local laws and regulations.



## 15. Other Information

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