MAGNOLIA FRAC SAND

Natural Sand Material Safety Data Sheet

Date of Preparation: October 11, 2013 (Supersedes previous editions)

1. IDENTIFICATION

Chemical Name:	Natural Sand
Trade Name:	Sand
Synonym(s):	None
Chemical Formula:	Not Applicable
Molecular Weight:	Not Applicable
DOT Identification No:	None
Manufacturer:	**Magnolia Frac Sand, LLC** 693 Hwy. 61 North Natchez, Mississippi 39120 Tel.: (601) 660-7709

2. PRODUCT AND COMPONENT DATA

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%	See Section 6

3. PHYSICAL DATA

Appearance and Odor:	Angular or round, multicolored particles. No odor.
Specific Gravity:	2.55 - 2.80
Boiling Point:	None
Melting Point:	Not Applicable
Vapor Density in Air (Air = 1):	Not Applicable
Vapor Pressure:	Not Applicable
% Volatile, By Volume:	0%
Evaporation Rate:	Not Applicable
Solubility in Water:	Negligible

4. REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Contact with incompatible materials (See Below)

Incompatibility (Materials to avoid):

Contact with powerful oxidizing agents such as fluorine, chlorine trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosions. Silica dissolves in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride

Hazardous Decomposition:

Silica containing respirable dust particles may be generated by handling. When heated, quartz is slowly transformed in tridyrmite (above 860 C) and cristobalite (above 1470 C). Both are considered more fibrogenic to the lungs than quartz.

Hazardous Polymerization: Not known to polymerize

5. FIRE AND EXPLOSION HAZARD DATA

Flashpoint (Method Used):	Not Flammable
Flammable Limits in Air:	Not Flammable
Extinguishing Agents:	Not Flammable
Unusual Fire & Explosion Hazards:	None known. Contact with oxidizing agents may cause fire and/or explosions (See Section 4).

6. TOXICITY AND FIRST AID

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 tridyrmites (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 ® =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^3=milligrams of substance per cubic meter of air.

Other: 2001 ACGIH TLV ®=$10mg/M^3$ (inhalable/total particulate, not otherwise specified), 2001 ACGIH TLV ® =$3mg/M^3$ (respirable particulate, not otherwise specified); OSHA PEL =$15mg/M^3$

(total particulate, not otherwise regulated), OSHA PEL=5mg/M^3 (respirable particulate, not otherwise regulated). Respirable Crystalline Silica (SiO2 quartz):ACGIH TLV ® ==0.05mg/M^3; MSHA and OSHA PEL =10mg/m 3 ÷ ((%SiO2 +2), for respirable dust containing crystalline silica. Total dust,respirable and nonrespirable:1973 ACGIH TLV ® ==30mg/M^3 ÷ (%quartz +3). Total Dust: MSHA PEL =10mg/m 3 ,for nuisance particulates listed in Appendix E of the 1973 ACGIH TLV ® booklet. {Appendix E includes: alundum (Al2O3); calcium carbonate; cellulose (paper fiber); portland cement; corundum (Al2O3); 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.

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.

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

Acute Toxicity:

Eye Contact: Direct contact with dust may cause irritation by mechanical abrasion.
Skin Contact: Direct contact may cause irritation by mechanical abrasion.
Ingestion: Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation and blockage.
Inhalation: Dusts may irritate the nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of appropriate exposure limits. 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.

First Aid:

EYES: Immediately flush eye(s)with plenty of 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: Wash with soap and water. Contact a physician if irritation persists or later develops.

INHALATION. Remove to fresh air. Encourage coughing, spitting and nose blowing.
INGESTION: If person is conscious, give large quantity of water and induce vomiting; however, never attempt to make an unconscious person drink or vomit. Get immediate medical attention. Contact a physician if irritation persists or later develops.

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.

7. PERSONAL PROTECTION AND CONTROLS

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.

8. STORAGE AND HANDLING PRECAUTIONS

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 7 of this MSDS should be applied as appropriate. Do not store near food and beverages or smoking materials.

9. SPILL, LEAK AND DISPOSAL PRACTICES

Personal protection and controls identified in Section 7 should be used as appropriate. Spilled material, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica- containing dust. Wetting of spilled material and/or use of respiratory protective equipment may be necessary. Do not dry-sweep spilled material. Prevent spilled materials from inadvertently entering streams, drains, or sewers. Pick up and reuse clean materials. Dispose of waste materials only in accordance with applicable Federal, state, and local laws and regulations.

10. TRANSPORTATION

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.