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 DIVISION OF AIR QUALITY



WEST VIRGINIA
 DEPARTMENT OF ENVIRONMENTAL PROTECTION
 DIVISION OF AIR QUALITY
 601 57th Street, SE
 Charleston, WV 25304
 Phone: (304) 826-0475
 www.dep.wv.gov/daq

**PERMIT DETERMINATION FORM
 (PDF)**

FOR AGENCY USE ONLY: PLANT I.D. # _____
 PDF # _____ PERMIT WRITER: _____

1. NAME OF APPLICANT (AS REGISTERED WITH THE WV SECRETARY OF STATE'S OFFICE):
Mississippi Sand, LLC

2. NAME OF FACILITY (IF DIFFERENT FROM ABOVE):
Mississippi Sand Benwood Terminal

3. NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS) CODE:
212322

4A. MAILING ADDRESS:
 1716 Hidden Creek Court, Ste 150, St. Louis, MO 63131

4B. PHYSICAL ADDRESS:
 748 McMehean Street, Building 19 North, Benwood Industrial Court
 Benwood, WV 26031

5A. DIRECTIONS TO FACILITY (PLEASE PROVIDE MAP AS ATTACHMENT A): **See Map**

5B. NEAREST ROAD:
Marshall Street

5C. NEAREST CITY OR TOWN:
Benwood

5D. COUNTY:
Marshall

5E. UTM NORTHING (KM):

5F. UTM EASTING (KM):

5G. UTM ZONE:

6A. INDIVIDUAL TO CONTACT IF MORE INFORMATION IS REQUIRED:
Jason Bish

6B. TITLE:
VP - Regulatory Management

6C. TELEPHONE:
314.678.7855

6D. FAX:
314.677.3828

6E. E-MAIL:
jbish@mississippi-sand.com

7A. DAQ PLANT I.D. NO. (FOR AN EXISTING FACILITY ONLY):

7B. PLEASE LIST ALL CURRENT 45CSR13, 45CSR14, 45CSR19 AND/OR TITLE V (45CSR30) PERMIT NUMBERS ASSOCIATED WITH THIS PROCESS (FOR AN EXISTING FACILITY ONLY):

7C. IS THIS PDF BEING SUBMITTED AS THE RESULT OF AN ENFORCEMENT ACTION? IF YES, PLEASE LIST:
No

8A. TYPE OF EMISSION SOURCE (CHECK ONE):
 NEW SOURCE ADMINISTRATIVE UPDATE
 MODIFICATION OTHER (PLEASE EXPLAIN IN 11B)

8B. IF ADMINISTRATIVE UPDATE, DOES DAQ HAVE THE APPLICANT'S CONSENT TO UPDATE THE EXISTING PERMIT WITH THE INFORMATION CONTAINED HEREIN?
 YES NO

9. IS DEMOLITION OR PHYSICAL RENOVATION AT AN EXISTING FACILITY INVOLVED? YES NO

10A. DATE OF ANTICIPATED INSTALLATION OR CHANGE:
 ____/____/20__

10B. DATE OF ANTICIPATED START-UP:
7/20/2015

11A. PLEASE PROVIDE A DETAILED PROCESS FLOW DIAGRAM SHOWING EACH PROPOSED OR MODIFIED PROCESS EMISSION POINT AS ATTACHMENT B.

11B. PLEASE PROVIDE A DETAILED PROCESS DESCRIPTION AS ATTACHMENT C.

12. PLEASE PROVIDE MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL MATERIALS PROCESSED, USED OR PRODUCED AS ATTACHMENT D. FOR CHEMICAL PROCESSES, PLEASE PROVIDE A MSDS FOR EACH COMPOUND EMITTED TO AIR.

13A. REGULATED AIR POLLUTANT EMISSIONS:

⇒ FOR A NEW FACILITY, PLEASE PROVIDE PLANT WIDE EMISSIONS BASED ON THE POTENTIAL TO EMIT (PTE) FOR THE FOLLOWING AIR POLLUTANTS INCLUDING ALL PROCESSES.

⇒ FOR AN EXISTING FACILITY, PLEASE PROVIDE THE PROPOSED CHANGE IN EMISSIONS BASED ON THE PTE OF ALL PROCESS CHANGES FOR THE FOLLOWING AIR POLLUTANTS.

PTE FOR A GIVEN POLLUTANT IS TYPICALLY BEFORE AIR POLLUTION CONTROL DEVICES AND IS COLLECTED BASED ON THE MAXIMUM DESIGN CAPACITY OF PROCESS EQUIPMENT.

POLLUTANT	HOURLY PTE (LB/HR)	YEARLY PTE (TON/YR) (HOURLY PTE MULTIPLIED BY 8760 HR/YR) DIVIDED BY 2000 LB/TON
PM	<<.1	ND
PM ₁₀	<<.1	ND
VOCs	NA	NA
CO	NA	NA
NO _x	NA	NA
SO ₂	NA	NA
Pb	NA	NA
HAPs (AGGREGATE AMOUNT)	NA	NA
TAPs (INDIVIDUALLY)*	NA	NA
OTHER (INDIVIDUALLY)*	NA	NA

* ATTACH ADDITIONAL PAGES AS NEEDED

13B. PLEASE PROVIDE ALL SUPPORTING CALCULATIONS AS ATTACHMENT E.

CALCULATE AN HOURLY AND YEARLY PTE OF EACH PROCESS EMISSION POINT (SHOWN IN YOUR DETAILED PROCESS FLOW DIAGRAM) FOR ALL AIR POLLUTANTS LISTED ABOVE INCLUDING INDIVIDUAL HAP'S (LISTED IN SECTION 112[b] OF THE 1990 CAAA), TAP'S (LISTED IN 45CSR27), AND OTHER AIR POLLUTANTS (E.G. POLLUTANTS LISTED IN TABLE 45-13A OF 45CSR13, MINERAL ACIDS PER 45CSR7, ETC.).

14. CERTIFICATION OF DATA

I, JASON G. BISH, ATTEST THAT ALL THE REPRESENTATIONS CONTAINED IN THIS APPLICATION, OR APPENDED HERETO, ARE TRUE, ACCURATE, AND COMPLETE TO THE BEST OF MY KNOWLEDGE BASED ON INFORMATION AND BELIEF AFTER REASONABLE INQUIRY, AND THAT I AM A **RESPONSIBLE OFFICIAL**** (PRESIDENT, VICE PRESIDENT, SECRETARY OR TREASURER, GENERAL PARTNER OR SOLE PROPRIETOR) OF THE APPLICANT.

SIGNATURE OF RESPONSIBLE OFFICIAL:



TITLE: VICE PRESIDENT SAFETY AND REGULATORY MANAGEMENT

DATE: 6/30/2015

** THE DEFINITION OF THE PHRASE 'RESPONSIBLE OFFICIAL' CAN BE FOUND AT 45CSR13, SECTION 2.23.

NOTE: PLEASE CHECK ENCLOSED ATTACHMENTS:

ATTACHMENT A ATTACHMENT B ATTACHMENT C ATTACHMENT D ATTACHMENT E

RECORDS ON ALL CHANGES ARE REQUIRED TO BE KEPT AND MAINTAINED ON-SITE FOR TWO (2) YEARS.

THE PERMIT DETERMINATION FORM WITH THE INSTRUCTIONS CAN BE FOUND ON DAQ'S PERMITTING SECTION WEB SITE:

www.dep.wv.gov/daq



Frac Sand

Safety Data Sheet

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

Revision Date: 11/21/2014

Supersedes Date: 01/17/2014

Version: 1.0

MISSISSIPPI SAND

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

Product Identifier

Product Form: Mixture

Product Name: Frac Sand

Intended Use of the Product

Hydraulic Fracturing

Name, Address, and Telephone of the Responsible Party

Producer

Mississippi Sand, LLC

1716 Hidden Creek Court

Town & Country MO 63131

Emergency Telephone Number

Emergency number : Mississippi Sand, LLC (314) 219-7900 / (314) 220-7198 / (314) 220-7163

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

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)

: 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

P261 - Avoid breathing dust

P264 - Wash Hands and forearms 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 eye protection, protective clothing, protective gloves

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

P312 - Call a POISON CENTER/doctor/physician if you feel unwell

P314 - Get medical advice and 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 local, regional, national, territorial, provincial, and international regulations

Other Hazards Not available

Unknown Acute Toxicity (GHS-US) Not available

Frac Sand

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Mixture

Name	Product identifier	% (w/w)	Classification (GHS-US)
Quartz	(CAS No) 14808-60-7	< 95	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372
Calcium oxide	(CAS No) 1305-78-8	< 5	Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335
Magnesium oxide	(CAS No) 1309-48-4	< 5	Not classified
Iron oxide (Fe2O3)	(CAS No) 1309-37-1	< 5	Comb. Dust Aquatic Chronic 2, H411

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: If medical advice is needed, have product container or label at hand.

Inhalation: If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Rinse immediately with plenty of water. Gently wash with plenty of soap and water. Obtain medical attention if irritation persists.

Eye Contact: Immediately rinse with water for a prolonged period while holding the eyelids wide open. Seek medical attention if material is embedded in eye. If eye irritation persists: Get medical advice and attention.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Most Important Symptoms and Effects Both Acute and Delayed

General: Repeated or prolonged inhalation may damage lungs. Dust may cause mechanical irritation to eyes, nose, throat, and lungs.

Inhalation: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Skin Contact: Prolonged contact with large amounts of dust may cause mechanical irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Eye Contact: Dust may cause mechanical irritation to eyes.

Ingestion: Abdominal pain.

Chronic Symptoms: Respiratory difficulties. May cause cancer.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Not available

SECTION 5: FIREFIGHTING 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: Not flammable.

Explosion Hazard: No particular fire or explosion hazard.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Fight fire with normal precautions from a reasonable distance.

Firefighting Instructions: Not flammable.

Protection During Firefighting: Use normal individual fire protective equipment.

Hazardous Combustion Products: Not applicable

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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 generation of dust during clean-up of spills. Recover the product by vacuuming, shovelling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

For Non-Emergency Personnel

Protective Equipment: Wear suitable protective clothing, gloves and eye/face protection. Use recommended respiratory protection.

Emergency Procedures: Collect as any solid.

For Emergency Personnel Not applicable

Environmental Precautions Not applicable

Methods and Material for Containment and Cleaning Up

Methods for Cleaning Up: Avoid generation of dust during clean-up of spills. Recover the product by vacuuming, shovelling or sweeping. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

Reference to Other Sections

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: Do not breathe dust.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Always wash your hands immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke in areas where product is used.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool place. Keep container tightly closed.

Storage Area: Store in dry, cool area.

Special Rules on Packaging: Keep container closed when not in use.

Specific End Use(s) Hydraulic Fracturing

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	2 mg/m ³
USA IDLH	US IDLH (mg/m ³)	25 mg/m ³
Alberta	OEL TWA (mg/m ³)	2 mg/m ³
British Columbia	OEL TWA (mg/m ³)	2 mg/m ³
Manitoba	OEL TWA (mg/m ³)	2 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	2 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	2 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	2 mg/m ³
Nunavut	OEL STEL (mg/m ³)	4 mg/m ³
Nunavut	OEL TWA (mg/m ³)	2 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	4 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	2 mg/m ³
Ontario	OEL TWA (mg/m ³)	2 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	2 mg/m ³
Québec	VEMP (mg/m ³)	2 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	4 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	2 mg/m ³
Yukon	OEL STEL (mg/m ³)	4 mg/m ³
Yukon	OEL TWA (mg/m ³)	2 mg/m ³

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Magnesium oxide (1309-48-4)		
USA ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³
USA IDLH	US IDLH (mg/m ³)	750 mg/m ³
Alberta	OEL TWA (mg/m ³)	10 mg/m ³
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	3 mg/m ³
Manitoba	OEL TWA (mg/m ³)	10 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	10 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	10 mg/m ³
Nunavut	OEL STEL (mg/m ³)	20 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³
Northwest Territories	OEL STEL (mg/m ³)	20 mg/m ³
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³
Ontario	OEL TWA (mg/m ³)	10 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	10 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³
Yukon	OEL STEL (mg/m ³)	10 mg/m ³
Yukon	OEL TWA (mg/m ³)	10 mg/m ³
Iron oxide (Fe₂O₃) (1309-37-1)		
USA ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
USA OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	5 mg/m ³
USA IDLH	US IDLH (mg/m ³)	2500 mg/m ³
Alberta	OEL TWA (mg/m ³)	5 mg/m ³
British Columbia	OEL STEL (mg/m ³)	10 mg/m ³
British Columbia	OEL TWA (mg/m ³)	5 mg/m ³
Manitoba	OEL TWA (mg/m ³)	5 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	10 mg/m ³ (regulated under Rouge)
Newfoundland & Labrador	OEL TWA (mg/m ³)	5 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	5 mg/m ³
Nunavut	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	10 mg/m ³ (total mass)
Ontario	OEL TWA (mg/m ³)	5 mg/m ³
Prince Edward Island	OEL TWA (mg/m ³)	5 mg/m ³
Québec	VEMP (mg/m ³)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica, regulated under Rouge)
Saskatchewan	OEL STEL (mg/m ³)	20 mg/m ³ (regulated under Rouge)
Saskatchewan	OEL TWA (mg/m ³)	10 mg/m ³ (regulated under Rouge)
Yukon	OEL STEL (mg/m ³)	20 mg/m ³ (regulated under Rouge)
Yukon	OEL TWA (mg/m ³)	10 mg/m ³ (regulated under Rouge)
Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m ³)	0.025 mg/m ³
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

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Manitoba	OEL TWA (mg/m ³)	0.025 mg/m ³
New Brunswick	OEL TWA (mg/m ³)	0.1 mg/m ³
Newfoundland & Labrador	OEL TWA (mg/m ³)	0.025 mg/m ³
Nova Scotia	OEL TWA (mg/m ³)	0.025 mg/m ³
Nunavut	OEL TWA (mg/m ³)	0.3 mg/m ³ (total mass)
Northwest Territories	OEL TWA (mg/m ³)	0.3 mg/m ³ (total mass)
Ontario	OEL TWA (mg/m ³)	0.10 mg/m ³ (designated substances regulation)
Prince Edward Island	OEL TWA (mg/m ³)	0.025 mg/m ³
Québec	VEMP (mg/m ³)	0.1 mg/m ³
Saskatchewan	OEL TWA (mg/m ³)	0.05 mg/m ³
Yukon	OEL TWA (mg/m ³)	300 particle/mL

Exposure Controls

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

Personal Protective Equipment: In case of dust production: dustproof clothing. In case of dust production: protective goggles. Insufficient ventilation: wear respiratory protection.



Materials for Protective Clothing: Not available

Hand Protection: Not required for normal conditions of use.

Eye Protection: Safety glasses.

Skin and Body Protection: Wear suitable protective clothing. Wash contaminated clothing before reuse.

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

Consumer Exposure Controls: Do not breathe dust. Wear recommended personal protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Fine, angular, sugar-like particles, white, tan or pale gray.
Odor	: Odorless
Odor Threshold	: Not available
pH	: Not available
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: 1710 °C (3110 °F)
Freezing Point	: Not applicable
Boiling Point	: 2230 °C 4046 °F)
Flash Point	: Not applicable
Auto-ignition Temperature	: Not applicable
Decomposition Temperature	: Not available
Flammability (solid, gas)	: Not applicable
Lower Flammable Limit	: Not applicable
Upper Flammable Limit	: Not applicable
Vapor Pressure	: Not available
Relative Vapor Density at 20 °C	: Not available
Relative Density	: Not available
Specific Gravity	: 2.7
Solubility	: Negligible.
Log Pow	: Not available

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Log Kow	: Not available
Viscosity, Kinematic	: Not available
Viscosity, Dynamic	: Not available
Explosive properties	: None known.
Explosion Data – Sensitivity to Mechanical Impact	: Not available
Explosion Data – Sensitivity to Static Discharge	: Not available

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable under normal temperature and pressure.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Incompatible materials.

Incompatible Materials: Avoid strong oxidizers.

Hazardous Decomposition Products: Quartz (silica) will dissolve in hydrofluoric acid producing a corrosive gas, silicon tetrafluoride.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Not classified.

Serious Eye Damage/Irritation: Not classified.

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 irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Symptoms/Injuries After Skin Contact: Prolonged contact with large amounts of dust may cause mechanical irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

Symptoms/Injuries After Eye Contact: Dust may cause mechanical irritation to eyes.

Symptoms/Injuries After Ingestion: Abdominal pain.

Frac Sand	
Additional information	Accelerated Silicosis can occur with exposure to high concentrations of respirable crystalline silica over a relatively short period; the lung lesions can appear within five years of the initial exposure. The progression can be rapid. Accelerated silicosis is similar to chronic or ordinary silicosis, except that the lung lesions appear earlier and the progression is more rapid. Acute Silicosis can occur with exposures to very high concentrations of respirable crystalline silica 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 can be fatal.

Chronic Symptoms: Respiratory difficulties. May cause cancer.

Frac Sand	
Additional information	Repeated or prolonged exposure to respirable crystalline silica dust will cause lung damage in the form of silicosis. Symptoms will include progressively more difficult breathing, cough, fever, and weight loss. Acute silicosis can be fatal.

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Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Calcium oxide (1305-78-8)	
ATE (oral)	500.000 mg/kg
Iron oxide (Fe2O3) (1309-37-1)	
LD50 Oral Rat	> 10000 mg/kg
Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
Iron oxide (Fe2O3) (1309-37-1)	
IARC Group	3
Quartz (14808-60-7)	
IARC Group	1
National Toxicity Program (NTP) Status	Known Human Carcinogens.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Calcium oxide (1305-78-8)	
LC50 Fish 1	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])

Persistence and Degradability

Frac Sand	
Persistence and Degradability	Not readily biodegradable.

Bioaccumulative Potential

Frac Sand	
Bioaccumulative Potential	Not expected to bioaccumulate.

Calcium oxide (1305-78-8)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil Not applicable

Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Regional Legislation (waste): Disposal must be done according to official regulations.

Waste Disposal Recommendations: Non hazardous waste

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

US Federal Regulations

Frac Sand	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
Calcium oxide (1305-78-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Magnesium oxide (1309-48-4)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Iron oxide (Fe2O3) (1309-37-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

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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.

Calcium oxide (1305-78-8)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Magnesium oxide (1309-48-4)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

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U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Iron oxide (Fe2O3) (1309-37-1)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Oregon - Permissible Exposure Limits - TWAs
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet

Quartz (14808-60-7)

U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Mineral Dusts
U.S. - Illinois - Toxic Air Contaminant Carcinogens
U.S. - Illinois - Toxic Air Contaminants
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - Oregon - Permissible Exposure Limits - Mineral Dusts
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs

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U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Canadian Regulations

Frac Sand	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects
	

Calcium oxide (1305-78-8)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class E - Corrosive Material

Magnesium oxide (1309-48-4)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Iron oxide (Fe₂O₃) (1309-37-1)	
Listed on the Canadian DSL (Domestic Substances List) inventory.	
Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

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 Class D Division 2 Subdivision B - 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 MSDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION

Revision date	: 01/17/2014
Indication of Changes	: Revision date
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:

Aquatic Chronic 2	Hazardous to the aquatic environment - Chronic Hazard Category 2
Carc. 1A	Carcinogenicity Category 1A
Comb. Dust	Combustible Dust
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
	May form combustible dust concentrations in air
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer

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H372	Causes damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

TO THE PURCHASER/END USER/CUSTOMER ("CUSTOMER"): CUSTOMER UNDERSTANDS AND ACKNOWLEDGES THAT THE SAND, AS DELIVERED OR AS APPLIED, MAY CONTAIN FREE SILICA. CUSTOMER HAS REVIEWED THE SAFETY DATA SHEET ("SDS") REGARDING THE SAND AND HAS INFORMED ITS EMPLOYEES AND AGENTS (I) NOT TO BREATHE EXCESSIVE AMOUNTS OF THE DUST, AND (II) OF ALL OTHER APPLICABLE RISKS CONTAINED IN SUCH SDS. CUSTOMER ACKNOWLEDGES THAT (i) IT IS FAMILIAR WITH RISKS POSED BY EXPOSURE TO PRODUCTS CONTAINING SILICA, (ii) IT IS AWARE THAT THE PROLONGED EXPOSURE TO SILICA DUST CONTAINED IN THE SAND MAY CAUSE SEVERE IRREVERSIBLE LUNG DAMAGE, AND SOME MEDICAL REPORTS INDICATE SUCH INHALATION MAY CAUSE LUNG CANCER, DEBILITATING ARTHRITIS, AND SKIN AND EYE IRRITATION, AND (iii) IT IS AWARE THAT PRODUCTS CONTAINING SILICA DUST SHOULD NOT BE USED WITHOUT THE ACCOMPANYING USE OF NIOSH/MSHA/OSHA APPROVED RESPIRATORY PROTECTIVE EQUIPMENT.

Party Responsible for the Preparation of This Document

Mississippi Sand, LLC (314) 219-7900

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.

North America GHS US 2012 & WHMIS 2



Map of:
748 Mcmechen St
Benwood, WV 26031-1116

Notes



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Mississippi Sand Benwood Terminal Flow

