SAFETY DATA SHEET

MATERIAL: SAND

Section 1 – Product Identification

Product Identifier

Product Name: Sand
Synonyms: Natural sand, silica sand, river sand
Product Form: Solid
Intended Use of Product: Sand is used as a component of concrete and as a construction aggregate. It may also be used as a soil conditioner and in other construction and building material applications.

Name, Address and Telephone of Responsible Party

Aggregate Industries
24 Crosby Drive
Bedford, MA 01730
(888) 646-5246

Emergency Contact Information:

CHEMTREC: 1-800-424-9300

Section 2 – Hazards Identification

Classification of the Substance or Mixture

Classification (GHS-US)

Specific Target Organ Toxicity (Lungs): Repeat Exposure 1
Carcinogen 1A

Label Elements

Hazard Pictograms

Signal Word Danger

Hazard Statements May cause cancer (lungs).
Causes damage to organs (lungs) through prolonged or repeated exposure.

Precautionary Statements

Prevention Do not breathe dust. Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use. Do not use until all safety precautions have been read and understood.

Response **If inhaled:** Remove person to fresh air and keep comfortable for breathing. Immediately call a doctor.
If in eyes: Rinse cautiously with clean water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.
If on skin: Wash with plenty of water. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Immediately call a doctor.
If swallowed: Rinse mouth. Do not induce vomiting. Immediately call a poison center/doctor.

Storage Store in an appropriate container or containment structure.

Disposal Dispose of contents/container in accordance with local/state/national regulations.

Other Hazards Exposure may aggravate pre-existing eye, skin or respiratory conditions or illnesses.

Section 3 – Composition/Information on Ingredients

Component/Ingredient	CAS #	Percent Present (Range)
Silicon dioxide (quartz)	14808-60-7	99 - 100
Aluminum oxide	1344-28-1	0 - 1
Nuisance dusts	7631-86-9	0 - 1

Other Components

Sand is a naturally occurring material derived from the erosion of granitic minerals. It may contain trace quantities of other naturally occurring chemicals depending on its source such as iron, magnesium and titanium oxides. In its naturally occurring granular form it is not hazardous, however if ground into fine dust, the respirable particulate may constitute a health hazard if inhaled. Crystalline silica (quartz) has been identified as a human carcinogen and may cause silicosis in its respirable form. Refer to Section 16 for additional information.

Section 4 – First Aid Measures

Description of First Aid Measures

Eyes Rinse eyes and under lids cautiously with clean water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

Skin Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention.

Inhalation Remove person to fresh air away from dust and keep comfortable for breathing. Get medical attention.

Ingestion If subject is conscious, rinse the mouth with water to remove any material.

Important Symptoms and Effects (Acute and Delayed)

Eyes Redness, tearing and swelling. May scratch eye surface due to particle abrasion.

Skin May cause skin irritation through mechanical abrasion of particles.

Inhalation Irritation of nose and throat if dust is inhaled. Prolonged or repeated inhalation of respirable dust may lead to respiratory tract and lung damage or disease.

Ingestion Practically non-toxic.

Recommendations for Immediate Medical Care or Special Treatment

Seek immediate medical attention for inhalation of large quantities of respirable dust. Seek immediate medical attention for contact with eyes if particles cannot be easily removed.

Section 5 – Fire Fighting Measures

General Fire Hazards None. Material is not considered flammable or combustible.

Extinguishing Media Use water or water spray to extinguish any fires involving this material.

Extinguishing Media to Avoid None.

Hazards of Combustion None.

Fire Fighting Recommendations Firefighters should always wear full protective gear to fight any fire.

Refer to Section 9 for flammability information.

Section 6 – Accidental Release Measures

Precautions Avoid creating dust.

Personal Protection Wear respiratory protection and protective eyewear/clothing to avoid eye contact.

Emergency Procedures Ventilate area and avoid creating dust. Remove unnecessary persons from area.

Containment Procedures Barricade solid material to prevent additional spillage.

Clean Up Procedures Scoop or vacuum up spilled material while avoiding dust creation. Place in approved container.

Section 7 – Handling and Storage

Safe Handling Practices Avoid contact with eyes. Avoid breathing dust. Use only in well ventilated areas. Wear appropriate personal protective equipment to prevent eye contact and use respiratory protection equipment if dusty or in poorly ventilated areas.

Safe Storage Measures Store in well-ventilated areas away from incompatible materials (See Section 10). If stored in containers, keep containers closed when not in use.

Section 8 – Exposure Controls & Personal Protection

Exposure Limits for Individual Components **(T= Total Respirable, R=Respirable fraction, I=Inhalable-aerosol)**

Component	OSHA PEL	ACGIH TLV	NIOSH REL
Crystalline Silica (Quartz)	10 mg/m3 (R) /(% SiO2 + 2) 30 mg/m3 (T) /(% SiO2 + 2)	0.025 mg/m3 (R)	0.05 mg/m3 (R)
Aluminum Oxide	15 mg/m3 (T) 5 mg/m3 (R) (as Al)	1 mg/m3 (R) (as Al metal & insoluble compounds)	Not established
Nuisance dusts (PNOC)	15 mg/m3 (T); 5 mg/m3 (R)	10 mg/m3	Not established

Exposure Controls

Engineering Controls Use outdoors or in well-ventilated areas. Employ natural or mechanical ventilation to maintain exposure within applicable limits.

Personal Protection Avoid contact with eyes. Avoid creating or breathing dust.

Face and Eyes Safety glasses with side shields or protective goggles should be worn while using this product. For extremely dusty conditions, non-vented goggles or goggles with indirect venting are recommended. Avoid contact lens wear when using this product.

Body Long sleeved shirts and trousers should be worn while using this material.

Respiratory If exposure levels cannot be maintained below acceptable limits, suitable particulate-filtering facemasks or respirators approved by MSHA/NIOSH should be worn in accordance with the user's respiratory protection program and OSHA/MSHA guidelines.

Hands No special protection indicated, but protective gloves should be worn when working with any materials.

Section 9 – Physical and Chemical Properties

Physical State	Solid	**Specific Gravity**	2.6 – 2.7
Appearance & Color	Angular white/tan granules	**Flash Point/Method**	None. Not flammable.
Odor	None	**Auto Ignition Temperature**	Not determined
pH	6 - 8	**Lower Flammability Limit**	Not applicable
Boiling Point	2230°C	**Upper Flammability Limit**	Not applicable
Solubility (Water)	Negligible (< 1%)	**Octanol/H2O Coefficient**	Not determined
Evaporation Rate	Not applicable	**Viscosity**	Not applicable
Melting Point	1710°C	**Freezing Point**	Solid at room temperature
Vapor Density	Not applicable	**Explosion Risk: Static**	Not considered a hazard
Vapor Pressure	Not applicable	**Explosion Risk: Shock**	Not considered a hazard

Section 10 – Stability and Reactivity

Reactivity Not considered reactive.

Chemical Stability Stable at standard temperature and pressures.

Hazardous Reactions None. Hazardous polymerization will not occur.

Conditions to Avoid Contact with incompatible materials.

Incompatible Materials Avoid contact with strong acids, oxidizers and fluorine compounds.

Decomposition Hazards Silica compounds will dissolve in hydrofluoric acid producing silicon tetrafluoride which is a highly corrosive gas.

Section 11 – Toxicological Information

Product: Sand

Acute Toxicity Not classified.

LD50/LC50 Data Not classified.

Skin Corrosion/Irritation Not classified.

Critical Eye Damage/Irritation May cause eye injury due to mechanical irritation.

Respiratory or Skin Sensitization Not classified

Germ Cell Mutagenicity Not reported/no data available.

Teratogenicity Not reported/no data available.

Carcinogenicity Material contains crystalline silica, which may cause lung cancer through repeated or prolonged exposure to respirable dust.

Specific Organ Toxicity (Single Exposure) Not reported/no data available.

Specific Organ Toxicity (Repeated Exposure) May cause damage/disease to lungs through repeated or prolonged exposure.

Reproductive Toxicity Not reported/no data available.

Aspiration Respiratory Hazard Not reported/no data available.
Symptoms: Inhalation Irritation of nose and throat. Coughing, sneezing, dyspnea and mucous discharge. Extended contact with respirable dust may lead to silicosis (see Section 16).
Symptoms: Skin Contact None.
Symptoms: Eye Contact Redness and itching. Extended contact may lead to corneal abrasion.
Symptoms: Ingestion None.
Other Toxicological Information No additional data available.

Components	Toxicity	Carc: IARC	Carc: NTP	Carc: OSHA
Crystalline Silica (Quartz) (refer to Section 16 for more information)	Oral LD50 Rat >22,500 mg/kg LC50 Carp >10,000 mg/L (72 h)	Group 1	Known	Not listed
Aluminum Oxide	Oral LD50 Rat >5000mg/kg	Not listed	Not listed	Not listed
Nuisance dusts	Not established.	Not listed	Not listed	Not listed

Section 12 – Ecological Information

General Ecotoxicity Not classified.
Persistence and Degradability Not reported/no data available.
Bioaccumulation Potential Not reported/no data available.
Mobility in Soil to Groundwater Not reported/no data available.
Environmental Fate Not reported/no data available.
Other Environmental Precautions or Information None.

Section 13 – Disposal Considerations

Disposal Methods Dispose as an inert, non-metallic mineral in accordance with applicable federal, state, and local regulations.
Special Considerations Avoid creation or breathing dust during disposal. Avoid contact with skin and eyes. Refer to Section 8 for personal protection information.
Other Disposal Information Prevent material from entering sewers, drains, ditches or waterways.

Section 14 – Transport Information

Proper Shipping Name N/A – not regulated.
Hazard Class N/A – not regulated.
UN Shipping ID Number N/A – not regulated.
Packing Group N/A – not regulated.
Environmental/IMDG Codes N/A – not regulated.

Section 15 – Regulatory Information

Federal

This product contains one or more chemical components or ingredients that may require identification and/or reporting under SARA Section 302, SARA Section 311/312/313, CERCLA and/or TSCA. An examination of the components of this product should be conducted by a qualified environmental professional to determine if such identification or reporting is required by federal law.

- Components: Silica (Crystalline), Aluminum oxide

State

This product contains one or more chemical components or ingredients that are included or listed on the hazardous substances lists for one or more of the following states: California, Maine, Minnesota, New Jersey, Pennsylvania and Rhode Island. An examination of the components of this product should be conducted by a qualified environmental or safety and health professional to determine the specific requirements for those states.

- Components: Silica (Crystalline), Aluminum oxide

The state of California requires the following statement (Proposition 65) in regards to this material:

- WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

Section 16 – Other Information

Date of last revision: May 29, 2015 **Prepared and reviewed by:** Holcim (US) Inc. Occupational Safety & Health

Additional information regarding crystalline silica:
The major concern is silicosis, caused by the inhalation and retention of respirable (extremely small) crystalline silica dust particles. Silicosis can exist in several forms. Chronic or ordinary silicosis (often referred to as simple silicosis) is the most common form of silicosis, and can occur after many years of exposure to relatively low concentrations of airborne respirable crystalline silica dust. Complicated silicosis or progressive massive fibrosis (PMF) may be associated with decreased lung function and may be disabling. Advanced complicated silicosis or PMF may lead to death. Advanced complicated silicosis or PMF can result in heart disease secondary to the lung disease. 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.

IARC: The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs."

NTP: The National Toxicology Program (NTP), in its Thirteenth Annual Report on Carcinogens, classified "silica, crystalline (respirable)" as a known human carcinogen.

OSHA: Crystalline silica (quartz) is not regulated as a human carcinogen by the Occupational Safety and Health Administration.

Other important information:

While the information provided in the safety data sheet is believed to provide a useful summary of the hazards of sand, the information in this document cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product.

The data furnished in this sheet do not address hazards that may be posed by other materials when mixed with sand. Users should review other relevant safety data sheets before working with this product.

The information presented in the Safety Data Sheet is based on current knowledge and publications and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not be interpreted as guaranteeing any specific property of the product.

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--END OF SAFETY DATA SHEET--