



Material Safety Data Sheet

Section 1: PRODUCT AND COMPANY INFORMATION

Product Name(s): Sand and Gravel

Product Identifiers: Natural Sand, River Sand Screenings, Aggregates, Bank Sand and Gravel, Crushed

Gravel, Round Gravel, Concrete Sand, Asphalt Sand, Mason Sand, Fill Sand, Golf Course Sand, Base Material, Dense Graded Aggregate, Quartz, Gravel, Crushed

Rock, Crushed Stone

Manufacturer: Information Telephone Number:

Lafarge North America Inc. 773-372-1000 (9am to 5pm CST) 8700 West Bryn Mawr Avenue, Suite 300 Emergency Telephone Number:

Chicago, IL 60631 1-800-451-8346 (3E Hotline)

Product Use: Sand and gravel are aggregates used in the manufacture of bricks, mortar, cement,

concrete, plasters, paving materials, and other construction applications. Sand and

gravel are distributed in bags, totes and bulk shipment.

DO NOT use this product for abrasive blasting. This material safety data sheet and

the information contained herein were not developed for abrasive blasting.

Note: This MSDS covers many types of sand and gravel. Individual composition of

hazardous constituents will vary between sand and gravel types.

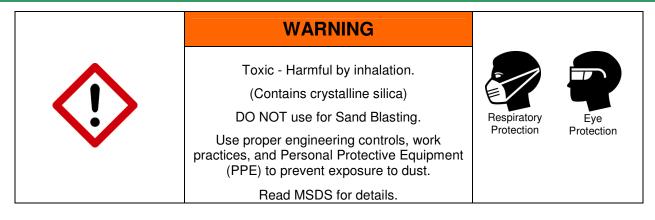
Section 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Percent	CAS	OSHA PEL -TWA	ACGIH TLV-TWA	LD ₅₀	LC ₅₀
Component	(By Weight)	Number	(mg/m ³)	(mg/m ³)		
Crystalline Silica (quartz)	50-99	14808-60-7	[(10) / (%SiO ₂ +2)] (R); [(30) / (%SiO ₂ +2)] (T)	0.025 (R)	NA	NA
Particulate Not Otherwise Regulated	-	NA	5 (R); 15 (T)	3 (R); 10 (T)	NA	NA

Warning:

Crystalline silica exists in several forms, the most common of which is quartz. If crystalline silica (quartz) is heated to more than 870° C it can change to a form of crystalline silica known as tridymite, and if crystalline silica (quartz) is heated to more than 1470° C it can change to a form of crystalline silica known as cristobalite. Crystalline silica as tridymite and cristobalite are more fibrogenic than crystalline silica as quartz. The OSHA PEL for crystalline silica as tridymite and cristobalite is one-half the PEL for crystalline silica (quartz); the ACGIH TLV for crystalline silica as cristobalite is 0.025 mg/m³ (R).

Section 3: HAZARD IDENTIFICATION



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Section 3: HAZARD IDENTIFICATION (continued)

Emergency Overview: Sand and gravel are a white or light grey/brown sold material and is odorless. It is not

combustible or explosive. A single, short-term exposure to sand and gravel presents

little or no hazard.

Potential Health Effects:

Eye Contact: Eye contact to airborne dust may cause immediate or delayed irritation or

inflammation. Eye exposures require immediate first aid and medical attention to

prevent significant damage to the eye.

Skin Contact: Sand and gravel may cause dry skin, abrasions, discomfort, and irritation.

Inhalation (acute): Breathing dust may cause nose, throat or lung irritation, including choking, depending

on the degree of exposure.

Inhalation (chronic): Risk of injury depends on duration and level of exposure.

Silicosis: This product contains crystalline silica. Prolonged or repeated inhalation of respirable

crystalline silica from this product can cause silicosis, a seriously disabling and fatal

lung disease. See Note to Physicians in Section 4 for further information.

Carcinogenicity: Crystalline silica is classified by IARC and NTP as a known human carcinogen.

<u>Autoimmune</u>

Some studies show that exposure to respirable crystalline silica (without silicosis) or that the disease silicosis may be associated with the increased incidence of several Disease:

autoimmune disorders such as scleroderma (thickening of the skin), systemic lupus

erythematosus, rheumatoid arthritis and diseases affecting the kidneys.

Tuberculosis: Silicosis increases the risk of tuberculosis.

Renal Disease: Some studies show an increased incidence of chronic kidney disease and end-stage

renal disease in workers exposed to respirable crystalline silica.

Ingestion: Do not ingest sand or gravel. Although ingestion of small quantities of sand or gravel

is not known to be harmful, large quantities can cause intestinal distress.

Medical Conditions

Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary

Aggravated by Exposure: disease) can be aggravated by exposure.

Section 4: FIRST AID MEASURES

Eye Contact: Rinse eyes thoroughly with water for at least 15 minutes, including under lids, to

remove all particles. Seek medical attention for abrasions.

Skin Contact: Wash with cool water and a pH neutral soap or a mild skin detergent. Seek medical

attention for rash or irritation.

Inhalation: Move person to fresh air. Seek medical attention for discomfort or if coughing or

other symptoms do not subside.

Ingestion: Do not induce vomiting. If conscious, have person drink plenty of water. Seek

medical attention or contact poison control center immediately.

Note to Physician: The three types of silicosis include:

> Simple chronic silicosis – which results from long-term exposure (more than 20 years) to low amounts of respirable crystalline silica. Nodules of chronic inflammation and scarring provoked by the respirable crystalline silica form in the lungs and chest lymph nodes. This disease may feature breathlessness and may resemble chronic obstructive pulmonary disease (COPD).

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Section 4: FIRST AID MEASURES (continued)

- Accelerated silicosis occurs after exposure to larger amounts of respirable crystalline silica over a shorter period of time (5-15 years). Inflammation, scarring, and symptoms progress faster in accelerated silicosis than in simple silicosis.
- Acute silicosis results from short-term exposure to very large amounts of respirable crystalline silica. The lungs become very inflamed and may fill with fluid, causing severe shortness of breath and low blood oxygen levels.

Progressive massive fibrosis may occur in simple or accelerated silicosis, but is more common in the accelerated form. Progressive massive fibrosis results from severe scarring and leads to the destruction of normal lung structures.

Section 5: FIREFIGHTING MEASURES

Flashpoint & Method: Non-combustible

General Hazard: Avoid breathing dust. **Extinguishing Media:** Use extinguishing

media appropriate for surrounding fire.

Firefighting Equipment: Sand and gravel poses no

> fire-related hazard. A SCBA is recommended to limit exposures to combustion products when fighting any

fire.

Combustion Products: None.

Section 6: ACCIDENTAL RELEASE MEASURES

General: Place spilled material into a container. Avoid actions that cause the sand or gravel to

> become airborne. Avoid inhalation of dust. Wear appropriate protective equipment as described in Section 8. Do not wash sand or gravel down sewage and drainage

systems or into bodies of water (e.g. streams).

Waste Disposal Method: Dispose of sand and gravel according to Federal, State, Provincial and Local

regulations.

Section 7: HANDLING AND STORAGE

General: Stack bagged material in a secure manner to prevent falling. Bagged sand and

> gravel is heavy and poses risks such as sprains and strains to the back, arms, shoulders and legs during lifting and mixing. Handle with care and use appropriate

control measures.

Engulfment hazard. To prevent burial or suffocation, do not enter a confined space, such as a silo, bin, bulk truck, or other storage container or vessel that stores or contains sand or gravel. Sand or gravel can buildup or adhere to the walls of a

confined space. The sand or gravel can release, collapse or fall unexpectedly.

Usage: This product is NOT to be used for abrasive blasting.

> Cutting, crushing or grinding hardened cement, concrete or other crystalline silicabearing materials will release respirable crystalline silica. Use all appropriate measures of dust control or suppression, and Personal Protective Equipment (PPE)

described in Section 8 below.

Housekeeping: Avoid actions that cause the sand or gravel to become airborne during clean-up such

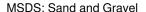
as dry sweeping or using compressed air. Use HEPA vacuum or thoroughly wet

with water to clean-up dust. Use PPE described in Section 8 below.

Unlimited. **Storage Temperature: Storage Pressure:** Unlimited.

Clothing: Remove and launder clothing that is dusty before it is reused.

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Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls: Use local exhaust or general dilution ventilation or other suppression methods to

maintain dust levels below exposure limits.

Personal Protective Equipment (PPE):

Respiratory Under ordinary conditions no respiratory protection is required. Wear a NIOSH

Protection: approved respirator that is properly fitted and is in good condition when exposed to

dust above exposure limits.

Eye Protection: Wear ANSI approved glasses or safety goggles when handling dust to prevent

contact with eyes. Wearing contact lenses when using sand or gravel, under dusty

conditions, is not recommended.

Skin Protection: Wear gloves in situations where abrasion from sand or gravel may occur. Remove

clothing and protective equipment that becomes dusty and launder before reusing.

NA.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Granular Solid. Evaporation Rate:

Appearance: White or light gray/brown. pH (in water): Neutral

Odor:None.Boiling Point:>1000° CVapor Pressure:NA.Freezing Point:None, solid.

Vapor Density: NA. Viscosity: None, solid. Specific Gravity: 2.7 Solubility in Water: Insoluble

Section 10: STABILITY AND REACTIVITY

Stability: Stable. Avoid contact with incompatible materials.

Incompatibility: Sand and gravel dissolve in hydrofluoric acid, producing corrosive silicon tetrafluoride

gas. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine

trifluoride, manganese trifluoride, and oxygen difluoride.

Hazardous Polymerization: None. Hazardous Decomposition: None.

Section 11 and 12: TOXICOLOGICAL AND ECOLOGICAL INFORMATION

For questions regarding toxicological and ecological information refer to contact information in Section 1.

Section 13: DISPOSAL CONSIDERATIONS

Dispose of waste and containers in compliance with applicable Federal, State, Provincial and Local regulations.

Section 14: TRANSPORT INFORMATION

This product is not classified as a Hazardous Material under U.S. DOT or Canadian TDG regulations.

Section 15: REGULATORY INFORMATION

OSHA/MSHA Hazard This product is considered by OSHA/MSHA to be a hazardous chemical and should

Communication: be included in the employer's hazard communication program.

CERCLA/SUPERFUND: This product is not listed as a CERCLA hazardous substance.

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Section 15: REGULATORY INFORMATION (continued)

EPCRA This product has been reviewed according to the EPA Hazard Categories

SARA Title III: promulgated under Sections 311 and 312 of the Superfund Amendment and

Reauthorization Act of 1986 and is considered a hazardous chemical and a delayed

health hazard.

EPRCA This product contains none of the substances subject to the reporting requirements of

SARA Section 313: Section 313 of Title III of the Superfund Amendments and Reauthorization Act of

1986 and 40 CFR Part 372.

RCRA: If discarded in its purchased form, this product would not be a hazardous waste

either by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the

product or derived from the product should be classified as a hazardous waste.

TSCA: Crystalline silica is exempt from reporting under the inventory update rule.

California Crystalline silica (airborne particulates of respirable size) is known by the State of

Proposition 65: California to cause cancer.

WHMIS/DSL: Sand and gravel may be subject to WHMIS depending on the intended use and

worker exposure. Sand and gravel containing crystalline silica is classified as D2A,

and are subject to WHMIS requirements.

Section 16: OTHER INFORMATION

Abbreviations:

>	Greater than	NA	Not Applicable	
ACGIH	American Conference of Governmental Industrial Hygienists	NFPA	National Fire Protection Association	
CAS No	Chemical Abstract Service number	NIOSH	National Institute for Occupational Safety and Health	
	Comprehensive Environmental	NTP	National Toxicology Program	
CERCLA	Response, Compensation and Liability Act	OSHA	Occupational Safety and Health Administration	
CFR	Code for Federal Regulations	PEL	Permissible Exposure Limit	
CL	Ceiling Limit	рН	Negative log of hydrogen ion	
DOT	U.S. Department of Transportation	PPE	Personal Protective Equipment	
EST	Eastern Standard Time	R	Respirable Particulate	
HEPA	High-Efficiency Particulate Air	RCRA	Resource Conservation and Recovery Act	
HMIS	Hazardous Materials Identification System	SARA	Superfund Amendments and Reauthorization Act	
IARC	International Agency for Research on	Т	Total Particulate	
	Cancer	TDG	Transportation of Dangerous Goods	
LC ₅₀	Lethal Concentration	TLV	Threshold Limit Value	
LD ₅₀	Lethal Dose	TWA	Time Weighted Average (8 hour)	
mg/m ³	Milligrams per cubic meter	VALLIVALO	Workplace Hazardous Materials	
MSHA	Mine Safety and Health Administration	WHMIS	Information System	

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Section 16: OTHER INFORMATION (continued)

This MSDS (Sections 1-16) was revised on March 1, 2014.

An electronic version of this MSDS is available at: www.lafarge-na.com under the Sustainability and Products sections. Please direct any inquiries regarding the content of this MSDS to SDSinfo@Lafarge.com.

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