Slag

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Revision Date: 04/14/2015 Date of issue: 04/14/2015 Version: 1.0

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: Slag

Synonyms: NewCem®, LitexTM Lightweight Aggregate, True Lite Lightweight AggregateTM, VitrexTM Pelletized Slag, Ground Granulated Blast Furnace Slag (GGBFS), Blast Furnace Slag, Steel Slag, Granulated Slag, Pelletized Slag, Metallic Slag, Air Cooled Slag, Nonmetallic Slag, Slag Cement, Hydraulic Slag Cement, Slag

Note: This SDS covers many types of slag. Individual composition of hazardous constituents will vary between slag types.

1.2. Intended Use of the Product

Slag is used as a supplementary cementitious material for cement, concrete and concrete products. It is also used in soil stabilization and as filler in asphalt and other products that are widely used in construction.

1.3. Name, Address, and Telephone of the Responsible Party

Company

Lafarge North America Inc.
8700 West Bryn Mawr Avenue, Suite 300
Chicago, IL 60631
Information: 773-372-1000 (9am to 5pm CST)
email: SDSinfo@Lafarge.com
Website: www.lafarge-na.com

1.4. Emergency Telephone Number

Emergency Number : 1-800-451-8346 (3E Hotline)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Skin Irrit. 2 H315
Eye Dam. 1 H318
Carc. 1A H350
STOT SE 3 H335

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS05 GHS07 GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H315 - Causes skin irritation.
H318 - Causes serious eye damage.
H335 - May cause respiratory irritation.
H350 - May cause cancer.

Precautionary Statements (GHS-US) : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P261 - Avoid breathing dust.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear eye protection, protective clothing, protective gloves.
P302+P352+P313- IF ON SKIN: Wash with plenty of water. Get medical advice/attention.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove

contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P403+P233+P405- Store in a well-ventilated place. Keep container tightly closed. Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

2.3. Other Hazards

Inhalation can cause serious, potentially irreversible lung/respiratory tract tissue damage due to chemical (caustic) burns, including third degree burns. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) or sensitivity to hexavalent chromium can be aggravated by exposure. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. The presence of heavy metals may cause sensitization in sensitive individuals. Risk of thermal burns on contact with molten product.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	**Product Identifier**	**% (w/w)**	**Classification (GHS-US)**
Slags, ferrous metal, blast furnace	(CAS No) 65996-69-2	100	Not classified
Contains	**Product Identifier**	**% (w/w)**	**Classification (GHS-US)**
Calcium oxide	(CAS No) 1305-78-8	30 - 50	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
Magnesium oxide (MgO)	(CAS No) 1309-48-4	> 0.1, 0.1 - 1, 1 - 5, 5 - 10, 10 - 20	Not classified
Quartz	(CAS No) 14808-60-7	< 1	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Slag is a nonmetallic byproduct from the production of iron. Trace amounts of chemicals may be detected during chemical analysis. For example, slag may contain trace amounts of manganese oxide, titanium oxide, chromium compounds, sulfur compounds, and other trace compounds.
Multiple WHMIS ranges have been utilized to account for varying concentration.
Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label if possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. If you feel unwell, seek medical advice.

Skin Contact: Remove contaminated clothing. Gently wash with plenty of soap and water followed by rinsing with water for at least 15 minutes. Call a POISON CENTER or doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Irritation to eyes, skin and respiratory tract. Causes serious eye damage.

Inhalation: Breathing dust may cause nose, throat, or lung irritation, including choking, depending on the degree of exposure. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. Some studies show that exposure to respirable crystalline silica may be associated with increased incidences of autoimmune disorders such as scleroderma, systemic lupus erythematosus, rheumatoid arthritis, and diseases affecting the kidneys. The extent and severity of lung injury depends on duration and level of exposure. Corrosive to the respiratory tract.

Skin Contact: Slag may cause dry skin, discomfort, irritation, and dermatitis. Slag is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of slag including moisture and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in slag. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with slag. Others may develop allergic dermatitis after years of repeated contact with slag.

Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet slag can cause moderate eye irritation. Eye exposures require immediate first aid to prevent significant damage to the eye.

Ingestion: Do not ingest slag. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Slag is incompatible with acids, ammonium salts and aluminum metal. Slag and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Do not get water inside containers. Do not apply water stream directly at source of leak.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: None.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not breathe dust. Do not get in eyes, on skin, or on clothing.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Place spilled material into a container. Avoid actions that cause the slag to become airborne. Avoid inhalation of slag and contact with skin. Wear appropriate protective equipment as described in Section 8. Scrape wet slag and place in container. Allow material to dry or solidify before disposal. Do not wash slag down sewage and drainage systems or into bodies of water (e.g. streams).

Methods for Cleaning Up: Avoid actions that cause dust 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.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection. Concerning disposal elimination after cleaning, see item 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Cutting, crushing or grinding hardened cement, concrete or other crystalline silica bearing 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. Heating the product or containers can cause thermal decomposition of the product and release hydrogen sulfide. Hydrogen sulfide is a highly flammable, explosive gas under certain conditions, is a toxic gas, and may be fatal. Gas can accumulate in the headspace of closed containers, use caution when opening sealed containers. Risk of thermal burns on contact with molten product.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use.

Incompatible Materials: Slag is incompatible with acids, ammonium salts and aluminum metal. Slag and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

7.3. Specific End Use(s) Slag is used as a supplementary cementitious material for cement, concrete and concrete products. It is also used in soil stabilization and as filler in asphalt and other products that are widely used in construction.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Quartz (14808-60-7)		
Mexico	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
USA OSHA	OSHA PEL (STEL) (mg/m³)	250 mppcf/%SiO_2+5, 10mg/m^3/%SiO_2+2
USA NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ (respirable dust)
USA IDLH	US IDLH (mg/m³)	50 mg/m³ (respirable dust)
Alberta	OEL TWA (mg/m³)	0.025 mg/m³ (respirable particulate)
British Columbia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable)
Manitoba	OEL TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
New Brunswick	OEL TWA (mg/m³)	0.1 mg/m³ (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
Nova Scotia	OEL TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
Nunavut	OEL TWA (mg/m³)	0.1 mg/m³ (respirable mass)
Northwest Territories	OEL TWA (mg/m³)	0.1 mg/m³ (respirable mass)
Ontario	OEL TWA (mg/m³)	0.10 mg/m³ (designated substances regulation-respirable)
Prince Edward Island	OEL TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
Québec	VEMP (mg/m³)	0.1 mg/m³ (respirable dust)
Saskatchewan	OEL TWA (mg/m³)	0.05 mg/m³ (respirable fraction)
Yukon	OEL TWA (mg/m³)	300 particle/mL

Calcium oxide (1305-78-8)		
Mexico	OEL TWA (mg/m³)	2 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³

USA NIOSH	NIOSH REL (TWA) (mg/m³)	2 mg/m³
USA IDLH	US IDLH (mg/m³)	25 mg/m³
Alberta	OEL TWA (mg/m³)	2 mg/m³
British Columbia	OEL TWA (mg/m³)	2 mg/m³
Manitoba	OEL TWA (mg/m³)	2 mg/m³
New Brunswick	OEL TWA (mg/m³)	2 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	2 mg/m³
Nunavut	OEL STEL (mg/m³)	4 mg/m³
Nunavut	OEL TWA (mg/m³)	2 mg/m³
Northwest Territories	OEL STEL (mg/m³)	4 mg/m³
Northwest Territories	OEL TWA (mg/m³)	2 mg/m³
Ontario	OEL TWA (mg/m³)	2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	2 mg/m³
Québec	VEMP (mg/m³)	2 mg/m³
Saskatchewan	OEL STEL (mg/m³)	4 mg/m³
Saskatchewan	OEL TWA (mg/m³)	2 mg/m³
Yukon	OEL STEL (mg/m³)	4 mg/m³
Yukon	OEL TWA (mg/m³)	2 mg/m³

Magnesium oxide (MgO) (1309-48-4)		
Mexico	OEL TWA (mg/m³)	10 mg/m³ (fume)
USA ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ (inhalable fraction)
USA OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (fume, total particulate)
USA IDLH	US IDLH (mg/m³)	750 mg/m³ (fume)
Alberta	OEL TWA (mg/m³)	10 mg/m³ (fume)
British Columbia	OEL STEL (mg/m³)	10 mg/m³ (respirable dust and fume)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (fume, inhalable)
Manitoba	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
New Brunswick	OEL TWA (mg/m³)	10 mg/m³ (fume)
Newfoundland & Labrador	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Nova Scotia	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Nunavut	OEL STEL (mg/m³)	20 mg/m³ (fume)
Nunavut	OEL TWA (mg/m³)	10 mg/m³ (fume)
Northwest Territories	OEL STEL (mg/m³)	20 mg/m³ (fume)
Northwest Territories	OEL TWA (mg/m³)	10 mg/m³ (fume)
Ontario	OEL TWA (mg/m³)	10 mg/m³ (inhalable)
Prince Edward Island	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Québec	VEMP (mg/m³)	10 mg/m³ (fume)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³ (inhalable fraction)
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³ (inhalable fraction)
Yukon	OEL STEL (mg/m³)	10 mg/m³ (fume)
Yukon	OEL TWA (mg/m³)	10 mg/m³ (fume)

Particulates not otherwise classified (PNOC) (RR-00072-6)		
USA ACGIH	ACGIH TWA (mg/m³)	3 mg/m^3 Respirable fraction 10 mg/m^3 Total Dust
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m^3 Respirable fraction 15 mg/m^3 Total Dust
Alberta	OEL TWA (mg/m³)	10 mg/m³ (total)
British Columbia	OEL TWA (mg/m³)	10 mg/m³ (total dust)

Manitoba	OEL TWA (mg/m³)	10 mg/m³ (inhalable particles, recommended)
New Brunswick	OEL TWA (mg/m³)	3 mg/m³ (particulate matter containing no Asbestos and <1% Crystalline silica, respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m³)	10 mg/m³ (inhalable particles, recommended)
Nova Scotia	OEL TWA (mg/m³)	10 mg/m³ (inhalable particles, recommended)
Nunavut	OEL TWA (mg/m³)	5 mg/m³ (respirable mass)
Northwest Territories	OEL TWA (mg/m³)	5 mg/m³ (respirable mass)
Ontario	OEL TWA (mg/m³)	10 mg/m³ (inhalable)
Prince Edward Island	OEL TWA (mg/m³)	10 mg/m³ (inhalable particles, recommended)
Québec	VEMP (mg/m³)	10 mg/m³ (including dust, inert or nuisance particulates; containing no Asbestos and <1% Crystalline silica-total dust)
Saskatchewan	OEL STEL (mg/m³)	20 mg/m³ (insoluble or poorly insoluble-inhalable fraction)
Saskatchewan	OEL TWA (mg/m³)	10 mg/m³ (insoluble or poorly soluble-inhalable fraction)

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices.

Personal Protective Equipment: Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear gloves impervious to water to prevent skin contact.

Eye Protection: Wear safety goggles when handling dust or wet slag to prevent contact with eyes. Wearing contact lenses when using slag, under dusty conditions, is not recommended.

Skin and Body Protection: Wear gloves, boot covers and protective clothing impervious to water to prevent skin contact.

Respiratory Protection: Wear a NIOSH approved respirator that is properly fitted and is in good condition when exposed to dust above exposure limits.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Solid
Appearance	:	Gray/black or brown/tan powder
Odor	:	None
Odor Threshold	:	Not available
pH	:	8 - 11 (in water)
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	None, solid
Boiling Point	:	> 1000 °C (> 1832 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	Not available
Relative Density	:	Not available

Specific Gravity	:	2 - 3
Solubility	:	Negligible
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	None, solid
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Slag is incompatible with acids, ammonium salts and aluminum metal. Slag and cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Slag and cement reacts with water to form silicates and calcium hydroxide. Silicates react with powerful oxidizers such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Extremely high or low temperatures. Incompatible materials.

10.5. Incompatible Materials: Acids. Ammonium salts. Aluminum. Hydrofluoric acid. Water. Oxidizers.

10.6. Hazardous Decomposition Products: Hydrogen sulfide gas may be released from moist or wet slag when it is heated.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: Causes skin irritation

pH: 8 - 11 (in water)

Serious Eye Damage/Irritation: Causes serious eye damage

pH: 8 - 11 (in water)

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not classified

Carcinogenicity: May cause cancer

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Breathing dust may cause nose, throat, or lung irritation, including choking, depending on the degree of exposure. Prolonged or repeated inhalation of respirable crystalline silica from this product can cause silicosis, a seriously disabling and fatal lung disease. Some studies show that exposure to respirable crystalline silica may be associated with increased incidences of autoimmune disorders such as scleroderma, systemic lupus erythematosus, rheumatoid arthritis, and diseases affecting the kidneys. The extent and severity of lung injury depends on duration and level of exposure. Corrosive to the respiratory tract

Symptoms/Injuries After Skin Contact: Slag may cause dry skin, discomfort, irritation, and dermatitis. Slag is capable of causing dermatitis by irritation and allergy. Skin affected by dermatitis may include symptoms such as, redness, itching, rash, scaling, and cracking. Irritant dermatitis is caused by the physical properties of slag including moisture and abrasion. Allergic contact dermatitis is caused by sensitization to hexavalent chromium (chromate) present in slag. The reaction can range from a mild rash to severe skin ulcers. Persons already sensitized may react to the first contact with slag. Others may develop allergic dermatitis after years of repeated contact with slag

Symptoms/Injuries After Eye Contact: Airborne dust may cause immediate or delayed irritation or inflammation. Eye contact with large amounts of dry powder or with wet slag can cause moderate eye irritation. Eye exposures require immediate first aid to prevent significant damage to the eye

Symptoms/Injuries After Ingestion: Do not ingest slag. Ingestion is likely to be harmful or have adverse effects

Chronic Symptoms: If dust is generated, repeated exposure through inhalation may cause cancer or lung disease

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg

Calcium oxide (1305-78-8)	
LD50 Oral Rat	> 2000 mg/kg
LD50 Dermal Rabbit	> 2500 mg/kg

Quartz (14808-60-7)	
IARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

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

12.2. Persistence and Degradability Not available

12.3. Bioaccumulative Potential Not available

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, state, national, provincial, territorial and international regulations.

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

15.1. US Federal Regulations

Slag	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	This product may contain constituents listed under SARA (Title III) Section 313, but not in amounts requiring supplier notification under 40 CFR Part 372 Subpart C.

Quartz (14808-60-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Calcium oxide (1305-78-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Magnesium oxide (MgO) (1309-48-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Slags, ferrous metal, blast furnace (65996-69-2)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. 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.

Quartz (14808-60-7)
U.S. - Massachusetts - Right To Know List

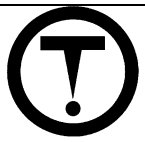
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Calcium oxide (1305-78-8)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Magnesium oxide (MgO) (1309-48-4)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

15.3. Canadian Regulations

Slag	
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



Quartz (14808-60-7)	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Calcium oxide (1305-78-8)	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class E - Corrosive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Magnesium oxide (MgO) (1309-48-4)	
Listed on the Canadian DSL (Domestic Substances List)	
Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Slags, ferrous metal, blast furnace (65996-69-2)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 04/14/2015

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:

Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3

H315	Causes skin irritation
H318	Causes serious eye damage
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

Party Responsible for the Preparation of This Document
Lafarge North America Inc.
+1 773-372-1000 (9am to 5pm CST)

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

Lafarge North America Inc. (LNA) believes the information contained herein is accurate; however, LNA makes no guarantees with respect to such accuracy and assumes no liability in connection with the use of the information contained herein which is not intended to be and should not be construed as legal advice or as insuring compliance with any federal, state or local laws or regulations. Any party using this product should review all such laws, rules, or regulations prior to use, including but not limited to US and Canada Federal, Provincial and State regulations.

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE.

North America GHS US 2012 & WHMIS 2