



# Lafarge Fly Ash and Bottom Ash (Ash)

Safety Data Sheet

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

Revision Date: 04/21/2015

Date of Issue: 12/18/2014

Supersedes Date: 03/01/2014

Version: 1.0

## SECTION 1: IDENTIFICATION

### 1.1. Product Identifier

Product Form: Mixture

Product Name: Lafarge Fly Ash and Bottom Ash (Ash)

Synonyms: Coal Fly Ash, Class F Fly Ash, Class C Fly Ash, Type CI Fly Ash, Type CH Fly Ash, Type F Fly Ash, Lignite Coal Fly Ash, Subbituminous Coal Fly Ash, Anthracite Coal Fly Ash, Bituminous Coal Fly Ash, Bottom Ash, Ash

### 1.2. Intended Use of the Product

Fly Ash and Bottom Ash are used as a supplementary cementitious or pozzolanic 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](mailto:SDSinfo@Lafarge.com)

Website: [www.lafarge-na.com](http://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)

Eye Irrit. 2B H320

Carc. 1A H350

STOT RE 1 H372

Full text of H-phrases: see section 16

### 2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :



GHS08

Signal Word (GHS-US) :

Danger

Hazard Statements (GHS-US) :

H320 - Causes eye irritation.

H350 - May cause cancer (Inhalation).

H372 - Causes damage to organs through prolonged or repeated exposure.

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.

P264 - Wash hands, forearms, and exposed areas thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear eye protection, protective clothing, protective gloves, and respiratory protection.

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.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

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### 2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Individuals with lung disease (e.g. bronchitis, emphysema, COPD, pulmonary disease) can be aggravated by exposure.

### 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)
Ashes, residues	(CAS No) 68131-74-8	< 100	Eye Irrit. 2B, H320
Quartz	(CAS No) 14808-60-7	0 - 10	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Fly ash and bottom ash are byproducts from the combustion of coal. Trace amounts of chemicals may be detected during chemical analysis. For example the chemicals identified can include carbon and complex silicates or oxides of aluminum (Al), calcium (Ca), magnesium (Mg), sodium (Na), sulfur (S), potassium (K), titanium (Ti), iron (Fe) and phosphorus (P). Chemical identity:  $MxOySiO_2$  (M = Al, Ca, Mg and other minor metal, with bound silica ( $SiO_2$ )). Chemical analysis of fly ash and bottom ash also indicate the presence of trace amounts of metals, such as: Arsenic (As), Barium (Ba), Beryllium (Be), Cobalt (Co), Lead (Pb), and Manganese (Mn).

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 where possible).

**Inhalation:** When symptoms occur: go into open air and ventilate suspected area. If exposed or concerned: Get medical advice/attention.

**Skin Contact:** Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

**Eye Contact:** Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**Ingestion:** Rinse mouth. Do NOT induce vomiting. Get medical advice and attention if you feel unwell.

### 4.2. Most Important Symptoms and Effects Both Acute and Delayed

**General:** Causes damage to organs through prolonged or repeated exposure.

**Inhalation:** May cause respiratory irritation. 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.

**Skin Contact:** Ash may cause dry skin, discomfort, and irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

**Eye Contact:** Causes eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

**Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** Causes damage to organs through prolonged or repeated exposure. May cause cancer by inhalation.

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

If you feel unwell, seek medical advice (show the label where possible).

## 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:** Non-combustible.

**Explosion Hazard:** Product is not explosive.

**Reactivity:** Hazardous reactions will not occur under normal conditions.

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### 5.3. Advice for Firefighters

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

**Firefighting Instructions:** Do not allow run-off from fire fighting to enter drains or water sources. Do not breathe fumes or vapors from fire.

**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:** Avoid all contact with skin, eyes, or clothing. Do not breathe dust.

#### 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:** Ventilate area.

### 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 dust to become airborne. Avoid inhalation of dust. Wear appropriate protective equipment as described in Section 8. Do not wash product down sewage and drainage systems or into bodies of water (e.g. streams).

**Methods for Cleaning Up:** Clear up spills immediately and dispose of waste safely.

### 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 cement clinker, 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.

**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 hands and forearms thoroughly after handling. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Ensure all national/local regulations are observed. Avoid creating or spreading dust.

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

**Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.

**Storage Area:** Store locked up.

**7.3. Specific End Use(s)** Fly Ash and Bottom Ash are used as a supplementary cementitious or pozzolanic 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/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (respirable fraction)
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable fraction)
USA OSHA	OSHA PEL (STEL) (mg/m <sup>3</sup> )	250 mppcf/%SiO <sub>2</sub> +5, 10mg/m <sup>3</sup> /%SiO <sub>2</sub> +2

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USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> (respirable dust)
USA IDLH	US IDLH (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup> (respirable dust)
Alberta	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable particulate)
British Columbia	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable)
Manitoba	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable fraction)
New Brunswick	OEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (respirable fraction)
Newfoundland & Labrador	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable fraction)
Nova Scotia	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable fraction)
Nunavut	OEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (respirable mass)
Northwest Territories	OEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (respirable mass)
Ontario	OEL TWA (mg/m <sup>3</sup> )	0.10 mg/m <sup>3</sup> (designated substances regulation-respirable)
Prince Edward Island	OEL TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup> (respirable fraction)
Québec	VEMP (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> (respirable dust)
Saskatchewan	OEL TWA (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup> (respirable fraction)
Yukon	OEL TWA (mg/m <sup>3</sup> )	300 particle/mL

## 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:** Protective goggles. Gloves. Protective clothing. Dust formation: dust mask.



**Materials for Protective Clothing:** Chemically resistant materials and fabrics.

**Hand Protection:** Wear chemically resistant protective gloves.

**Eye Protection:** Chemical safety goggles.

**Skin and Body Protection:** Wear suitable protective clothing.

**Respiratory Protection:** If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

**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 which may contain solidified masses
Odor	: None
Odor Threshold	: Not available
pH	: 4 - 12
Evaporation Rate	: Not available
Melting Point	: Not available
Freezing Point	: Not available
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

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Relative Density	: Not available
Specific Gravity	: 2 - 2.9
Solubility	: Water: < 5 % (Slightly)
Partition Coefficient: N-Octanol/Water	: Not available
Viscosity	: Not available
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:** Hazardous reactions will not occur under normal conditions.
- 10.2. **Chemical Stability:** Not available
- 10.3. **Possibility of Hazardous Reactions:** Not available
- 10.4. **Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures.
- 10.5. **Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers.
- 10.6. **Hazardous Decomposition Products:** None.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information on Toxicological Effects - Product

**Acute Toxicity:** Not classified

**LD50 and LC50 Data:** Not available

**Skin Corrosion/Irritation:** Not classified

**pH:** 4 - 12

**Serious Eye Damage/Irritation:** Causes eye irritation.

**pH:** 4 - 12

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Teratogenicity:** Not classified.

**Carcinogenicity:** May cause cancer.

**Specific Target Organ Toxicity (Repeated Exposure):** Causes damage to organs through prolonged or repeated exposure.

**Reproductive Toxicity:** Not classified

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** May cause respiratory irritation. 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.

**Symptoms/Injuries After Skin Contact:** Ash may cause dry skin, discomfort, and irritation. Dust may cause irritation in skin folds or by contact in combination with tight clothing.

**Symptoms/Injuries After Eye Contact:** Causes eye irritation. Symptoms may include: Redness, pain, swelling, itching, burning, tearing, and blurred vision.

**Symptoms/Injuries After Ingestion:** Ingestion is likely to be harmful or have adverse effects.

**Chronic Symptoms:** Causes damage to organs through prolonged or repeated exposure. May cause cancer by inhalation.

#### 11.2. Information on Toxicological Effects - Ingredient(s)

**LD50 and LC50 Data:**

<b>Quartz (14808-60-7)</b>	
LD50 Oral Rat	> 5000 mg/kg
LD50 Dermal Rat	> 5000 mg/kg
<b>Ashes, residues (68131-74-8)</b>	
LD50 Oral Rat	> 2000 mg/kg
<b>Quartz (14808-60-7)</b>	
ARC Group	1
National Toxicology Program (NTP) Status	Known Human Carcinogens.

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## SECTION 12: ECOLOGICAL INFORMATION

**12.1. Toxicity** No additional information available

### Persistence and Degradability

Lafarge Fly Ash and Bottom Ash (Ash)	
Persistence and Degradability	Not established.

**12.3. Bioaccumulative Potential**

Lafarge Fly Ash and Bottom Ash (Ash)	
Bioaccumulative Potential	Not established.

**12.4. Mobility in Soil** Not available

**12.5. Other Adverse Effects**

**Other Information:** Avoid release to the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1. Waste treatment methods**

**Sewage Disposal Recommendations:** Do not empty into drains. Do not dispose of waste into sewer.

**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**

Lafarge Fly Ash and Bottom Ash (Ash)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

**Quartz (14808-60-7)**

Listed on the United States TSCA (Toxic Substances Control Act) inventory

**Ashes, residues (68131-74-8)**

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

**15.3. Canadian Regulations**

Lafarge Fly Ash and Bottom Ash (Ash)	
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



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<b>Quartz (14808-60-7)</b>	
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
<b>Ashes, residues (68131-74-8)</b>	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	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 SDS contains all of the information required by CPR.

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

Revision Date : 04/21/2015

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 Irrit. 2B	Serious eye damage/eye irritation Category 2B
STOT RE 1	Specific target organ toxicity (repeated exposure) Category 1
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H320	Causes eye irritation
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

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