

# Bottom Ash Lightweight Aggregate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Revision Date: 06/05/2014 Date of issue: 02/03/2010 Supersedes: 02/03/2010

Version: 1.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

**Product Form:** Mixture

**Product Name:** Bottom Ash Lightweight Aggregate

**Formula:** Complex mixture of inorganic minerals including metals and silica

#### 1.2. Intended Use of the Product

**Use of the Substance/Mixture:** Construction

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

##### Company

Phoenix Cement Company

8800 E. Chaparral Rd. Suite 155

Scottsdale, AZ 85250-2606

Customer Service: Phone (480)-850-5757 Fax (480) 850-4333

[www.srmaterials.com](http://www.srmaterials.com)

#### 1.4. Emergency Telephone Number

**Emergency Number** : 1-800-424-9300 (CHEMTREC) 24-hour

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the Substance or Mixture

##### Classification (GHS-US)

Skin Irrit. 2 H315

Eye Irrit. 2A H319

Carc. 1A H350

#### 2.2. Label Elements

##### GHS-US Labeling

##### Hazard Pictograms (GHS-US)



##### Signal Word (GHS-US)

: Danger

##### Hazard Statements (GHS-US)

: H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H350 - May cause cancer (Inhalation)

##### Precautionary Statements (GHS-US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.  
P280 - Wear eye protection, protective clothing, protective gloves.  
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.  
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.  
P321 - Specific treatment (see Section 4).  
P332+P313 - If skin irritation occurs: Get medical advice/attention.  
P337+P313 - If eye irritation persists: Get medical advice/attention.  
P362 - Take off contaminated clothing and wash before reuse.  
P501 - Dispose of contents/container according to local, regional, national, and international regulations.

#### 2.3. Other Hazards

**Other Hazards Not Contributing to the Classification:** Smoking increases the risk of bronchitis, silicosis, and lung cancer that is associated with this product. This product may also increase the risk of scleroderma for which the causes are unknown, but some reports link overexposure to silica in combination with other chemicals to this disease.

#### 2.4. Unknown Acute Toxicity (GHS-US)

No data available

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Calcium oxide	(CAS No) 1305-78-8	2.16 - 6.16	Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 3, H335
Quartz	(CAS No) 14808-60-7	0 - 0.5	Carc. 1A, H350 STOT SE 3, H335 STOT RE 1, H372

Full text of H-phrases: see section 16

### SECTION 4: FIRST AID MEASURES

#### 4.1. Description of First Aid Measures

**First-aid Measures General:** Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

**First-aid Measures After Inhalation:** If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

**First-aid Measures After 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.

**First-aid Measures After Eye Contact:** Do not rub. Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

**First-aid Measures After Ingestion:** Rinse mouth. Do not induce vomiting. Get medical advice and attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms/Injuries:** Irritation to eyes, skin and respiratory tract.

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

**Symptoms/Injuries After Skin Contact:** May cause irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

**Symptoms/Injuries After Ingestion:** May be harmful if swallowed.

**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.

#### 5.2. Special Hazards Arising From the Substance or Mixture

**Fire Hazard:** Not flammable.

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

**Reactivity:** Adding water produces (caustic) calcium hydroxide. Reacts exothermically with (some) acids.

#### 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 courses.

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

### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1. Personal Precautions, Protective Equipment and Emergency Procedures

**General Measures:** Do not get in eyes, on skin, or on 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 Responders

**Protective Equipment:** Equip cleanup crew with proper protection.

**Emergency Procedures:** Ventilate area.

#### 6.2. Environmental Precautions

Prevent entry to sewers and public waters.

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### 6.3. Methods and Material for Containment and Cleaning Up

**For Containment:** Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

**Methods for Cleaning Up:** Clear up spills immediately and dispose of waste safely. Avoid generation of dust during clean-up.

### 6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for Safe Handling

**Additional Hazards When Processed:** Product becomes alkaline when exposed to moisture or water. Exposure can cause chemical burns, or severe irritation of the mucous membranes, skin, eyes, and other exposed areas.

**Precautions for Safe Handling:** Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.

**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.

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

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

**Incompatible Products:** Strong acids. Halogens (F, Cl, Br, I). Metals.

### 7.3. Specific End Use(s)

Construction.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control Parameters

Aluminum oxide (1344-28-1)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Silica, amorphous (7631-86-9)		
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	3000 mg/m <sup>3</sup>
Iron oxide (Fe <sub>2</sub> O <sub>3</sub> ) (1309-37-1)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	2500 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
Quartz (14808-60-7)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.025 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	0.05 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	50 mg/m <sup>3</sup>
Calcium oxide (1305-78-8)		
USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
USA IDLH	US IDLH (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>

### 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. Ensure adequate ventilation, especially in confined areas.

#### Personal Protective Equipment

: Safety glasses. Gloves. Protective clothing. Dust formation: dust mask.



#### Hand Protection

: Wear chemically resistant protective gloves.

#### Eye Protection

: Chemical goggles or safety glasses.

#### Skin and Body Protection

: Wear suitable protective clothing.

#### Respiratory Protection

: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

#### Other Information

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

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### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1. Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: Light to dark gray with black particles. Texture varies from fine sand to approximately 1" size cinders.
Odor	: No distinctive odor.
Odor Threshold	: No data available
pH	: 9 - 11 (in water)
Relative Evaporation Rate (butylacetate=1)	: No data available
Melting Point	: > 760 °C (> 1,400 °F)
Freezing Point	: No data available
Boiling Point	: > 1093 °C (> 2,000 °F)
Flash Point	: No data available
Auto-ignition Temperature	: No data available
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: No data available
Relative Vapor Density at 20 °C	: No data available
Relative Density	: 1.41 - 2.21
Solubility	: Water: 0.05 % (by weight)
Partition coefficient: n-octanol/water	: No data available
Viscosity	: No data available

#### 9.2. Other Information No additional information available

### SECTION 10: STABILITY AND REACTIVITY

- 10.1 Reactivity:** Adding water produces (caustic) calcium hydroxide. Reacts exothermically with (some) acids.
- 10.2 Chemical Stability:** The product is stable at normal handling and storage conditions.
- 10.3 Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4 Conditions to Avoid:** Moisture. Avoid creating or spreading dust.
- 10.5 Incompatible Materials:** Strong acids. Metals. Halogens.
- 10.6 Hazardous Decomposition Products:** None.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Quartz (14808-60-7)	
LD50 Oral Rat	> 5000 mg/kg
Calcium oxide (1305-78-8)	
ATE (Oral)	500.000 mg/kg

**Skin Corrosion/Irritation:** Causes skin irritation. (pH: 9 - 11 (in water))

**Serious Eye Damage/Irritation:** Causes serious eye irritation. (pH: 9 - 11 (in water))

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** Not classified

**Carcinogenicity:** May cause cancer (Inhalation).

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

**Reproductive Toxicity:** Not classified

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

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

**Aspiration Hazard:** Not classified

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

**Symptoms/Injuries After Skin Contact:** May cause irritation.

**Symptoms/Injuries After Eye Contact:** May cause eye irritation.

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**Symptoms/Injuries After Ingestion:** May be harmful if swallowed.

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

### SECTION 12: ECOLOGICAL INFORMATION

#### 12.1. Toxicity

Aluminum oxide (1344-28-1)	
LC50 Fish 1	14.6 mg/l
EC50 Daphnia 1	38.2 mg/l
NOEC (acute)	> 50 mg/l

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

**12.2. Persistence and Degradability** No additional information available

#### 12.3. Bioaccumulative Potential

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

**12.4. Mobility in Soil** No additional information available

#### 12.5. Other Adverse Effects

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

### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

**Waste Disposal Recommendations:** Dispose of waste material in accordance with all local, regional, national, 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

### SECTION 15: REGULATORY INFORMATION

#### 15.1 US Federal Regulations

Bottom Ash Lightweight Aggregate	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

Aluminum oxide (1344-28-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 313 - Emission Reporting	1.0 % (fibrous forms)

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	

#### 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. - New Jersey - Special Health Hazards Substances 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. - New Jersey - Special Health Hazards Substances List	
U.S. - Pennsylvania - RTK (Right to Know) List	

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

**Revision date** : 06/05/2014

**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 Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Corr. 1C	Skin corrosion/irritation Category 1C
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
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

*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.*

SDS US (GHS HazCom)