



**Safety Data Sheet**  
**Medium-Duty Refractory Mortar**  
© Bluestone Products  
Version 1.5

**Bluestone Products**  
**A TCC Materials Company**  
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Mendota Heights, MN 55120-1221

**Emergency Telephone Number:**  
651-688-9116  
**Information Telephone Number**  
651-688-9116

**Revision Date**  
March 2021

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**Section 1: Product Identification**

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Product Type: Dry Packaged Cement-Based Products

**Product Name:**

Akona Medium-Duty Refractory Mortar

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**Section 2: Hazard Identification**

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The most immediate and likely hazards are burns from dust in the eye. When the product is mixed with water, it will form an alkaline solution, which can cause skin irritation. Dust from the product is irritating to breathe. Prolonged overexposure to dust from the product is harmful to breathe, because it will contain crystalline silica.

**GHS Label Elements**

**Hazard Pictogram(s):**



**Signal Word:** DANGER

This product has been evaluated according to GHS and 29CFR1910.1200, Appendix A. It is categorized as a Health Hazard Carcinogen Category 1A, because it contains crystalline silica (quartz). It is categorized as a Health Hazard (serious eye damage/eye irritation - Category 1 and skin irritation – Category 2) because it contains hydraulic cement.

**Applicable hazard statement(s) based on cement content**

- Causes severe skin burns and eye damage.
- May cause an allergic reaction.
- May cause respiratory irritation.

**Applicable hazard statement(s) based on crystalline silica content**

- May cause cancer from inhaling dust.
- Causes damage to respiratory system (silicosis) through prolonged or repeated exposure to inhaled dust.



## **Precautionary Statement(s)**

### **Prevention**

Do not breathe dust. Wash thoroughly after handling. Wear protective gloves/clothing and eye/face protection (water resistant protective gloves; goggles recommended to prevent any dust in eyes). Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

### **Response**

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Immediately call a poison center/doctor.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor if any eye irritation or discomfort develops.

IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin with plenty of water. Wash contaminated clothing before reuse. If skin irritation occurs, get medical attention.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor.

If exposed or concerns, or if you feel unwell: Get medical advice.

### **Storage**

Store locked up, in a dry location, in original labeled packaging.

### **Disposal**

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

### **Other Hazards**

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions or illness.

HMIS® Rating:    Health: 1\*    Fire: 0    Reactivity: 0

*HMIS® is a registered trademark of the National Paint and Coatings Association*



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### Section 3: Hazardous Ingredients/Composition

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Ingredient	Typical Percentage	CAS #
Calcium aluminat cement .....	20-55%	65997-16-2
Silica Sand (as quartz) .....	60-75%	14808-60-7
Lime .....	0-7%	1305-78-8
Calcium carbonate .....	0-4%	471-34-1
Polymeric binder .....	0-4%	*

\*Specific chemical identities and concentrations withheld as trade secret. They are available upon request to health professionals, employees and their designated representatives in accord with 29CFR1910.1200(i).

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### Section 4: First Aid Measures

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#### **Inhalation:**

Remove person to fresh air and keep comfortable for breathing. If coughing persists, obtain medical attention.

#### **Eye contact:**

Immediately rinse eyes: hold eyelids apart and flush eyes with plenty of water. At least 15 minutes of flushing is recommended. Remove contact lenses, if present and easy to do so. Get prompt medical attention for any discomfort or irritation.

#### **Skin Contact:**

Remove contaminated clothing. Remove dry material from skin, but avoid creating dust. Promptly wash off with plenty of soap and water. Get medical attention for any burns or persistent rashes.

#### **Ingestion:**

Do not induce vomiting unless directed to do so by medical personnel. If subject is conscious, rinse the mouth with water to remove any material and drink plenty of water to dilute any swallowed material. DO not give drink or attempt to force water to an unconscious person. Get medical advice/attention.

#### **Most Important Symptoms/Effects (Acute and Delayed)**

Inhalation: Breathing the dust may cause coughing, wheezing, sore throat. Repeated exposure to the dust can cause a runny nose, chronic coughing and impaired lung function. Long term exposure to respirable crystalline silica in the dust can cause silicosis (lung scarring) and lung cancer.

Eye contact: Causes serious eye irritation and may scratch eye surface due to particle abrasion. Eye irritation, burning from cement. Cement and lime react with moisture to form a very alkaline solution, which can severely irritate or burn eyes.

Skin Contact: Can cause skin irritation and can dry the skin. Because cement and lime react with moisture exothermically to form an alkaline solution, contact with damp skin can cause irritation or burns, which may not be felt immediately. Severe burns of the feet have resulted from cement or lime getting into footwear. Some people



may develop an allergic dermatitis (cement itch) from chromate contaminants in hydraulic cement.

### **Recommendations for Immediate Medical Care or Special Treatment**

Seek immediate medical attention for inhalation of large quantities of dust or exposure of wet material over large areas of skin.

Seek immediate medical attention if material comes into contact with eyes and cannot be immediately removed.

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## **Section 5: Fire Fighting Measures**

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<b>General Fire Hazards</b>	None. Material is not considered flammable or combustible.
<b>Extinguishing Media</b>	Use water or water spray to extinguish any fires involving this material.
<b>Extinguishing Media to Avoid</b>	None.
<b>Hazards of Combustion</b>	None.
<b>Fire Fighting Recommendations</b>	Firefighters should always wear full protective gear to fight any fire.

Refer to Section 9 for flammability information.

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## **Section 6: Accidental Release Measures**

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### **Personal Precautions, Protective Equipment and Emergency Procedures**

Avoid creating dust. Prevent material from entering sewers, drains, ditches, or waterways. Wear respiratory protection and protective eyewear clothing to avoid eye or skin contact. Ventilate area and avoid creating dust. Remove unnecessary persons from the area.

### **Methods and Materials for Containment and Cleaning Up**

Scoop or vacuum up spilled material while avoiding dust creation. Scoop up wet material and place in approved container. Allow wet materials to harden before disposal.

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## **Section 7: Handling and Storage**

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### **Precautions for Safe Handling**

Avoid contact with skin or eyes. Avoid breathing dust. Use only in well-ventilated areas. Wear appropriate personal protective equipment to prevent skin or eye contact and use respiratory protection equipment if dusty or in poor ventilated areas. Wash hands after use. Do not eat, drink, or use tobacco products when handling any chemical products.

### **Conditions for Safe Storage, including any Incompatibilities**



Store in well-ventilated areas away from moisture and incompatible materials. If stored in containers, keep containers closed when not in use.

### Incompatible Materials

Water/moisture exposure will cause material to generate heat. Keep away from fluoride compounds, strong acids, alkalines, and oxidizers. Cement dissolves in hydrofluoric acid, producing corrosive silicone tetrafluoride gas.

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## Section 8: Exposure Controls/Personal Protection

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### Occupational Exposure Limits:

	<b>OSHA PEL</b>	<b>ACGIH TLV</b>	<b>NIOSH REL</b>
Calcium Aluminate cement	15 mg/m <sup>3</sup> (T) 5 mg/m <sup>3</sup> (R)	1 mg/m <sup>3</sup> (R)	10 mg/m <sup>3</sup> (T) 5 mg/m <sup>3</sup> (R)
Crystalline silica (quartz)	50 µg/m <sup>3</sup> (8-hr TWA)	25 µg/m <sup>3</sup> (respirable)	50 µg/m <sup>3</sup> (respirable)
Lime (calcium oxide)	5 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Calcium carbonate	15 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)	None (TLV withdrawn in 2007)	10 mg/m <sup>3</sup> (total) 5 mg/m <sup>3</sup> (respirable)
Polymeric binder	None established.		

### Engineering Controls:

Avoid creating dust.

If cutting or grinding material after it has hardened, water can be used as a dust suppressant.

### Personal protective equipment

**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:** Avoid any skin contact, particularly when skin may be wet from sweat. Long sleeved shirts and trousers should be worn while using this material. Wear any water-impermeable gloves such as PVC gloves, particularly for prolonged contact. Wear waterproof boots, high enough to prevent any cement from getting into them. Promptly wash off of skin and remove contaminated clothing.

**Respiratory:** If exposure levels cannot be maintained below an 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:** Protective gloves with wrist/arm cutoffs should be worn to avoid direct contact with skin and to protect hands from abrasion.

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### Section 9: Physical and Chemical Properties

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<b>Appearance:</b>	Grey or grey-brown powder.
<b>Odor:</b>	No significant odor.
<b>Flash point:</b>	Noncombustible.
<b>Flammable limits:</b>	N/A
<b>Boiling Point:</b>	>2700°F
<b>Melting point:</b>	>2700°F
<b>Specific Gravity:</b>	2.6 to 3.15
<b>Solubility in water:</b>	Slight.
<b>pH:</b>	11-13 (cements in water)
<b>Evaporation Rate:</b>	Not applicable. Product does not evaporate.
<b>Evaporation rate (butyl acetate = 1):</b>	Not applicable.
<b>VOC Content:</b>	0 %, not applicable.

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### Section 10: Stability and Reactivity

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<b>Reactivity:</b>	Reacts with water forming heat and calcium hydroxide.
<b>Chemical Stability:</b>	Stable at normal temperatures and pressure.
<b>Possibility of Hazardous Reactions:</b>	None. Hazardous polymerization will not occur.
<b>Conditions to Avoid:</b>	Moisture or wetting will cause exothermic heating as product cures.
<b>Incompatible Materials:</b>	Avoid contact with strong acids, oxidizers, aluminum and aluminum salts.
<b>Hazardous Decomposition:</b>	Reacts with water to form calcium hydroxide which can irritate/damage skin. Cement dissolves in hydrofluoric acid, producing corrosive silicon tetrafluoride gas. Material is not likely to decompose. Abrasion can create very fine particles that can get deep into the lungs (respirable size).

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### Section 11: Toxicological Information

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**Information on toxicological effects:**

Not considered acutely toxic.

Can damage the eyes, skin and respiratory system.

Hydraulic cement and lime are caustic and abrasive to the skin. In contact with water or moisture, they can form alkaline hydroxides, which can cause burns that may not be felt immediately.



Hydraulic cement may contain trace amounts of hexavalent chromium. Hexavalent chromium can cause allergic contact dermatitis.

Respirable crystalline silica is categorized as a Health Hazard Carcinogen Category 1A (known to have carcinogenic potential for humans) and a Health Hazard Specific Target Organ Toxicity – Repeated Exposure Category 1. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Crystalline silica is listed as carcinogenic according to IARC. ACGIH classified crystalline silica as a suspected human carcinogen.

Hydraulic cement and lime are categorized as Health Hazard Serious Eye Damage/Eye Irritation Category 1 and Serious Skin Category 2, because they form a strong alkaline solution in water.

**Delayed, Immediate, and Chronic Effects of Short- and Long-Term Exposure:**

<b>Skin Corrosion/ Irritation:</b>	Causes skin irritation.
<b>Serious Eye Damage/Irritation:</b>	Causes serious eye damage.
<b>Respiratory Sensitization:</b>	Based on available data, the classification criteria are not met.
<b>Skin Sensitization:</b>	May cause an allergic skin reaction.
<b>STOT-Single Exposure:</b>	May cause respiratory irritation.
<b>Chronic Health Effects:</b>	
<b>Carcinogenicity:</b>	May cause cancer.
<b>Germ Cell Mutagenicity:</b>	Based on available data, the classification criteria are not met.
<b>Reproductive Toxicity:</b>	
<b>Developmental:</b>	Based on available data, the classification criteria are not met.
<b>Teratogenicity:</b>	Based on available data, the classification criteria are not met.
<b>Embryo toxicity:</b>	Based on available data, the classification criteria are not met.
<b>Fertility:</b>	Based on available data, the classification criteria are not met.
<b>STOT-Repeated Exposure:</b>	Based on available data, the classification criteria are not met.
<b>Aspiration Hazard:</b>	Based on available data, the classification criteria are not met.

**Toxicologically Synergistic Materials:**





**Other Information:** Not available.  
Not available.

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### Section 12: Ecological Information

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Product as a whole has not been tested but is expected to have low acute toxicity.

**Ecotoxicity:**

Not considered hazardous to the aquatic environment or to the ozone layer.

**Persistence and degradability:** Not likely to biodegrade.

**Mobility in soil:** No information available.

**Bioaccumulation:** Based on ingredients, not likely to bioaccumulate.

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### Section 13: Disposal Considerations

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**Disposal Methods**

Do not sewer or dump on the ground.

As provided, not a RCRA-regulated waste.

Dispose of in accordance with federal, state, and local regulations.

**Special Considerations**

Avoid creating or breathing dust during disposal. Avoid contact with eyes. Refer to Section 8 for personal protection measures.

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### Section 14: Transportation

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Not a DOT-regulated hazardous material. Not classified as dangerous goods for DOT, IATA, IMDG, TDG

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### Section 15: Regulatory Information

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**Component Analysis**

**U.S. Federal Regulations**

This product contains one or more of the following chemical components or ingredients that may require identification and/or reporting under SARA Section 302, SARA Sections 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:** Calcium Aluminate cement, Silica (Crystalline)

**U.S. State Regulations**





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This product contains one or more of the following chemical components or ingredients that are included on the hazardous materials list 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:** Calcium Aluminate cement, Limestone (calcium carbonate), Silica (Crystalline)

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



**WARNING:** This product can expose you to chemicals including crystalline silica which are known to the State of California to cause cancer, birth defects, or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

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**Section 16: Other Information**

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Additional information on the products is available at: [www.tccmaterials.com](http://www.tccmaterials.com)

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NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products. Before using any product, read its label and safety data sheet.