

**ARKANSAS LIME COMPANY**  
**SAFETY DATA SHEET**

**1. Product and Company Identification**

**Product Name:** Calcium Oxide, CaO,

**Other Means of Identification:** Quicklime

**Recommended Use:**

**Building material industry:** mortar, rendering, silica brick, aerated concrete, refractories.

**Chemical Industry:** catalyst, neutralization, pH-adjustment

**Steel Industry:** fluxes, refining

**Environmental:** flue gas treatment, waste water treatment, sludge treatment

**Civil engineering:** soil stabilization

**Drinking water:** treatment of pH value, decarburization, soften, hardening

**List is not all inclusive.**

**Company Identification:**

Arkansas Lime Company  
P.O. Box 2356  
Batesville, AR 72501

Information: 1-870-793-2301

Emergency: 1-800-252-5580

**2. Hazards Identification**

**Hazard Classification:** Eye Damage Category - 1, Skin Irritation Category - 2, Specific Target Organ Toxicity Single Exposure Category - 3 (Respiratory System), Carcinogen - 1.

**Emergency Overview:** Quicklime is an odorless white or grayish-white material that ranges from an aggregate size to a granular powder. Contact can cause irritation to eyes, skin, respiratory system, and gastrointestinal tract. Quicklime reacts violently with water, releasing heat which may ignite combustible materials in certain instances.

**Potential Health Effects**

**Eyes:** Contact can cause severe irritation or burning of eyes, including permanent damage.

**Skin:** Contact can cause severe irritation or burning of skin, especially in the presence of moisture.

**Ingestion:** This product can cause severe irritation or burning of gastrointestinal tract if swallowed.

**Inhalation:** This product can cause severe irritation of the respiratory system. Long-term exposure may cause permanent damage. Quicklime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica in the form of quartz or cristobalite, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

**Medical Conditions Aggravated by Exposure:** Contact may aggravate disorders of eyes, skin, gastrointestinal tract, and respiratory system.

**Potential Environmental Effects:** This material is alkaline and if released into water or moist soil will cause an increase in pH.

**Signal Word:** Danger

**Hazard Statements:** Danger! Causes skin irritation. Causes serious eye damage. May cause cancer through inhalation. May cause respiratory irritation. Reacts violently with water releasing heat which can ignite combustible materials.

**Symbols:**



### **Precautionary Statements**

Wear protective gloves and proper clothing. Wash exposed skin thoroughly after handling. Avoid breathing dust. Use only outdoors or in a well-ventilated area. Keep only in original container. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

If on skin; Wash exposed skin with plenty of water. If skin irritation occurs, seek medical attention. Take off contaminated clothing and wash it before reuse.

If in eyes: Always wear Safety Glasses or Goggles. Do not rub your eye(s). Rinse cautiously with water for at least 15 minutes. Contact lens should not be worn, but if they are worn, remove contact lenses (if present) and continue rinsing. Seek medical attention immediately.

In Inhaled: Remove person(s) to fresh air and keep comfortable for breathing. Seek medical attention if you feel unwell.

If exposed or concerned: Get medical advice.

Store in a corrosive resistant container. Do not store or ship (ground only) in aluminum containers.

Dispose of contents or containers in accordance with applicable regulations. Do not use water on material spills.

**Hazards not otherwise classified:** Calcium oxide reacts violently with water, releasing heat which can ignite combustible materials.

**Ingredients with unknown toxicity:** Not Applicable

### **3. Composition/Information on Ingredients**

<b>Component</b>	<b>CAS #</b>	<b>% by weight</b>
Calcium Oxide	1305-78-8	> 97 %
Magnesium Oxide	1309-48-4	<1%
Crystalline Silica	14808-60-7	<1%

### **4. First Aid Measures**

**Eyes:** Do not rub eyes. Contact can cause severe irritation or burning of eyes, including permanent damage. Immediately flush eyes with generous amounts of water for at least 15 minutes. Pull back the eyelid to ensure that all lime dust has been washed out. Seek medical attention immediately.

**Skin:** Contact can cause severe irritation or burning of skin, especially in the presence of moisture. Wash exposed area with large amounts of water. Seek medical attention if needed.

**Ingestion:** This product can cause severe irritation of the gastrointestinal tract if swallowed. Never give anything by mouth unless instructed to do so by medical personnel. Do not induce vomiting. Seek medical attention immediately.

**Inhalation:** This product can cause severe irritation of the respiratory system. Move victim to fresh air. Seek medical attention if necessary. If breathing has stopped, give artificial respiration.

**Most important symptoms and effects, both acute and delayed:** Irritation of skin, eyes, gastrointestinal tract or respiratory tract. Long-term exposure by inhalation may cause permanent damage. This product may contain traces of crystalline silica which has been classified by IARC as (Group 1) carcinogenic to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.

**Indication of any immediate medical attention and special treatment needed:** See first aid information above. Note to Physicians: Provide general supportive measures and treat symptomatically.

## **5. Fire Fighting Measures**

**Extinguishing Media:** Use dry chemical fire extinguisher. Do not use water or halogenated compounds, except that large amounts of water may be used to deluge small quantities of quicklime.

**Fire Hazards:** Quicklime is not combustible or flammable. However, quicklime reacts violently with water, and may release heat sufficient to ignite combustible materials in certain instances. Quicklime is not considered to be an explosion hazard, although reaction with water or other incompatible materials may rupture containers.

**Hazardous Combustion Products:** None.

**Special Protective Equipment and Fire Fighting Instructions:** Keep personnel away from and upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear), and respiratory protection (SCBA).

## **6. Accidental Release Measures**

### **Personal precautions, protective equipment and emergency procedures**

**Spill /Leak Procedures:** Do NOT use water on bulk material spills. Lime reacts violently with water, releasing heat. Use proper protective equipment.

**Small Spills:** Use dry methods to collect spilled materials. Avoid generating dust. Do not clean up with compressed air. Store collected materials in dry, sealed plastic or metal containers. Residue on surfaces may be water washed.

**Large Spills:** Use dry methods to collect spilled materials. Evacuate area downwind of clean-up operations to minimize dust exposure. Store spilled materials in dry, sealed plastic or metal containers.

### **Methods and materials for containment and cleaning up**

**Containment:** For large spills, as much as possible, avoid the generation of dusts. Prevent release to sewers or waterways.

**Cleanup:** Residual amounts of material can be flushed with large amounts of water. Equipment can be washed with either a mild vinegar and water solution, or detergent and water.

## **7. Handling and Storage**

**Precautions for Safe Handling:** Keep in tightly closed containers. Protect containers from physical damage. Avoid direct skin contact with the material.

**Conditions for Safe Storage, including incompatibilities:** Store in a cool, dry, and well-ventilated location. Do not store near incompatible materials (see Section 10 below). Keep away from moisture. Do not store or ship in aluminum containers.

## **8. Exposure Controls/Personal Protection**

<b>Component</b>	<b>CAS #</b>	<b>Exposure Limits</b>
Calcium Oxide	1305-78-8	OSHA PEL: 5 mg/m <sup>3</sup> ACGIH TLV: 2 mg/m <sup>3</sup>
Magnesium Oxide	1309-48-4	OSHA PEL: 10 mg/m <sup>3</sup> ACGIH TLV: 10 mg/m <sup>3</sup>
Crystalline Silica	14808-60-7	OSHA PEL: 10 mg/m <sup>3</sup> divided by % quartz + 2 (respirable fraction) ACGIH TLV: 0.025 mg/m <sup>3</sup> (respirable)

**Engineering Controls:** Provide ventilation adequate to maintain PELs.

### **Individual Protection Measures**

**Respiratory Protection:** Use NIOSH/MSHA approved respirators if airborne concentration exceeds PEL.

**Skin Protection:** Use appropriate gloves to prevent skin contact. Where there is a risk of skin contact, wear suitable clothing to prevent such contact.

**Eye Protection:** Use safety glasses with side shields or safety goggles. Contact lenses should not be worn when working with lime products.

**Other:** Eye wash fountain and emergency showers are recommended.

## **9. Physical and Chemical Properties**

**Appearance:** White or grayish-white material.

**Physical State:** Solid

**Odor:** Odorless

**Odor threshold:** Not applicable

**pH at 25 degrees C:** 12.45

**Boiling Point:** 5162° F, 2850° C

**Melting Point:** 4658° F, 2570° C

**Flash Point:** Not Applicable

**Evaporation Rate:** NA

**Flammability:** NA

**Upper/Lower flammability or explosive limits:** NA

**Vapor Pressure:** N/A

**Vapor Density:** N/A

**Relative Density:** NA

**Specific Gravity:** 3.2-3.4

**Solubility in Water:** Negligible, but reacts with water to produce calcium hydroxide and heat

**Partition co-efficient:** n-octanol/water

**Auto-ignition temperature:** NA

**Decomposition temperature:** NA

**Viscosity:** NA

## **10. Stability and Reactivity**

**Stability:** Quicklime reacts violently with water to form calcium hydroxide, releasing heat. See also Incompatibility below.

**Chemical stability:** Quicklime is chemically stable

**Possibility of hazardous reactions:** See above

**Conditions to Avoid:** Do not allow quicklime to come in contact with incompatible materials.

**Incompatibility:** Quicklime should not be mixed or stored with the following materials, due to the potential for violent reaction and release of heat:

WATER (unless in a controlled process)

ACIDS

REACTIVE FLUORIDATED COMPOUNDS

REACTIVE BROMINATED COMPOUNDS

REACTIVE POWERED METALS

ORGANIC ACID ANHYDRIDES

NITRO-ORGANIC COMPOUNDS

REACTIVE PHOSPHOROUS COMPOUNDS

INTERHALOGENATED COMPOUNDS

**Hazardous Decomposition Products:** None

## **11. Toxicological Information:**

**Information on the likely routes of exposure:** See First Aid discussion above.

**Symptoms related to the physical, chemical and toxicological characteristics:** See First Aid discussion above

**Delayed and immediate effects and also chronic effects of exposure:** See First Aid discussion above.

**Numerical measures of toxicity:** No LD50/LC50 has been identified for this product's components.

**Carcinogen listing:** Quicklime is not listed by MSHA, OSHA, or IARC as a carcinogen, but this product may contain trace amounts of crystalline silica, which has been classified by IARC as (Group I) carcinogenic to humans when inhaled.

## **12. Ecological Information:**

**Eco toxicity:** Because of the high pH of this product, it would be expected to produce significant Eco toxicity upon exposure to aquatic organisms and aquatic systems in high concentrations.

**Environmental Fate:** This material shows no bioaccumulation effect or food chain concentration toxicity.

**Persistence and degradability:**

**Bio accumulative:** This material shows no bioaccumulation effect or food chain concentration toxicity.

**Mobility in soil:**

**Other adverse effects (such as hazardous to the ozone layer):** This material is alkaline and if released into water or moist soil will cause an increase in pH.

## **13. Disposal Considerations:**

Dispose of in accordance with all applicable federal, state, and local environmental regulations. If this product as supplied, and unmixed, becomes a waste, it will not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act.

#### **14. Transportation Information:**

**UN number:** UN1910

**UN Proper shipping name:** Calcium Oxide

**Transport hazard class:** When transported by air only: Hazard Class 8-Corrosive

**Packing group:** When transported by air only: Packing Group III

**Environmental hazards (e.g. Marine pollutant) (Yes/No):** This material is alkaline and if released into water or moist soil will cause an increase in pH.

**Transport in bulk (according to Annex II of MARPOL 73/79 and the IBC Code):**

**Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises:** When being transported by air, quicklime is classified in the Department of Transportation (DOT) regulations as a hazardous material. (49 CFR 172.101. For aircraft transport only, Calcium Oxide is classified as Hazard Class 8-Corrosive, UN1910, Packing Group III. For passenger aircraft, the maximum net quantity allowed per container is 25 kg. For cargo aircraft, the maximum net quantity allowed per container is 100 kg. For quantities greater than 25 kg up to and including 100 kg, the container shall be labeled with CARGO AIRCRAFT ONLY.) Because express carriers (i.e., Federal Express, Airborne Express, and United Parcel Service) ship by air, quicklime presented to these carriers for shipment must be packaged, marked, and labeled in accordance with IATA requirements, and must be accompanied by the appropriate shipping documentation. Only personnel trained and certified under applicable DOT Hazardous Materials Regulations (contained in Title 49 of the Code of Federal Regulations) may prepare any quicklime product for air transport.

**Quicklime is not classified as a hazardous material by DOT when transported by means other than by air.**

#### **15. Regulatory Information:**

##### **EPA Regulations:**

RCRA Hazardous Waste Number: not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261): not classified

CERCLA Hazardous Substance (40 CFR 302.4) unlisted specific per RCRA, Sec. 3001; CWA, Sec. 311 (b) (4); CWA, Sec. 307(a), CAA, Sec. 112

CERCLA Reportable Quantity (RQ), not listed.

SARA 311/312 Codes: not listed.

SARA Toxic Chemical (40 CFR 372.65): not listed.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ): not listed.

All chemical ingredients are listed on the USEPA TSCA Inventory List.

##### **OSHA/MSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): 5 mg/M<sup>3</sup> TWA-8

MSHA: not listed.

OSHA Specifically Regulated Substance (29CFR 1910) not listed.

**State Regulations:** Consult state and local authorities for guidance.

**HMIS:** Health Risks 3, Flammability 0, Reactivity 1, Personal Protection, E

**NFPA:** Health Hazard 3, Fire Hazard 0, Reactivity 1

#### **16. Other Information:**

**Date of preparation or last revision of this Safety Data Sheet:** 05/19/2015