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## Material Safety Data Sheet Soda lime MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Soda lime

**Catalog Codes:** SLS2425

**CAS#:** 8006-28-8

**RTECS:** VX9650000

**TSCA:** TSCA 8(b) inventory: Calcium hydroxide; Potassium hydroxide; Sodium hydroxide

**CI#:** Not available.

**Synonym:** SODASORB;

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**Contact Information:**

**Sciencelab.com, Inc.**  
14025 Smith Rd.  
Houston, Texas 77396

US Sales: **1-800-901-7247**  
International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**  
1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Calcium hydroxide	1305-62-0	50-100
Potassium hydroxide	1310-58-3	1-10
Sodium hydroxide	1310-73-2	<4

**Toxicological Data on Ingredients:** Calcium hydroxide: ORAL (LD50): Acute: 7340 mg/kg [Rat.]. 7300 mg/kg [Mouse]. Potassium hydroxide: ORAL (LD50): Acute: 273 mg/kg [Rat]. 365 mg/kg [Rat]. Sodium hydroxide LD50: Not available. LC50: Not available.

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Very hazardous in case of eye contact (irritant). Hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, . Slightly hazardous in case of skin contact (corrosive, permeator), of inhalation (lung sensitizer). The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching.

**Potential Chronic Health Effects:**

Hazardous in case of skin contact (irritant).

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Potassium hydroxide]. Mutagenic for mammalian somatic cells. [Sodium hydroxide].

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available.

The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes.

Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

**Section 4: First Aid Measures****Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

**Skin Contact:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Serious Skin Contact:**

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

**Inhalation:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

**Serious Inhalation:** Not available.

**Ingestion:**

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

**Serious Ingestion:** Not available.

**Section 5: Fire and Explosion Data**

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** Not applicable.

**Explosion Hazards in Presence of Various Substances:**

Risks of explosion of the product in presence of mechanical impact: Not available.

Risks of explosion of the product in presence of static discharge: Not available.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:** Not available.

**Special Remarks on Explosion Hazards:**

Potentially explosive reaction with bromoform + crown ethers, chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidized tetrahydrofuran, 2,4,6-trinitrotoluene.

Reaction with ammonium hexachloroplatiate(2-) + heat forms heat sensitive explosive product.

Potassium hydroxide will cause explosive decomposition of maleic anhydride.

Detonation will occur when potassium hydroxide is mixed with n-methyl-nitroso urea and methylene chloride.

Nitrogen trichloride explodes on contact with potassium hydroxide. (Potassium hydroxide)

## Section 6: Accidental Release Measures

**Small Spill:**

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

**Large Spill:**

Corrosive solid.

Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

**Precautions:**

Keep locked up.. Keep container dry. Do not ingest. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as metals, acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area.

## Section 8: Exposure Controls/Personal Protection

**Engineering Controls:**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection:**

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

**Personal Protection in Case of a Large Spill:**

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Exposure Limits:**

Calcium hydroxide

TWA: 5 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]

TWA: 5 (mg/m<sup>3</sup>) [Canada]

TWA: 5 (mg/m<sup>3</sup>) from NIOSH

Potassium hydroxide

CEIL: 2 from ACGIH (TLV) [United States] [1999]

Sodium hydroxide  
STEL: 2 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]  
TWA: 2 CEIL: 2 (mg/m<sup>3</sup>) from OSHA (PEL) [United States]  
CEIL: 2 (mg/m<sup>3</sup>) from NIOSH3Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Solid. (Granular solid.)

**Odor:** Odorless.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** White.

**pH (1% soln/water):** Basic.

**Boiling Point:** Not available.

**Melting Point:** 580°C (1076°F) based on data for: Calcium hydroxide. Weighted average: 554.93°C (1030.9°F)

**Critical Temperature:** Not available.

**Specific Gravity:** Weighted average: 2.22 (Water = 1)

**Vapor Pressure:** Not applicable.

**Vapor Density:** Not available.

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:**

Slightly soluble in cold water.

Insoluble in diethyl ether.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials, water

**Incompatibility with various substances:**

Reactive with metals, acids, moisture.

Slightly reactive to reactive with oxidizing agents, reducing agents, organic materials, alkalis.

**Corrosivity:**

Highly corrosive in presence of aluminum, of zinc.

Non-corrosive in presence of glass, of stainless steel(316).

**Special Remarks on Reactivity:**

Incompatible with maleic anhydride, phosphorous, nitroethane, nitromethane, nitroparaffins, nitropropane, polychlorinated phenols + potassium nitrate.

When chlorinated phenols are heated for analytical purposes with calcium hydroxide-potassium nitrate mixtures, chlorinated benzodioxins analagous to extremely toxic tetrachlorodibenzodioxin may be formed.

Readily absorbs CO<sub>2</sub> from air forming calcium carbonate. (Calcium hydroxide).

When dissolved in water or alcohol or when the solution is treated with acid, much heat is generated.

Reacts violently with acids, halogens, halogenated hydrocarbons, maleic anhydride, organic anhydrides, isocyanates, alkylene oxides, epichlorhydrin, aldehydes, alcohols, glycols, phenols, cresols, caprolactum solution. Also incompatible with nitro compounds (nitrobenzene, nitromethane, nitrogen trichloride), organic materials, acid anhydrides, acid chlorides, magnesium, peroxidized tetrahydrofuran, chlorine dioxide, maleic dicarbide, sugars.

When wet attacks metals such as aluminum, tin, lead, and zinc.

(Potassium hydroxide)

**Special Remarks on Corrosivity:**

When wet, attacks metals such as aluminum, tin, lead, and zinc, producing flammable hydrogen gas.

Severe corrosive effect on brass and bronze. (Potassium hydroxide)

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Inhalation. Ingestion.

**Toxicity to Animals:** Acute oral toxicity (LD<sub>50</sub>): 273 mg/kg [Rat]. (Potassium hydroxide).

**Chronic Effects on Humans:**

**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Potassium hydroxide]. Mutagenic for mammalian somatic cells. [Sodium hydroxide].

Contains material which may cause damage to the following organs: mucous membranes, upper respiratory tract, skin, eyes.

**Other Toxic Effects on Humans:**

Hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, of inhalation (lung corrosive). Slightly hazardous in case of skin contact (corrosive, permeator).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:**

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects:

**Skin:** Causes skin irritation. Alkalies penetrate skin slowly. The extent of damage depends on the duration of contact.

**Eyes:** Causes severe irritation of the eyes. Can cause "Lime Burns" of the eye. Clumps may lodge deep in the recesses of the eye, releasing calcium hydroxide over a long period of time. Severe burns of the cornea with possible damage to to corneal nerves can occur.

**Ingestion:** Causes gastrointestinal tract irritation with vomiting, diarrhea, severe pain. Vomitus may contain blood and desquamated mucosal lining. May cause delayed gastrointestinal burns and perforation (gastric or esophageal) with severe abdominal pain and rapid fall in blood pressure.

**Inhalation:** Causes severe irritation of the respiratory tract (nose, throat, lungs), and mucous membranes with coughing, wheezing and/or shortness of breath. Material is destructive to tissue of the mucous membranes and upper respiratory tract.

Chronic Potential Health Effects:

Prolonged or repeated skin contact may produce severe irritation or dermatitis. (Calcium hydroxide)

## Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not applicable.

**Special Provisions for Transport:** Not applicable.

### Section 15: Other Regulatory Information

**Federal and State Regulations:**

Illinois toxic substances disclosure to employee act: Calcium hydroxide; Sodium hydroxide

Illinois chemical safety act: Sodium hydroxide

New York release reporting list: Potassium hydroxide; Sodium hydroxide

Rhode Island RTK hazardous substances: Calcium hydroxide; Sodium hydroxide

Pennsylvania RTK: Calcium hydroxide; Potassium hydroxide; Sodium hydroxide

Florida: Potassium hydroxide

Minnesota: Calcium hydroxide; Potassium hydroxide; Sodium hydroxide

Massachusetts RTK: Calcium hydroxide; Potassium hydroxide; Sodium hydroxide

New Jersey: Calcium hydroxide; Potassium hydroxide; Sodium hydroxide; Soda Lime

Louisiana spill reporting: Sodium hydroxide

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):**

CLASS D-2B: Material causing other toxic effects (TOXIC).

CLASS E: Corrosive solid.

**DSCL (EEC):**

R34- Causes burns.

R41- Risk of serious damage to eyes.

S24/25- Avoid contact with skin and eyes.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28- After contact with skin, wash immediately with plenty of water.

S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

S45- In case of accident or if you feel unwell,

seek medical advice immediately (show the label where possible).

**HMIS (U.S.A.):**

**Health Hazard:** 3

**Fire Hazard:** 0

**Reactivity:** 2

**Personal Protection:** j

**National Fire Protection Association (U.S.A.):**

**Health:** 2

**Flammability:** 0

**Reactivity:** 2

**Specific hazard:**

**Protective Equipment:**

Gloves.

Synthetic apron.

Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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