
MSDS Number: **S2546** * * * * *Effective Date: 11/02/01* * * * * *Supersedes: 11/17/99*

**Material Safety Data Sheet**

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865



24 Hour Emergency Telephone: 908-859-2151
CHEMTREC: 1-800-424-9300

National Response in Canada
CANUTEC: 613-996-6666

Outside U.S. And Canada
Chemtrec: 703-527-3887

NOTE: CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

Soda Lime

1. Product Identification

Synonyms: None

CAS No.: Not applicable to mixtures.

Molecular Weight: Not applicable to mixtures.

Chemical Formula: Not applicable to mixtures.

Product Codes: 3448

2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|---------------------|-----------|---------|-----------|
| ----- | ----- | ----- | ----- |
| Ethyl Violet | 2390-59-2 | < 1% | No |
| Sodium Hydroxide | 1310-73-2 | < 2% | Yes |
| Potassium Hydroxide | 1310-58-3 | < 3% | Yes |
| Calcium Hydroxide | 1305-62-0 | > 80% | Yes |

3. Hazards Identification

Emergency Overview

DANGER! CORROSIVE. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. CAUSES SEVERE IRRITATION TO RESPIRATORY TRACT.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 3 - Severe (Corrosive)

Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

Storage Color Code: White (Corrosive)

Potential Health Effects

Inhalation:

Severe irritant. Effects from inhalation of dust or mist vary from mild irritation to serious damage of the upper respiratory tract, depending on severity of exposure. Severe pneumonitis may occur.

Ingestion:

Swallowing may cause severe burns of mouth, throat, and stomach. Severe scarring of tissue and death may result. If death does not occur in 24 hours, esophageal perforation may occur, as evidenced by fall in blood pressure and severe pain. A narrowing of the esophagus may occur weeks, months, or years after ingestion, making swallowing difficult.

Skin Contact:

Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.

Eye Contact:

Corrosive. Contact with dust or solutions causes severe irritation and likely burns with corneal injury or blindness.

Chronic Exposure:

Prolonged contact with dilute solutions or dust has a destructive effect upon tissue.

Aggravation of Pre-existing Conditions:

Persons with pre-existing skin, eye or respiratory problems may be more susceptible to the effects of this substance.

4. First Aid Measures

Inhalation:

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

Ingestion:

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use extinguishing media appropriate for surrounding fire.

Special Information:

Solution process causes formation of corrosive fumes. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

Do not flush caustic residues to the sewer. Residues from spills can be diluted with water, neutralized with dilute acid such as acetic, hydrochloric or sulfuric. Absorb neutralized caustic residue on clay, vermiculite or other inert substance and package in a suitable container for disposal.

US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-OSHA Permissible Exposure Limit (PEL):

Calcium Hydroxide: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction), (TWA);

Sodium Hydroxide: 2 mg/m³ (Ceiling)

-ACGIH Threshold Limit Value (TLV):

Calcium Hydroxide: 5 mg/m³ (TWA);

Sodium Hydroxide: 2 mg/m³ (Ceiling);

Potassium Hydroxide: 2 mg/m³ (Ceiling)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

White deliquescent pellets.

Odor:

Odorless.

Solubility:

Slightly soluble.

Specific Gravity:

ca. 2

pH:

No information found.

% Volatiles by volume @ 21C (70F):

ca. 20

Boiling Point:

No information found.

Melting Point:

No information found.

Vapor Density (Air=1):

Not applicable.

Vapor Pressure (mm Hg):

Not applicable.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Readily absorbs carbon dioxide from air to form calcium carbonate.

Hazardous Decomposition Products:

Caustic fumes of calcium oxide form when heated to decomposition (580C; 1076F).

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Violent reactions with maleic anhydride, nitroethane, nitromethane, nitroparaffins, nitropropane, phosphorus. As a strongly alkaline material, it is incompatible with acids. Forms phosgene upon reaction with trichloroethylene or chloroform.

Conditions to Avoid:

Air, incompatibles.

11. Toxicological Information

For Calcium Hydroxide and Sodium Hydroxide: No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a mutagen. For potassium hydroxide: Oral rat LD50: 273 mg/kg.

| -----\Cancer Lists\----- | | | |
|---------------------------------|----------------------|-------------|---------------|
| Ingredient | ---NTP Carcinogen--- | | IARC Category |
| | Known | Anticipated | |
| Ethyl Violet (2390-59-2) | No | No | None |
| Sodium Hydroxide (1310-73-2) | No | No | None |
| Potassium Hydroxide (1310-58-3) | No | No | None |
| Calcium Hydroxide (1305-62-0) | No | No | None |

12. Ecological Information

Environmental Fate:

This material is not expected to significantly bioaccumulate.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: SODA LIME (WITH MORE THAN 4% SODIUM HYDROXIDE)

Hazard Class: 8

UN/NA: UN1907

Packing Group: III

Information reported for product/size: 2.5KG

International (Water, I.M.O.)

Proper Shipping Name: SODA LIME, SOLID

Hazard Class: 8

UN/NA: UN1907

Packing Group: III

Information reported for product/size: 2.5KG

International (Air, I.C.A.O.)

Proper Shipping Name: SODA LIME, SOLID

Hazard Class: 8

UN/NA: UN1907

Packing Group: III

Information reported for product/size: 2.5KG

15. Regulatory Information

| -----\Chemical Inventory Status - Part 1\----- | | | | |
|------------------------------------------------|------|-----|-------|-----------|
| Ingredient | TSCA | EC | Japan | Australia |
| ----- | | | | |
| Ethyl Violet (2390-59-2) | Yes | Yes | No | Yes |
| Sodium Hydroxide (1310-73-2) | Yes | Yes | Yes | Yes |
| Potassium Hydroxide (1310-58-3) | Yes | Yes | Yes | Yes |
| Calcium Hydroxide (1305-62-0) | Yes | Yes | Yes | Yes |

-----\Chemical Inventory Status - Part 2\-----

| Ingredient | Korea | --Canada-- | | |
|---------------------------------|-------|------------|------|-------|
| | | DSL | NDSL | Phil. |
| Ethyl Violet (2390-59-2) | No | Yes | No | No |
| Sodium Hydroxide (1310-73-2) | Yes | Yes | No | Yes |
| Potassium Hydroxide (1310-58-3) | Yes | Yes | No | Yes |
| Calcium Hydroxide (1305-62-0) | Yes | Yes | No | Yes |

| -----\Federal, State & International Regulations - Part 1\----- | | | | |
|-----------------------------------------------------------------|------------|-----|--------------------|----------------|
| Ingredient | -SARA 302- | | -----SARA 313----- | |
| | RQ | TPQ | List | Chemical Catg. |
| Ethyl Violet (2390-59-2) | No | No | No | No |
| Sodium Hydroxide (1310-73-2) | No | No | No | No |
| Potassium Hydroxide (1310-58-3) | No | No | No | No |
| Calcium Hydroxide (1305-62-0) | No | No | No | No |

| -----\Federal, State & International Regulations - Part 2\----- | | | |
|-----------------------------------------------------------------|--------|--------|--------|
| Ingredient | CERCLA | -RCRA- | -TSCA- |
| | | 261.33 | 8(d) |
| Ethyl Violet (2390-59-2) | No | No | No |
| Sodium Hydroxide (1310-73-2) | 1000 | No | No |
| Potassium Hydroxide (1310-58-3) | 1000 | No | No |
| Calcium Hydroxide (1305-62-0) | No | No | No |

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
 SARA 311/312: Acute: Yes Chronic: Yes Fire: No Pressure: No
 Reactivity: No (Mixture / Solid)

Australian Hazchem Code: 2X

Poison Schedule: S6

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

DANGER! CORROSIVE. HARMFUL IF SWALLOWED OR INHALED. CAUSES SEVERE BURNS TO EVERY AREA OF CONTACT. CAUSES SEVERE IRRITATION TO RESPIRATORY TRACT.

Label Precautions:

Do not get in eyes, on skin, or on clothing.

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Label First Aid:

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. In all cases get medical attention immediately.

Product Use:

Laboratory Reagent.

Revision Information:

MSDS Section(s) changed since last revision of document include: 8.

Disclaimer:

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