

## POTASSIUM HYDROXIDE

## Material Safety Data Sheet

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 Mallinckrodt Chemical, Inc.  
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Emergency Telephone Number  
 314-539-1600

Effective Date: 04-06-89 Supersedes 07-30-85

## PRODUCT IDENTIFICATION:

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 Synonyms: Caustic potash; potassium hydrate

Formula CAS No.: 1310-58-3 LISTED ON TSCA Molecular Weight: 56.11  
 INVENTORY

Hazardous Ingredients: Potassium hydroxide Chemical Formula: KOH

## PRECAUTIONARY MEASURES

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 DANGER! CORROSIVE. MAY BE FATAL IF SWALLOWED. CAUSES SEVERE BURNS.

Do not get in eyes, on skin, or on clothing.  
 Avoid breathing dust.  
 Keep container closed.  
 Use with adequate ventilation.  
 Wash thoroughly after handling.  
 This substance is classified as a POISON under the Federal Caustic Poison Act.

## EMERGENCY FIRST AID

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 If swallowed, give several glasses of water or milk to drink. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. In all cases call a physician.  
 SEE SECTION 5.

## Physical Data

## SECTION 1

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 Appearance: White deliquescent solid  
 Odor: Odorless.  
 Solubility: 52.8% in water @ 20 C (68 F)  
 Boiling Point: 1320 C (2408 F) Vapor Density (Air=1): No information found.  
 Melting Point: 360 C (680 F) Vapor Pressure (mm Hg): 1.0 @ 719 C (1326 F)  
 Specific Gravity: 2.04 Evaporation Rate: No information found.  
 NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 1

## Fire and Explosion

## SECTION 2

## Information

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 Fire: Not combustible, but contact with water or moisture may generate enough heat to ignite combustibles.  
 Explosion: May cause fire or explosion when in contact with incompatible materials.  
 Fire Extinguishing Media: Use any means suitable for extinguishing

surrounding fire.

Special Information: Solution process causes formation of corrosive mists. Hot or molten material can react violently with water. 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.

Reactivity Data

SECTION 3

Stability:

Stable under ordinary conditions of use and storage.

Hazardous Decomposition Products:

None.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Contact with water, acids, flammable liquids and organic halogen compounds, especially trichloroethylene, may cause fire or explosion. Contact with nitromethane and other similar nitro compounds cause formation of shock sensitive salts. Contact with metals such as aluminum, tin and zinc causes formation of flammable hydrogen gas.

Leak/Spill Disposal Information

SECTION 4

Spills: Clean-up personnel require protective clothing and respiratory protection from dust. Small spills can be diluted with large quantities of water, neutralized with dilute acetic acid and washed to sewer with a large excess of water. Caution! Floor and other surfaces may be slippery. Do not flush waste caustic directly to sewer or surface waters. Larger spills can be shoveled up for recovery or disposal. Delay in clean up will allow absorption of moisture from the atmosphere and increase the difficulties of clean-up. Residue in contaminated areas should be neutralized with dilute acid and rinsed with large quantities of water. Disposal: Scrap material can be sent in sealed caustic resistant containers as hazardous waste to a RCRA approved facility. Reportable Quantity (RQ) (CWA/CERCLA): 1000 lbs.

Ensure compliance with local, state and federal regulations.

Health Hazard Information

SECTION 5

A. Exposure/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 the severity of exposure. Severe pneumonitis may occur.

Ingestion: Toxic! Swallowing may cause severe burns of mouth, throat and stomach. Severe scarring of tissue and death may result. Estimated lethal dose: 5 grams.

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

Eye Contact: Corrosive! May cause irritation of eyes, and with greater exposures, severe burns with possibly blindness resulting.

Chronic Exposure: Prolonged contact with dilute solutions or dust has a destructive effect on tissue.

## Aggravation of

Pre-existing Conditions: Persons with pre-existing skin disorders or eye problems or impaired respiratory function may be more susceptible to the effects of the substance.

B. FIRST AID  
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Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion: Give several glasses of water or milk, if available, to drink. Vomiting may occur spontaneously, but DO NOT INDUCE! Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Exposure: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Exposure: Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

C. TOXICITY (RTECS, 1986)  
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Oral (Rat) LD50: 365 mg/kg (Potassium Hydroxide Solution) Aquatic toxicity rating TLM 96: 100-10 ppm

Occupational Control Measures SECTION 6  
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Airborne Exposure Limits: -OSHA Permissible Exposure Limit (PEL): 2 mg/m3 Ceiling  
-ACGIH Threshold Limit value (TLV): 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 TLV is exceeded, a dust/mist respirator with chemical goggles may be worn, in general, up to ten times the TLV. Consult respirator supplier for limitations. Alternatively, a supplied air full facepiece respirator or airlined hood may be worn.

Skin Protection: Rubber or neoprene gloves and additional protection including impervious boots, apron, or coveralls, as needed in areas of unusual exposure.

Eye Protection: Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

Storage and Special Information SECTION 7  
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Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Protect from moisture.

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Addendum to Material Safety Data Sheet

REGULATORY STATUS

Hazard Categories for SARA  
Section 311/312 Reporting

Product or Components of Product:	Acute	Chronic	Fire	Pressure	Reactive	SARA Sec. 313 Chemicals			
	----- X	-----	----	-----	-----	SARA EHS Sec. 302 RQ	TPQ	CERCLA Sec.103 RQ lbs	RCRA Sec. 261.33
POTASSIUM HYDROXIDE									
Potassium hydroxide (1310-58-3) 85-90%	No	No	No	No	No	No	No	No	No
Water (7732-18-5) 10-15%	No	No	No	No	No	No	No	No	No

SARA Section 302 EHS RQ:  
Reportable Quantity of Extremely Hazardous Substance, listed at 40 CFR 355.

SARA Section 302 EHS TPQ:  
Threshold Planning Quantity of Extremely Hazardous substance. An asterisk (\*) following a Threshold Planning Quantity signifies that if the material is a solid and has a particle size equal to or larger than 100 micrometers, the Threshold Planning Quantity = 10,000 LBS.

SARA Section 313 Chemicals:  
Toxic Substances subject to annual release reporting requirements listed at 40 CFR 372.65.

CERCLA Sec. 103:  
Comprehensive Environmental Response, Compensation and Liability Act (Superfund) Releases to air, land or water of these hazardous substances which exceed the Reportable Quantity (RQ) must be reported to the National Response Center, (800-424-8802); Listed at 40 CFR 302.4

RCRA:  
Resource Conservation and Recovery Act. Commercial chemical product wastes designated as acute hazards or toxic under 40 CFR 261.33

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