



## MATERIAL SAFETY DATA SHEET

### SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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- **Product name:** Potassium Hydroxide **SOLID**
- **Synonyms:** Caustic potash; potassium hydrate
- **CAS No.:** 1310-58-3
- **Molecular Weight:** 56.11
- **Chemical Formula:** KOH
- **Manufacturer:** Deep South Chemical, Inc.  
229 Millstone Road  
Broussard, LA 70518 (337) 837-9931
- **For Emergency:** Call CHEMTREC 1-800-424-9300 Outside the U.S.A. (703)-527-3887
- **Contact Person:** Glenn Ray
- **MSDS Revised:** January 1, 2014

### SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

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<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Potassium Hydroxide	1310-58-3	100 %	Yes

### SECTION 3. HAZARDS IDENTIFICATION, INCLUDING EMERGENCY OVERVIEW

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#### Emergency Overview

**POISON! DANGER! CORROSIVE. CAUSES SEVERE BURNS TO SKIN, EYES, RESPIRATORY TRACT, AND GASTROINTESTINAL TRACT. MATERIAL IS EXTREMELY DESTRUCTIVE TO ALL BODY TISSUES. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.**

SAF-T-DATA<sup>(tm)</sup> Ratings (Provided here for your convenience)

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Health Rating: 3 - Severe (Poison)

Flammability Rating: 0 - None

Reactivity Rating: 2 - Moderate

Contact Rating: 4 - Extreme (Corrosive)

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

Storage Color Code: White Stripe (Store Separately)

#### 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 the severity of exposure. Symptoms may include coughing, sneezing, damage to the nasal or respiratory tract. High concentrations can cause lung damage.
- **Ingestion:**  
Toxic! Swallowing may cause severe burns of mouth, throat and stomach. Other symptoms may include vomiting, diarrhea. Severe scarring of tissue and death may result. Estimated lethal dose: 5 grams.

- **Skin Contact:**  
Corrosive! Contact with skin can cause irritation or severe burns and scarring with greater exposures.
- **Eye Contact:**  
Highly Corrosive! Causes irritation of eyes with tearing, redness, swelling. Greater exposures cause severe burns with possible blindness resulting.
- **Chronic Exposure:**  
Prolonged contact with dilute solutions or dust of potassium hydroxide 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.

#### **SECTION 4. FIRST AID MEASURES**

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

#### **SECTION 5. FIRE FIGHTING MEASURES**

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- **Fire:**  
Not combustible, but contact with water or moisture may generate enough heat to ignite combustibles.
- **Explosion:**  
Can react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures with air.
- **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 face-piece operated in the pressure demand or other positive pressure mode.

#### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

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**Steps to be taken if material is released or spilled:**

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.

**Waste disposal method:**

Dispose of according to local, state and federal regulations in an approved disposal facility or recycling facility.

**SECTION 7. HANDLING AND STORAGE**

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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. Addition to water releases heat which can result in violent boiling and spattering. Always add slowly and in small amounts. Never use hot water. 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.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):
- 2 mg/m<sup>3</sup> - ACGIH Threshold Limit Value (TLV):
- 2 mg/m<sup>3</sup> 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 half face-piece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest.. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn 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 face-piece positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

**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. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

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**Appearance:** White deliquescent solid

**Odor:** Odorless.

**Solubility:** 52.8% in water @ 20C (68F)

**Specific Gravity:** 2.04

**pH:** 13.5 (0.1 molar solution)

**% Volatiles by volume @ 21C (70F):** 0

**Boiling Point:** 1320C (2408F)  
**Melting Point:** 360C (680F)  
**Vapor Density (Air=1):** No information found.  
**Vapor Pressure (mm Hg):** 1.0 @ 714C (1317F)  
**Evaporation Rate (BuAc=1):** No information found.

## **SECTION 10. STABILITY AND REACTIVITY**

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**Stability:** Stable under ordinary conditions of use and storage.

**Hazardous Decomposition Products:** Carbon monoxide when reacting with carbohydrates, and hydrogen gas when reacting with aluminum, zinc and tin. Thermal oxidation can produce toxic fumes of potassium oxide (K<sub>2</sub>O).

**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.

**Conditions to Avoid:** Heat, moisture, incompatibles.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

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For potassium hydroxide: Oral rat LD50: 273 mg/kg; Investigated as a mutagen. Skin Irritation Data (std Draize, 50 mg/24 H): Human, Severe; Rabbit, Severe. Eye Irritation Data(Rabbit, non-std test, 1 mg/24 H, rinse): Moderate.

### **Cancer Lists**

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<b>Ingredient</b>	<b>---NTP Carcinogen---</b>		<b>IARC Category</b>
	<b>Known</b>	<b>Anticipated</b>	
Potassium Hydroxide (1310-58-3)	No	No	None

## **SECTION 12. ECOLOGICAL INFORMATION**

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**Environmental Fate:**

No information found.

**Environmental Toxicity:**

Potassium Hydroxide: TLm: 80 ppm/Mosquito fish/ 24 hr./ Fresh water

## **SECTION 13. DISPOSAL CONSIDERATIONS**

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Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved waste 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.

**SECTION 14. TRANSPORT INFORMATION**

**Domestic (Land, D.O.T.)**

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**Proper Shipping Name:** UN1813, POTASSIUM HYDROXIDE, SOLID  
**Hazard Class:** 8  
Packing Group: II  
**Information reported for product/size:** 110LB

**International (Water, I.M.O.)**

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**Proper Shipping Name:** UN1813, POTASSIUM HYDROXIDE, SOLID  
**Hazard Class:** 8  
Packing Group: II  
**Information reported for product/size:** 110LB

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

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**Proper Shipping Name:** POTASSIUM HYDROXIDE, SOLID  
**Hazard Class:** 8  
**UN/NA:** UN1813  
Packing Group: II  
**Information reported for product/size:** 110LB

**SECTION 15. REGULATORY INFORMATION**

-----\Chemical Inventory Status - Part 1\-----

<b>Ingredient</b>	<b>TSCA</b>	<b>EC</b>	<b>Japan</b>	<b>Australia</b>
Potassium Hydroxide (1310-58-3)	Yes	Yes	Yes	Yes
Water (7732-18-5)	Yes	Yes	Yes	Yes

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

<b>Ingredient</b>	<b>Korea</b>	<b>DSL</b>	<b>NDSL</b>	<b>Phil.</b>
Potassium Hydroxide (1310-58-3)	Yes	Yes	No	Yes
Water (7732-18-5)	Yes	Yes	No	Yes

----\Federal, State & International Regulations - Part 1\-----SARA 302-----SARA 313-----

<b>Ingredient</b>	<b>RQ</b>	<b>TPQ</b>	<b>List</b>	<b>Chemical Catg.</b>
Potassium Hydroxide (1310-58-3)	No	No	No	No
Water (7732-18-5)	No	No	No	No

----\Federal, State & International Regulations - Part 2\----- RCRA- -TSCA-

<b>Ingredient</b>	<b>CERCLA</b>	<b>261.33</b>	<b>8(d)</b>
Potassium Hydroxide (1310-58-3)	1000		No
Water (7732-18-5)	No		No

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

**Australian Hazchem Code:** 2R

**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.

**SECTION 16. OTHER INFORMATION**

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**NFPA Ratings:** Health: **3** Flammability: **0** Reactivity: **1**

**Label Hazard Warning:**

POISON! DANGER! CORROSIVE. CAUSES SEVERE BURNS TO SKIN, EYES, RESPIRATORY TRACT, AND GASTROINTESTINAL TRACT. MATERIAL IS EXTREMELY DESTRUCTIVE TO ALL BODY TISSUES. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED.

**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:**

If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. 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 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. In all cases get medical attention immediately.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3.

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N/D= No data; N/A = Not available; N/E= Not established