

## MATERIAL SAFETY DATA SHEET

### Potassium Hydroxide

ACC# 19431

#### Section 1 – Chemical Product and Company Identification

**MSDS Name:** Potassium Hydroxide

**Catalogue Numbers:** S71978, S71979, S71979-1, S71979-2, P246-3, P250-1, P250-10, P250-3, P250-50, P250-500, P250-50LC, P251-3, P251-50, P251-500, P251-50KG, P25812, P258212, P25850, P25850LC, PFP25050LC, S71977, S72221D

**Synonyms:** Caustic potash, Lye, Potassium hydrate

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, Call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, Call:** 800-424-9300

**For International CHEMTREC assistance, Call:** 703-527-3887

#### Section 2 – Composition, Information on Ingredients

CAS#	CHEMICAL NAME	PERCENT	EINECS/ELINCS
1310-58-3	Potassium Hydroxide (KOH)	100	215-181-3

**Hazard Symbols:** C

**Risk Phrases:** 22 35

#### Section 3 – Hazards Identification

#### EMERGENCY OVERVIEW

**Appearance:** White or Yellow. **Danger!** Corrosive, Water-Reactive. Harmful if swallowed. Causes severe eye and skin burns. Causes severe digestive and respiratory tract burns.

**Target Organs:** None

#### Potential Health Effects

**Eye:** Causes severe eye burns. May cause irreversible eye injury. Contact may cause ulceration of the conjunctiva and cornea. Eye damage may be delayed.

**Skin:** Causes skin burns. May cause deep, penetrating ulcers of the skin.

**Ingestion:** Harmful if swallowed. May cause circulatory system failure. May cause perforation of the digestive tract. Causes severe digestive tract burns with abdominal pain, vomiting and possible death.

**Inhalation:** Harmful if inhaled. Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty and possible coma.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated eye contact may cause conjunctivitis.

#### Section 4 – First Aid Measures

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

**Skin:** Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.

**Ingestion:** Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

**Inhalation:** Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:** Treat symptomatically and supportively.

#### Section 5 – Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water with caution and in flooding amounts. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials.

**Extinguishing Media:** For small fires use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

#### Section 6 – Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

#### Section 7 – Handling and Storage

**Handling:** Wash thoroughly after handling. Use with adequate ventilation. Do not allow water to get into the container because of violent reaction. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale.

**Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from water. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

#### Section 8 – Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA – Final PELs
Potassium Hydroxide (KOH)	C 5 mg/m <sup>3</sup>	None listed	None listed

**OSHA Vacated PELs:** Potassium hydroxide (KOH): C 2 mg/m<sup>3</sup>

**Personal Protective Equipment:**

**Eyes:** Wear safety glasses and chemical goggles or face shield if handling liquids.

**Skin:** Wear appropriate gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

<b>Section 9 – Physical and Chemical Properties</b>
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**Physical State:** Solid

**Appearance:** White or Yellow

**Odour:** Odourless

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

**Vapour Pressure:** Not available

**Vapour Density:** Not available

**Evaporation Rate:** Not available

**Viscosity:** Not Available

**Boiling Point:** 2408 deg F

**Freezing/Melting Point:** 680 deg F

**Autoignition Temperature:** Not applicable

**Flash Point:** Not applicable

**Decomposition Temperature:** Not available

**NFPA Rating:** (estimated) Health: 3; Flammability: 0; Reactivity: 1

**Explosion Limits, Lower:** Not available

**Upper:** Not available

**Solubility:** Soluble in water

**Specific Gravity/Density:** 2.04

**Molecular Formula:** KOH

**Molecular Weight:** 56.1047

<b>Section 10 – Stability and Reactivity</b>
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**Chemical Stability:** Stable. Readily absorbs carbon dioxide and moisture from the air and deliquesces.

**Conditions to Avoid:** Incompatible materials, moisture, contact with water, acids, metals.

**Incompatibilities with Other Materials:** Generates large amounts of heat when in contact with water and may steam and splatter. Reacts with chlorine dioxide, nitrobenzene, nitromethane, nitrogen trichloride, peroxidised tetrahydrofuran, 2,4,6-trinitrotoluene, bromoform+ crown ethers, acids, alcohols, sugars, germanium cyclopentadiene, maleic dicarbide. Corrosive to metals such as aluminium, tin, and zinc to cause formation of flammable hydrogen gas

**Hazardous Decomposition Products:** Oxides or potassium

**Hazardous Polymerization:** Has not been reported

**Section 11 – Toxicological Information**

**RTECS#:**  
**CAS#** 1310-58-3: TT2100000  
**LD50/LC50:**  
**CAS#** 1310-58-3:  
 Draize test, rabbit, skin: 50 mg/24H Severe  
 Oral, rat: LD50 = 273 mg/kg  
**Carcinogenicity:**  
**CAS#** 1310-58-3: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA  
**Epidemiology:** No data available  
**Teratogenicity:** No information reported  
**Reproductive Effects:** No data available  
**Neurotoxicity:** No data available  
**Mutagenicity:** No data available  
**Other Studies:** No data available

**Section 12 – Ecological Information**

**Ecotoxicity:** Fish: Mosquito Fish: LC50 = 80.0 mg/L; 24 Hr.; Unspecified. Not data available  
**Environmental:** No information found  
**Physical:** No information found  
**Other:** No information found

**Section 13 – Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.  
**RCRA P-Series:** None listed  
**RCRA U-Series:** None listed

**Section 14 – Transport Information**

	US DOT	IATA	RID/ADR	IMO	Canada TDG
<b>Shipping Name:</b>	POTASSIUM HYDROXIDE, SOLID				POTASSIUM HYDROXIDE
<b>Hazard Class:</b>	8				8 (9.2)
<b>UN Number:</b>	UN1813				UN1813
<b>Packing Group:</b>	II				II

**Section 15 – Regulatory Information**

**US FEDERAL**

**TSCA**

CAS# 1310-58-3 is listed on the TSCA inventory

**Health and Safety Reporting List**

None of the chemicals are on the Health and Safety Reporting List

**Chemical Test Rules**

None of the chemicals in this product are under a Chemical Test Rule

**Section 12b**

None of the chemicals are listed under TSCA Section 12b

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA

**SARA**

**Section 302 (RQ)**

CAS# 1310-58-3: final RQ = 1000 pounds (454 kg)

**Section 302 (TPQ)**

None of the chemicals in this product have a TPQ

**SARA Codes**

CAS# 1310-58-3: acute, reactive

**Section 313**

No chemicals are reportable under Section 313

**Clean Air Act:**

This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters

**Clean Water Act:**

CAS# 1310-58-3 is listed as a Hazardous Substance under the CWA. None of the chemicals in the product are listed as Priority Pollutants under the CWA. None of the chemicals in the product are listed as Toxic Pollutants under the CWA

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA

**STATE:**

CAS# 1310-58-3 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts

California No Significant Risk Level: None of the chemicals in this product are listed

**European/International Regulations**

**European Labelling in Accordance with EC Directives**

**Hazard Symbols:**

C

**Risk Phrases:**

R 22 Harmful if swallowed

R 35 Causes severe burns

**Safety Phrases:**

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection  
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**WGK (Water Danger/Protection)**

CAS# 1310-58-3: 1

**Canada**

CAS# 1310-58-3 is listed on Canada's DSL List. This product has a WHMIS classification of D1B, E.  
CAS# 1310-58-3 is listed on Canada's Ingredient Disclosure List.

**Exposure Limits**

CAS# 1310-58-3: OEL-AUSTRALIA:TWA 2 mg/m<sup>3</sup> OEL-BELGIUM:STEL 2 mg/m<sup>3</sup>  
OEL-DENMARK:TWA 2 mg/m<sup>3</sup> OEL-FINLAND:TWA 2 mg/m<sup>3</sup> OEL-FRANCE:STEL 2m  
g/m<sup>3</sup> OEL-JAPAN:STEL 2 mg/m<sup>3</sup> OEL-THE NETHERLANDS:TWA 2 mg/m<sup>3</sup> OEL-  
SWITZERLAND:TWA 2 mg/m<sup>3</sup> OEL-UNITED KINGDOM:TWA 2 mg/m<sup>3</sup>;STEL 2 mg/m<sup>3</sup> OEL  
IN BULGARIA, COLOMBIA, JORDAN, KOREA, check ACGIH TLV OEL IN NEW ZEALAND,  
SINGAPORE, VIETNAM check ACGI TLV

<b>Section 16 – Additional Information</b>
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**MSDS Creation Date:** 6/21/1999

**Revision #3 Date:** 10/06/2000

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