

# Material Safety Data Sheet

## Potassium Hydroxide Solution (0.1N in Isopropanol)

ACC# 40196

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Potassium Hydroxide Solution (0.1N in Isopropanol)  
**Catalog Numbers:** NC9627579, ST110 500, ST110500, XXKOH/IPA4LI  
**Synonyms:** Titrant Standard KOH Alcoholic Solution  
**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
67-63-0	Isopropyl alcohol	99.74	200-661-7
1310-58-3	Potassium hydroxide	0.56	215-181-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 59 deg F.

**Warning! Flammable liquid and vapor.** May cause allergic skin reaction. May cause severe eye and skin irritation with possible burns. May cause severe respiratory and digestive tract irritation with possible burns. May cause central nervous system depression. May form explosive peroxides. May cause kidney damage.

**Target Organs:** Kidneys, central nervous system.

#### Potential Health Effects

**Eye:** May cause severe eye irritation. Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause chemical conjunctivitis and corneal damage.

**Skin:** May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis. May cause severe irritation and possible burns. May cause irritation with pain and stinging, especially if the skin is abraded. May cause cyanosis of the extremities.

**Ingestion:** May cause kidney damage. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Ingestion of large amounts may cause CNS depression.

**Inhalation:** Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause severe respiratory tract irritation and possible burns. Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. May cause burning sensation in the chest.

**Chronic:** Prolonged or repeated inhalation may cause nosebleeds, nasal congestion, erosion of the teeth, perforation of the nasal septum, chest pain and bronchitis. Prolonged or repeated skin contact may cause defatting and dermatitis. May cause allergic skin reaction in some

### 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. Gently lift eyelids and flush continuously with water.

**Skin:** Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse. Discard contaminated clothing in a manner which limits further exposure.

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

**Inhalation:** Get medical aid immediately. Remove from exposure and move 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. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. This chemical poses an explosion hazard. Flammable liquid and vapor. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

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

spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water.

**Flash Point:** 59e deg F ( 15.00 deg C)

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:**2.0

**Upper:** 12.0

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

## Section 6 - Accidental Release Measures

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

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

**Storage:** Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Isopropyl alcohol	200 ppm TWA; 400 ppm STEL	400 ppm TWA; 980 mg/m <sup>3</sup> TWA 2000 ppm IDLH	400 ppm TWA; 980 mg/m <sup>3</sup> TWA
Potassium hydroxide	2 mg/m <sup>3</sup> Ceiling	none listed	none listed

**OSHA Vacated PELs:** Isopropyl alcohol: 400 ppm TWA; 980 mg/m<sup>3</sup> TWA Potassium hydroxide: No OSHA Vacated PELs are listed for this chemical.

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

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

**Clothing:** Wear appropriate protective clothing to minimize contact with skin.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Liquid

**Appearance:** clear, colorless

**Odor:** none reported

**pH:** Not available.

**Vapor Pressure:** 33 mm Hg @ 20C

**Vapor Density:** 2.1

**Evaporation Rate:**2.8 (butyl acetate=1)

**Viscosity:** Not available.

**Boiling Point:** 181 deg F

**Freezing/Melting Point:**-128 deg F

**Decomposition Temperature:**Not available.

**Solubility:** Soluble in water.

**Specific Gravity/Density:**0.8

**Molecular Formula:**Mixture

**Molecular Weight:**Not available

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable. This material may be sensitive to peroxide formation.

**Conditions to Avoid:** This material may be sensitive to peroxide formation., incompatible materials, ignition sources, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon monoxide, carbon dioxide, oxides of potassium, acrid smoke and fumes.

**Hazardous Polymerization:** Has not been reported.

## Section 11 - Toxicological Information

**RTECS#:****CAS#** 67-63-0: NT8050000**CAS#** 1310-58-3: TT2100000**LD50/LC50:**

CAS# 67-63-0:

Draize test, rabbit, eye: 100 mg Severe;  
 Draize test, rabbit, eye: 10 mg Moderate;  
 Draize test, rabbit, eye: 100 mg/24H Moderate;  
 Draize test, rabbit, skin: 500 mg Mild;  
 Inhalation, mouse: LC50 = 53000 mg/m<sup>3</sup>;  
 Inhalation, rat: LC50 = 16000 ppm/8H;  
 Inhalation, rat: LC50 = 72600 mg/m<sup>3</sup>;  
 Oral, mouse: LD50 = 3600 mg/kg;  
 Oral, mouse: LD50 = 3600 mg/kg;  
 Oral, rabbit: LD50 = 6410 mg/kg;  
 Oral, rat: LD50 = 5045 mg/kg;  
 Oral, rat: LD50 = 5000 mg/kg;  
 Skin, rabbit: LD50 = 12800

CAS# 1310-58-3:

Draize test, rabbit, skin: 50 mg/24H Severe;  
 Oral, rat: LD50 = 273 mg/kg;

**Carcinogenicity:**

CAS# 67-63-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 1310-58-3: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No information found**Teratogenicity:** No information found**Reproductive Effects:** No information found**Mutagenicity:** Cas# 67-63-0: Cytogenetic analysis (Inhalation, rat) = 1030 ug/m<sup>3</sup>/16W, (Intermittent)**Neurotoxicity:** No information found**Other Studies:**

## Section 12 - Ecological Information

**Ecotoxicity:** No data available. Cas# 67-63-0: LC50 (96Hr.) Fathead Minnow = 94900-10400 mg/L; Flow-through condition LC50 (96 Hr.) Fathead Minnow = 61200-65500 mg/L; Flow-through condition.**Environmental:** Cas# 67-63-0: TERRESTRIAL FATE: When spilled on soil, isopropanol will both evaporate quickly and leach into the ground due to its high vapor pressure and low adsorption to soil. Degradation in soil and groundwater has not been determined. If soil degradation is not rapid, it is apt to leach into the groundwater. AQUATIC FATE: When released into water, isopropyl alcohol will volatilize (estimated half-life approximately 5.4 days) and may biodegrade. Although it is readily degradable in a number of laboratory tests, no data on its degradability in natural waters**Physical:** Cas# 67-63-0: ATMOSPHERIC FATE: When released into the atmosphere, isopropanol will photodegrade with an estimated half-life ranging from one to several days. Due to its solubility in water, rainout may be significant.**Other:** No information available.

## 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	Canada TDG
<b>Shipping Name:</b>	FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.	FLAMMABLE LIQUID CORROSIVE NOS (ISPPROPANOL POTASSIUM HYDROXIDE)
<b>Hazard Class:</b>	3	3(8)
<b>UN Number:</b>	UN2924	UN2924
<b>Packing Group:</b>	II	II

## Section 15 - Regulatory Information

**US FEDERAL****TSCA**

CAS# 67-63-0 is listed on the TSCA inventory.

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

**Health & Safety Reporting List**

CAS# 67-63-0: Effective 12/15/86, Sunset 12/15/96

**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.

**CERCLA Hazardous Substances and corresponding RQs**

CAS# 1310-58-3: 1000 lb final RQ; 454 kg final RQ

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**SARA Codes**

CAS # 67-63-0: immediate, delayed, fire.

CAS # 1310-58-3: immediate, reactive.

**Section 313**

This material contains Isopropyl alcohol (CAS# 67-63-0, 99.74%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

**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 this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this 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# 67-63-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

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

**California Prop 65**

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

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

XI F

**Risk Phrases:**

R 11 Highly flammable.

R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

**Safety Phrases:**

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 7 Keep container tightly closed.

**WGK (Water Danger/Protection)**

CAS# 67-63-0: 1

CAS# 1310-58-3: 1

**Canada - DSL/NDSL**

CAS# 67-63-0 is listed on Canada's DSL List.

CAS# 1310-58-3 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of B2, E.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 67-63-0 is listed on the Canadian Ingredient Disclosure List.

CAS# 1310-58-3 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Additional Information**

**MSDS Creation Date:** 10/16/1997

**Revision #6 Date:** 10/03/2005

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*