

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Lithium 2-Hydroxyethoxide Slurry  
**CHEMICAL FAMILY:** Alkali Glycolates  
**MOLECULAR FORMULA:** LiOCH<sub>2</sub>CH<sub>2</sub>OH  
**GENERAL USE:** Industrial Manufacturing

**MANUFACTURER**  
FMC CORPORATION  
Lithium Division  
P.O. Box 795  
Bessemer City, NC 28016-0795  
**General Information:** (704) 868-5300

**Emergency Telephone Numbers:**  
**CHEMTREC** (800) 424-9300  
**Emergency Phone** (704) 629-5361 (Plant) Call Collect 24 Hr/Day  
**Emergency Phone** (303) 595-9048 (Medical) Call Collect

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt. %</u>
Lithium 2-Hydroxyethoxide	23248-23-9	70 - 97
Water	7732-18-5	3 - 30
ethylene glycol	107-21-1	0-5
lithium hydroxide	1310-65-2	0-5

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

**IMMEDIATE CONCERNS:** Combustible. White to tan thick slurry. Corrosive.  
**POTENTIAL HEALTH EFFECTS:** Corrosive to eyes (may cause blindness), skin, nose, throat and stomach. Continuous inhalation may cause lung damage. Contains ethylene glycol which is toxic to humans

**COMMENTS:**  
(See Section 11, Toxicological Information)

## 4. FIRST AID MEASURES

**EYES:** Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

**SKIN:** Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing discomfort occurs and persists, see a medical doctor. If breathing has stopped, give artificial respiration and see a medical doctor immediately.

**NOTES TO MEDICAL DOCTOR:**

This product is corrosive to the skin, eyes, and mucous membranes of the respiratory and gastrointestinal tracts. In cases of accidental or deliberate ingestion, immediate consideration should be given to gastric lavage, with endotracheal tube in place. Treatment is controlled removal of exposure with symptomatic and supportive care. This product is a slurry of lithium glycolate, and ingestion may produce signs and symptoms of ethylene glycol intoxication. Therefore, care and treatment as for ethylene glycol antifreeze ingestion should be considered. Treatment of local skin and eye effects from contact with the product should be as for alkaline corrosives. In the event of more extensive skin contact with full or partial thickness lesions, the possibility of care and treatment as for ethylene glycol intoxication by dermal absorption should be considered.

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**5. FIRE FIGHTING MEASURES**

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**FLAMMABLE LIMITS:**

Upper: Not available Lower: Not available.

**GENERAL HAZARD:**

None

**EXTINGUISHING MEDIA:**

Dry chemical, CO2, water spray or regular foam.

**HAZARDOUS COMBUSTION PRODUCTS:**

Corrosive lithium hydroxide dust, carbon dioxide, carbon monoxide.

**FIRE FIGHTING PROCEDURES:**

Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for fire fighting. This is necessary to protect against the hazards of heat, products of combustion and oxygen deficiency. Do not breathe smoke, gases or vapors generated.

**AUTOIGNITION TEMPERATURE:**

398 C° (ethylene glycol)

**PROPERTIES CONTRIBUTING TO**

Organic. May burn.

**FLAMMABILITY:**

**FLASH POINT:**

111 C° (ethylene glycol)

**SENSITIVITY TO STATIC DISCHARGE:**

Not applicable

**SENSITIVITY TO IMPACT:**

Not applicable

**COMMENTS:**

(See Section 10, Stability and Reactivity)

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**6. ACCIDENTAL RELEASE MEASURES**

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**RELEASE NOTES:**

Contain spill with absorbant. Transfer to suitable container and clean spillage with an absorbant. Dispose of waste according to local and Federal laws and regulations. Before cleanup measures begin, review the entire MSDS with particular attention to Section 3, Emergency Overview and Potential Health Effects; and Section 8, Recommended Personal Protective Equipment.

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**7. HANDLING AND STORAGE**

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**HANDLING:**

Do not get in eyes, on skin or clothing. Wash thoroughly after handling.

**STORAGE:**

Keep container closed. Store away from acids.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

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**EXPOSURE LIMITS**

<u>Chemical Name</u>	<u>TWA</u> <u>(ACGIH)</u>	<u>STEL/Ceiling</u> <u>(ACGIH)</u>	<u>PEL</u> <u>(OSHA)</u>	<u>STEL/Ceiling</u> <u>(OSHA)</u>
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ethylene glycol

127 mg/m<sup>3</sup>

**ENGINEERING CONTROLS:**

Use local exhaust ventilation to keep airborne concentrations below exposure limits.

**PERSONAL PROTECTIVE EQUIPMENT**

**Eyes And Face:**

Safety glasses or goggles

**Respiratory:**

When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against inorganic and organic dusts and mists.

**Protective Clothing:**

Rubber gloves

**Work Hygienic Practices:**

Quick-drench eyewash and safety shower.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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<b><u>ODOR:</u></b>	Odorless
<b><u>APPEARANCE:</u></b>	White to tan thick slurry
<b><u>pH:</u></b>	>12
<b><u>PERCENT VOLATILE:</u></b>	0-5%
<b><u>VAPOR PRESSURE:</u></b>	Not applicable
<b><u>VAPOR DENSITY:</u></b>	Not applicable
<b><u>BOILING POINT:</u></b>	198 C° (ethylene glycol)
<b><u>MELTING POINT:</u></b>	Not available
<b><u>SOLUBILITY IN WATER:</u></b>	Not applicable
<b><u>EVAPORATION RATE(Butyl Acetate = 1):</u></b>	Not applicable
<b><u>SPECIFIC GRAVITY:</u></b>	Not available
<b><u>MOLECULAR WEIGHT:</u></b>	67.96
<b><u>COEFF. OIL/WATER:</u></b>	Not available
<b><u>ODOR THRESHOLD:</u></b>	Not applicable
<b><u>FLAMMABLE LIMITS:</u></b>	Upper: 15.3% Lower: 3.2% (ethylene glycol)
<b><u>FLASH POINT:</u></b>	111 C° (ethylene glycol)
<b><u>AUTOIGNITION TEMPERATURE:</u></b>	398 C° (ethylene glycol)
<b><u>EXPLOSIVE PROPERTIES:</u></b>	Not explosive
<b><u>OXIDIZING PROPERTIES:</u></b>	Not an oxidizer

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**10. STABILITY AND REACTIVITY**

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<b><u>CONDITIONS TO AVOID:</u></b>	None
<b><u>STABILITY:</u></b>	Stable
<b><u>POLYMERIZATION:</u></b>	Does not polymerize
<b><u>HAZARDOUS DECOMPOSITION PRODUCTS:</u></b>	Lithium hydroxide and ethylene glycol may be formed if lithium 2-hydroxyethoxide contacts strong acids, ketones and aldehydes, e.g. acrolein may be formed if the substance contacts strong oxidizers, especially acidic oxidizers.
<b><u>INCOMPATIBLE MATERIALS:</u></b>	Strong acids, strong oxidizers

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**11. TOXICOLOGICAL INFORMATION**

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<b><u>Eye Contact:</u></b>	No data available for the product. Corrosive.
<b><u>Skin Contact:</u></b>	No data available for the product. Corrosive.

**Skin Absorption:** No data available for the product.  
Corrosive.  
ethylene glycol: Dermal LD<sub>50</sub> = 10,611 uL/kg (rabbit)

**Ingestion:** No data available for the product.  
Corrosive.  
ethylene glycol: Oral LD<sub>50</sub> = 6140 mg/kg (rat)  
Ethylene glycol is more acutely toxic to humans than to animals. The estimated lethal dose for humans is 100 milliliters

**Inhalation:** No data available for the product.  
Corrosive.  
ethylene glycol: Inhalation LC<sub>50</sub> = 10.9 mg/l, 1hour (rat)

**Acute Effects From Overexposure:**

This product is corrosive to eyes (may cause blindness), skin, nose, throat, stomach and upper respiratory tract.

Ethylene glycol: Ethylene glycol is more acutely toxic to humans than to animals. The estimated lethal dose for humans is 100 milliliters. Renal damage has been observed in humans following ingestion.

**Chronic Effects From Overexposure:**

No data available for the product. Continuous inhalation exposure may cause lung damage.

**Sensitization:**

No

**Carcinogenicity:**

EH40: Not listed.

IARC: Not listed.

NTP: Not listed.

OSHA: Not considered a carcinogen under OSHA.

ACGIH: Ethylene glycol is listed as Category A4, not classifiable as a human carcinogen.

**Mutagenicity:**

Ethylene glycol: An in-vivo animal study indicated that ethylene glycol is nonmutagenic.

**Reproductive Toxicity:**

Ethylene glycol: Embryotoxicity and teratogenicity observed in animal studies. Doses were not toxic to the mother.

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

No data available for the product.

ethylene glycol: 96 hr. LC<sub>50</sub> >10000 mg/l (fathead minnow) [Handbook Env. Data on Org. Chem. 4th Ed.]

96 hr. LC<sub>50</sub> = 16,000 mg/l (guppy) [Handbook Env. Data on Org. Chem. 4th Ed.]

48 hr. EC<sub>50</sub> >10000 mg/l (daphnia magna) [Handbook Env. Data on Org. Chem. 4th Ed.]

**Chemical Fate Information:**

No data available for the product.

Ethylene glycol: Ethylene glycols is biodegradable and shows low bioaccumulation potential. If released to soil, it will evaporate at a low rate. It is not likely to partition to organic material in environment because Log (Kow) is: -1.36

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## 13. DISPOSAL CONSIDERATIONS

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**DISPOSAL METHOD:**

Dispose of waste according to local and Federal laws and regulations.

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## 14. TRANSPORT INFORMATION

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**PROPER SHIPPING NAME:** Corrosive liquid, basic, organic, N.O.S. (lithium 2-hydroxyethoxide slurry in water)  
**CLASSIFICATION:** 8, Corrosive  
**LABELS:** Corrosive  
**UN NUMBER:** UN3267  
**PACKING GROUP:** II  
**FLASH POINT:** 111 C° (ethylene glycol)  
**CUSTOM TARIFF NO:** 2931.00.9160  
**MARINE POLLUTANT:** No  
**PIH:** Not designated Poison Inhalation Hazard by US DOT.

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## 15. REGULATORY INFORMATION

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**UNITED STATES**  
**SECTION 311 HAZARD CATEGORY (40 CFR 370):** Immediate (acute) health hazard; delayed (chronic) health hazard.  
**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** This product contains ethylene glycol which is a substance subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know act of 1986 and 40 CFR 372.  
  
This information must be included in all MSDS's that are copied and distributed for this material.

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):** Not listed  
**CERCLA HAZARDOUS SUBSTANCE (40 CFR 302.4):** Ethylene glycol is listed. The reportable quantity is 5,000 pounds.  
**TSCA SEC 12B EXPORT NOTIFICATION:** This product is not subject to TSCA 12 (b) Export Notification Requirements.  
**TSCA INVENTORY STATUS (40 CFR 710):** Listed  
Product Identification No.: 3267  
Hazard Classification:  
Class E (Corrosive)  
Class D2A - (Other Toxic effects - Very toxic)  
Ingredient Disclosure List: ethylene glycol and lithium hydroxide are listed

**CANADA**  
**WHMIS:**

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## 16. OTHER INFORMATION

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**REVISION SUMMARY:** Revision # 8: Regular review completed. Sections 11 and 14 revised.  
**NFPA RATING**

**HEALTH:** 3  
**FLAMMABILITY:** 1  
**REACTIVITY:** 1  
**SPECIAL:** None

This MSDS has been prepared to meet U. S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

type 7b

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