

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Lithium Hydroxide, Anhydrous  
**CHEMICAL FAMILY:** Alkali  
**MOLECULAR FORMULA:** LiOH  
**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. HAZARDS IDENTIFICATION

**CLASSIFICATION:** Corrosive to skin; Category 1A

**LABELING:**

**SYMBOLS:** Corrosion  
**SIGNAL WORD:** Danger  
**HAZARD STATEMENTS:** Causes severe skin burns and eye damage

**PRECAUTIONARY STATEMENTS:**

**Prevention:**  
Do not breathe dusts or mists.  
Wash thoroughly after handling.  
Wear protective gloves/clothing/ and eye/face protection  
**Response**  
Wash contaminated clothing before reuse.  
**First Aid**  
See Section 4 of the MSDS.  
**Storage**  
See Section 7 of the MSDS.  
**Disposal**  
See Section 13 of the MSDS.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>EC No.</u>	<u>Wt.%</u>	<u>Classification, Hazard Statement Codes</u>	
Lithium hydroxide, anhydrous	1310-65-2	215-183-4	>96	Skin Corr. Cat 1A	H314
Lithium carbonate	554-13-2	209-062-5	3	Skin Irrit. Cat 3 Acute Tox. Cat 4 Aquatic Tox. Cat 3	H316 H302 H402

### 4. FIRST AID MEASURES

<b><u>EYES:</u></b>	Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.
<b><u>SKIN:</u></b>	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.
<b><u>INGESTION:</u></b>	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.
<b><u>INHALATION:</u></b>	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 has high corrosivity. Removal of exposure should be immediate, using copious water flushes and gastric lavage, if necessary. Treatment is otherwise symptomatic and supportive.

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## **5. FIRE FIGHTING MEASURES**

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<b><u>FLAMMABLE LIMITS:</u></b>	Upper: Not available Lower: Not available.
<b><u>GENERAL HAZARD:</u></b>	None
<b><u>EXTINGUISHING MEDIA:</u></b>	Dry chemical, CO2, water spray or regular foam.
<b><u>HAZARDOUS COMBUSTION PRODUCTS:</u></b>	Corrosive lithium hydroxide dust.
<b><u>FIRE FIGHTING PROCEDURES:</u></b>	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.
<b><u>AUTOIGNITION TEMPERATURE:</u></b>	Not applicable
<b><u>PROPERTIES CONTRIBUTING TO FLAMMABILITY:</u></b>	None
<b><u>FLASH POINT:</u></b>	Not applicable
<b><u>SENSITIVITY TO STATIC DISCHARGE:</u></b>	Not applicable
<b><u>SENSITIVITY TO IMPACT:</u></b>	Not applicable

**COMMENTS:**

(See Section 10, Stability and Reactivity)

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## **6. ACCIDENTAL RELEASE MEASURES**

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<b><u>RELEASE NOTES:</u></b>	Sweep up and place in suitable transport container. Dispose of waste according to all 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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<b><u>HANDLING:</u></b>	Do not get in eyes, on skin or clothing. Avoid breathing dust. Wash thoroughly after handling.
<b><u>STORAGE:</u></b>	Keep container closed. Store away from acids and water.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### EXPOSURE LIMITS

<u>Chemical Name</u>	<u>TWA (ACGIH)</u>	<u>STEL/Ceiling (ACGIH)</u>	<u>PEL (OSHA)</u>	<u>STEL/Ceiling (OSHA)</u>
None				

### ENGINEERING CONTROLS:

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

### PERSONAL PROTECTIVE EQUIPMENT

<u>Eyes And Face:</u>	Safety glasses or goggles
<u>Respiratory:</u>	When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts.
<u>Protective Clothing:</u>	Rubber gloves
<u>Work Hygienic Practices:</u>	Quick-drench eyewash and safety shower.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<u>ODOR:</u>	Odorless
<u>APPEARANCE:</u>	White crystals
<u>pH:</u>	(1% solution) @ 25°C: >13
<u>PERCENT VOLATILE:</u>	Not applicable
<u>VAPOR PRESSURE:</u>	Not applicable
<u>VAPOR DENSITY:</u>	Not applicable
<u>BOILING POINT:</u>	Not applicable
<u>MELTING POINT:</u>	470°C (878°F)
<u>SOLUBILITY IN WATER:</u>	% by wt. @ 25°C (77°F): 11
<u>EVAPORATION RATE(Butyl Acetate = 1):</u>	Not applicable
<u>SPECIFIC GRAVITY:</u>	1.5 g/cc
<u>MOLECULAR WEIGHT:</u>	23.95
<u>COEFF. OIL/WATER:</u>	Not applicable
<u>ODOR THRESHOLD:</u>	Not applicable
<u>FLAMMABLE LIMITS:</u>	Upper: Not available Lower: Not available.
<u>FLASH POINT:</u>	Not applicable
<u>AUTOIGNITION TEMPERATURE:</u>	Not applicable
<u>VISCOSITY:</u>	Not applicable
<u>FLAMMABILITY:</u>	Not combustible.
<u>DECOMPOSITION TEMPERATURE:</u>	Not available
<u>EXPLOSIVE PROPERTIES:</u>	Not explosive
<u>OXIDIZING PROPERTIES:</u>	Not an oxidizer

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## 10. STABILITY AND REACTIVITY

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<u>CONDITIONS TO AVOID:</u>	None
<u>STABILITY:</u>	Stable under normal storage and temperature conditions.
<u>POLYMERIZATION:</u>	Will not occur
<u>HAZARDOUS DECOMPOSITION PRODUCTS:</u>	None
<u>INCOMPATIBLE MATERIALS:</u>	Acids, aluminum, zinc

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## 11. TOXICOLOGICAL INFORMATION

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<b><u>Eye Contact:</u></b>	LiOH: Corrosive
<b><u>Skin Contact:</u></b>	LiOH: Corrosive
<b><u>Skin Absorption:</u></b>	No data available for the product.
<b><u>Ingestion:</u></b>	No data available for the product. Lithium hydroxide, anhydrous: Oral LD <sub>50</sub> = 210 mg/kg [RTECS] (rat)
<b><u>Inhalation:</u></b>	No data available for the product. Inhalation LC <sub>50</sub> > 6.15 mg/L (rat) (lithium hydroxide monohydrate) [FMC I99-2286]

**Acute Effects From Overexposure:**

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

**Chronic Effects From Overexposure:**

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: Not listed

**Mutagenicity:**

No

**Reproductive Toxicity:**

No

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## 12. ECOLOGICAL INFORMATION

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**Ecotoxicological Information:**

Environmental toxicity testing of the product has not been carried out. The hydroxyl ion may affect the pH of the water. Lithium carbonate is expected to be slightly toxic to aquatic invertebrates and freshwater fish.

Lithium carbonate:

Daphnia magna: 48 hour EC<sub>50</sub> = 33.2 mg/L [FMC I96-2085]

Rainbow trout: 96 hour LC<sub>50</sub> = 30.0 mg/L [FMC I96-2086]

**Chemical Fate Information:**

LiOH exists as the inorganic ions lithium and hydroxide in aqueous solutions. LiOH is not biodegraded, bioaccumulated or photodegraded.

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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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**UN NUMBER:** UN2680  
**PROPER SHIPPING NAME:** Lithium hydroxide, solid  
**CLASSIFICATION:** 8, Corrosive  
**LABELS:** Corrosive  
**PACKING GROUP:** II  
**FLASH POINT:** Not applicable  
**CUSTOM TARIFF NO:** 2825.20.0000  
**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  
**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** This product contains lithium carbonate which is subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986. 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):**

Not listed

**TSCA SEC 12B EXPORT NOTIFICATION:**

This product is not subject to TSCA 12 (b) Export Notification Requirements.

**TSCA INVENTORY STATUS (40 CFR 710):**

Listed

### CANADA

**WHMIS:** Product Identification No.: 2680  
Hazard Classification: Class E (Corrosive)  
Ingredient Disclosure List: Lithium hydroxide is listed.

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## 16. OTHER INFORMATION

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**REVISION SUMMARY:** Revision # 8: Regular review completed. Sections 2, 3, 9, 11, 14 & 16 revised.

**NFPA RATING**

**HEALTH:** 3  
**FLAMMABILITY:** 0  
**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 7a

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