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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Lithium Amide  
**CHEMICAL FAMILY:** Alkali Amides  
**MOLECULAR FORMULA:** LiNH<sub>2</sub>  
**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

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

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<u>Chemical Name</u>	<u>CAS #</u>	<u>Wt. %</u>
Lithium amide	7782-89-0	94 - 96

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## 3. HAZARDS IDENTIFICATION

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**EMERGENCY OVERVIEW**

**IMMEDIATE CONCERNS:** Flammable solid. Reacts violently with water/moisture to give off corrosive dust and irritating ammonia gas.

**POTENTIAL HEALTH EFFECTS:** Corrosive to eyes (may cause blindness), skin, nose and throat. Continuous inhalation of dust may cause lung damage.

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

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## 4. FIRST AID MEASURES

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**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:** Quickly wipe off as much as possible, then immediately flush with plenty of water while removing contaminated clothing and/or shoes. Thoroughly wash with soap and water. Obtain immediate medical attention. Contact a medical doctor if necessary.

**INGESTION:** Quickly wipe material from the mouth and rinse mouth with 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 and reacts violently with water. Removal of exposure should be immediate, using copious water flushes and gastric lavage, if necessary. Ingestion presents a singular problem as emesis may produce esophageal damage and/or aspiration damage; dilution with water or other water-containing materials may produce a reaction that exacerbates the corrosive activity. Consideration may be given to gastric lavage with a large diameter tube for removal of material and then dilution with large amounts of water. Esophagoscopy may be of assistance in this procedure and to assess extent of damage. Treatment is otherwise symptomatic and supportive.

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**5. FIRE FIGHTING MEASURES**

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**FLAMMABLE LIMITS:**

Upper: Not available Lower: Not available.

**GENERAL HAZARD:**

Flammable solid. Water reactive.

**EXTINGUISHING MEDIA:**

DO NOT USE WATER, SAND OR CARBON DIOXIDE. Use graphite, copper powder, Lith-X (Ansul). If not available, dry sodium chloride, dry (anhydrous) calcium oxide or dry lithium chloride can be used.

**HAZARDOUS COMBUSTION PRODUCTS:**

Lithium oxide, lithium hydroxide, ammonia.

**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.

Can reignite after fire is initially extinguished. Never leave extinguished fires unattended. After all material has apparently burned and/or cooled, carefully turn over remaining residue and be prepared to reextinguish should reignition occur. Carefully place residue in a steel drum, using a long-handled shovel, and cover with extinguishing media.

**AUTOIGNITION TEMPERATURE:**

Not available

**PROPERTIES CONTRIBUTING TO**

Water reactivity and flammability of solid.

**FLAMMABILITY:**

**FLASH POINT:**

Not applicable

**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:**

Remove all sources of ignition. Keep water or moisture away from spilled material. With clean shovel, place into clean, dry metal container and cover loosely. 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:**

Wear safety glasses or goggles and rubber gloves. Do not get in eyes, on skin or clothing. Open container cautiously to release any build-up of ammonia vapors. Avoid breathing dust. Preferably use in a closed system with an inert atmosphere of nitrogen or argon. Wash thoroughly after handling.

**STORAGE:** Keep container closed. Keep away from water, humid air, acids and oxidizing materials. Keep away from heat, sparks and flame.

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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>
lithium amide	none			
ammonia, hydrolysis product	25 ppm	35 ppm	50 ppm	35 ppm

### ENGINEERING CONTROLS:

Preferably use in closed system with atmosphere of nitrogen or argon. Where personal contact can occur, 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>	Use with adequate ventilation or wear a NIOSH/MSHA respirator approved for protection against inorganic vapors or dusts.
<u>Protective Clothing:</u>	Dry 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>	Ammonia
<u>APPEARANCE:</u>	White powder
<u>pH:</u>	(1% solution) @ 25°C: Reacts violently giving pH 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>	380°C (716°F) with decomposition which begins at 125°C (257°F)
<u>SOLUBILITY IN WATER:</u>	Reacts violently with water
<u>EVAPORATION RATE(Butyl Acetate = 1):</u>	Not applicable
<u>SPECIFIC GRAVITY:</u>	1.2 g/cc at (257°F)
<u>MOLECULAR WEIGHT:</u>	22.96
<u>COEFF. OIL/WATER:</u>	Not applicable
<u>ODOR THRESHOLD:</u>	Not available
<u>FLAMMABLE LIMITS:</u>	Upper: Not available Lower: Not available.
<u>FLASH POINT:</u>	Not applicable
<u>AUTOIGNITION TEMPERATURE:</u>	Not applicable
<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>	Contact with water, humid air, moisture
<u>STABILITY:</u>	Stable
<u>POLYMERIZATION:</u>	Does not polymerize
<u>HAZARDOUS DECOMPOSITION PRODUCTS:</u>	Ammonia, lithium hydroxide and/or lithium oxide
<u>INCOMPATIBLE MATERIALS:</u>	Oxidizing materials and acids

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## 11. TOXICOLOGICAL INFORMATION

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**Eye Contact:** No data available for the product.  
Corrosive.

**Skin Contact:** No data available for the product.  
Corrosive.

**Skin Absorption:** No data available for the product.  
Corrosive.

**Ingestion:** No data available for the product.  
Corrosive.

**Inhalation:** No data available for the product.  
Corrosive.  
ammonia, hydrolysis product:

**Acute Effects From Overexposure:**

This material is corrosive and may cause severe chemical burns to eyes (may cause blindness), skin, nose, throat and stomach. Can form ammonia gas on contact with moist air.

**Chronic Effects From Overexposure:**

No data available for the product.

**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:**

No data available for the product.

**Chemical Fate Information:**

Lithium amide reacts violently with water. The hydrolysis products consist of ammonia gas and lithium hydroxide. The hydroxide ion may affect the pH of the water.

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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:** Alkali Metal Amides

**CLASSIFICATION:** 4.3, Dangerous when wet

**LABELS:** Dangerous when wet

**UN NUMBER:** UN1390

**PACKING GROUP:** II  
**CUSTOM TARIFF NO:** 2851.00.0065  
**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):** Reactive, fire hazard, immediate (acute) health hazard.  
**SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):** This product does not contain a toxic chemical subject to the reporting requirements of Section 313 of Emergency Planning and Community Right-To-Know Act of 1986.

**SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355):**

Product is not listed; ammonia is listed

**CERCLA HAZARDOUS SUBSTANCE (40 CFR 302.4):**

Product is not listed; ammonia is 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.: 1390  
Hazard Classification: Class B, Div. 6 (Reactive Flammable Materials)  
Class D, Division 2B (Corrosive - Eyes)  
Class E (Corrosive)  
Ingredient Disclosure List: Product is not listed; ammonia is listed

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## 16. OTHER INFORMATION

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**REVISION SUMMARY:** Revision # 6: Section 14 revised.

**NFPA RATING**

**HEALTH:** 3  
**FLAMMABILITY:** 3  
**REACTIVITY:** 2  
**SPECIAL:** W

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 5c

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