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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME:** Lithium Sulfate, Monohydrate  
**CHEMICAL FAMILY:** Alkali Sulfates  
**MOLECULAR FORMULA:**  $\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$   
**SYNONYM(s):** Sulfuric Acid, Dilithium Salt, Monohydrate  
**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 sulfate, monohydrate | 10102-25-7   | 100          |

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### 3. HAZARDS IDENTIFICATION

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**EMERGENCY OVERVIEW**

**IMMEDIATE CONCERNS:** White crystals, odorless  
**POTENTIAL HEALTH EFFECTS:** This product may be irritating to the eyes.

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

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### 4. FIRST AID MEASURES

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**EYES:** Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

**SKIN:** Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

**INGESTION:** Drink 1 or 2 glasses of water and induce vomiting by touching the back of the throat with a finger or by giving syrup of ipecac. Never induce vomiting or give anything by mouth to an unconscious person. Contact a medical doctor.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

**NOTES TO MEDICAL DOCTOR:**  
Effects of overexposure to lithium ion are well documented in the medical literature. Low toxicity is anticipated. In such cases, standard protocols for overdosage are suggested. 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:** No known physical hazard, non-combustible.

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|--|--|
| <b><u>EXTINGUISHING MEDIA:</u></b>                     | Dry chemical, CO2, water spray or regular foam.  |
| <b><u>HAZARDOUS COMBUSTION PRODUCTS:</u></b>           | None   |
| <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 container. 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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|-------------------------|---|
| <b><u>HANDLING:</u></b> | Avoid contact with eyes, skin or clothing. Use with adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling. |
| <b><u>STORAGE:</u></b>  | Keep away from strong acids. Keep container closed.   |

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### **EXPOSURE LIMITS**

| <b><u>Chemical Name</u></b>                | <b><u>TWA (ACGIH)</u></b> | <b><u>STEL/Ceiling (ACGIH)</u></b> | <b><u>PEL (OSHA)</u></b> | <b><u>STEL/Ceiling (OSHA)</u></b> |
|--|---------------------------|------------------------------------|--------------------------|-----------------------------------|
| PNOC <sup>1</sup> , inhalable particulate  | 10 mg/m <sup>3</sup>      |                                    |                          |                                   |
| PNOC <sup>1</sup> , respirable particulate | 3 mg/m <sup>3</sup>       |                                    |                          |                                   |

<sup>1</sup>PNOC = Particulates Not Otherwise Classified.

**ENGINEERING CONTROLS:**  
Use local exhaust ventilation to keep airborne concentrations below exposure limits.

### **PERSONAL PROTECTIVE EQUIPMENT**

|  |   |
|--|---|
| <b><u>Eyes And Face:</u></b>           | Safety glasses or goggles   |
| <b><u>Respiratory:</u></b>             | When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts. |
| <b><u>Protective Clothing:</u></b>     | Rubber gloves   |
| <b><u>Work Hygienic Practices:</u></b> | 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 crystals                             |
| <b><u>pH:</u></b>                                  | (1% Slurry) @ 25°C: 7                      |
| <b><u>PERCENT VOLATILE:</u></b>                    | Not applicable                             |
| <b><u>VAPOR PRESSURE:</u></b>                      | Not applicable                             |
| <b><u>VAPOR DENSITY:</u></b>                       | Not applicable                             |
| <b><u>BOILING POINT:</u></b>                       | Not applicable                             |
| <b><u>MELTING POINT:</u></b>                       | Loses water @ 72°C-160°C (162°F-320°F)     |
| <b><u>SOLUBILITY IN WATER:</u></b>                 | % by wt. @ 25°C (77°F): 30                 |
| <b><u>EVAPORATION RATE(Butyl Acetate = 1):</u></b> | Not applicable                             |
| <b><u>SPECIFIC GRAVITY:</u></b>                    | 2.1 g/cc                                   |
| <b><u>MOLECULAR WEIGHT:</u></b>                    | 127  |
| <b><u>COEFF. OIL/WATER:</u></b>                    | Not applicable                             |
| <b><u>ODOR THRESHOLD:</u></b>                      | Not applicable                             |
| <b><u>FLAMMABLE LIMITS:</u></b>                    | Upper: Not available Lower: Not available. |
| <b><u>FLASH POINT:</u></b>                         | Not applicable                             |
| <b><u>AUTOIGNITION TEMPERATURE:</u></b>            | Not applicable                             |
| <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>                   | Will not occur. |
| <b><u>HAZARDOUS DECOMPOSITION PRODUCTS:</u></b> | None            |
| <b><u>INCOMPATIBLE MATERIALS:</u></b>           | None            |

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## 11. TOXICOLOGICAL INFORMATION

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|--------------------------------|---|--|
| <b><u>Eye Contact:</u></b>     | No data available for the product.  |  |
| <b><u>Skin Contact:</u></b>    | Lithium sulfate, anhydrous:<br>Non-corrosive, Corrositex In-Vitro Skin Corrosion                      | [FMC LD 16555]   |
| <b><u>Skin Absorption:</u></b> | No data available for the product.  |  |
| <b><u>Ingestion:</u></b>       | Lithium sulfate, anhydrous:<br>LD <sub>50</sub> = 613 mg/kg (rat)<br><br>Mean LD = 1066 mg/kg (human) | [RTECS]<br><br>[Environ. Health Persp. 106, Suppl. 2, Pg. 497, 1998] |
| <b><u>Inhalation:</u></b>      | No data available for the product.  |  |

### **Acute Effects From Overexposure:**

This product is expected to have low toxicity and may be minimally irritating to the eyes (based on a similar product, Sodium sulfate).

**Chronic Effects From Overexposure:**

No data available for the product.

Exposure to lithium in industrial settings is not considered to pose a risk to human health. NIOSH studied 25 workers exposed to lithium-containing dust at air concentrations exceeding 10 mg/m<sup>3</sup> (nuisance dust limit) and found that typical industrial exposure to lithium will not result in blood levels sufficiently high to produce toxicity in either adults or their offspring (Health Hazard Evaluation Report HHE80-036-922).

**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:**

Lithium sulfate (anhydrous):

24h EC<sub>50</sub> = 1.31 mM (daphnia pulex)

24h EC<sub>50</sub> = 301 umol/l (daphnia magna)

**Chemical Fate Information:**

No data available for the product.

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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:**

None

**CLASSIFICATION:**

None

**LABELS:**

None

**UN NUMBER:**

None

**PACKING GROUP:**

None

**FLASH POINT:**

Not applicable

**CUSTOM TARIFF NO:**

2833.29.0000

**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):**

None

**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):**  
**CERCLA HAZARDOUS SUBSTANCE (40 CFR  
302.4):**  
**TSCA SEC 12B EXPORT NOTIFICATION:**

Not listed

Not listed

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

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

Listed

**CANADA  
WHMIS:**

Product Identification No.: None  
Hazard Classification: None  
Ingredient Disclosure List: Not listed

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## **16. OTHER INFORMATION**

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**REVISION SUMMARY:** Revision #5: Hazard review conducted. Section 14 changed

**NFPA RATING**

**HEALTH:** 0  
**FLAMMABILITY:** 0  
**REACTIVITY:** 0  
**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 1b

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