Material Safety Data Sheet

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MANUFACTURER:**
FMC CORPORATION, LITHIUM DIVISION
P.O. BOX 795
BESSEMER CITY, NC 28016-0795
(704) 868-5300

**PRODUCT NAME:** Lithium Carbonate

**TRADE NAME:** Lithium Carbonate

**SYNONYMS:**
- Dilithium Carbonate; Carbonic Acid,
- Dilithium Salt

**CHEMICAL FORMULA:** \( \text{Li}_2\text{CO}_3 \)

**CHEMICAL FAMILY:** Alkali Carbonates

**PRODUCT CAS NO.:** 554-13-2

**PRODUCT USE:** Chemical Manufacturing

**VERSION:**

**EMERGENCY TELEPHONE NUMBERS**

**CHEMREC:** (800) 424-9300
**MEDICAL:** (303) 595-9048
**FMC LITHIUM:** (704) 629-5361

**TRANSPORTATION**
**POISON CENTER (CALL COLLECT)**
**PLANT EMERGENCY RESPONSE TEAM (PERT)**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NUMBER</th>
<th>WT %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Carbonate</td>
<td>554-13-2</td>
<td>100</td>
</tr>
</tbody>
</table>

**3. HAZARD IDENTIFICATION**

**EMERGENCY OVERVIEW:** White granular solid or powder (odorless).

**POTENTIAL HEALTH EFFECTS:** Eye irritant; no significant toxicity hazard in industrial/commercial applications.

**4. FIRST AID MEASURES**

**EYES:**
Flush with water for at least 15 minutes. If irritation occurs and persists, contact a medical doctor.

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

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

**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.

**NOTES TO MEDICAL DOCTOR:**
Lithium carbonate has low toxicity but may produce moderate irritation due to its alkalinity. Gastric lavage may be preferable to remove exposure. Treatment is symptomatic and supportive.
5. FIRE FIGHTING MEASURES

PHYSICAL HAZARD: No known physical hazard, non-combustible.

EXTINGUISHING MEDIA: Dry chemical, CO₂, water spray or regular foam.

SPECIAL 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.

FLASH POINT: Not applicable.

AUTODIGNITION TEMPERATURE: Not applicable.

FLAMMABLE LIMITS IN AIR: UPPER: Not applicable.
LOWER: Not applicable.

HAZARDOUS COMBUSTION PRODUCTS: None.

PROPERTIES CONTRIBUTING TO FLAMMABILITY: None.

SENSITIVITY TO MECHANICAL IMPACT: Not applicable.

SENSITIVITY TO STATIC DISCHARGE: Not applicable.

(See Section 10, Stability and Reactivity).

6. ACCIDENTAL RELEASE MEASURES

PROCEDURE FOR RELEASE OR SPILL:
Sweep up and place in a suitable container. Dispose of waste according to all local, state 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.

7. HANDLING AND STORAGE

HANDLING: Avoid contact with eyes, skin or clothing. Use adequate ventilation. Wear safety glasses or goggles and rubber gloves. Wash thoroughly after handling.

STORAGE: Store away from strong acids. Keep container closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use with adequate ventilation.

RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: When adequate ventilation is not available, wear a NIOSH/MSHA respirator approved for protection against inorganic dusts.

EYES: Safety glasses or goggles.

SPECIAL CLOTHING: Rubber gloves.

OTHER: Quick-drench eyewash and safety shower.

EXPOSURE LIMITS

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>CAS NO.</th>
<th>WT %</th>
<th>TWA (ACGIH)</th>
<th>STEL (ACGIH)</th>
<th>PEL (OSHA)</th>
<th>CEILING (OSHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Carbonate</td>
<td>554-13-2</td>
<td>100%</td>
<td>None established.</td>
<td>Pure Material</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPEARANCE</td>
<td>Solid, white granular or powder</td>
</tr>
<tr>
<td>ODOR</td>
<td>Odorless</td>
</tr>
<tr>
<td>MOLECULAR WEIGHT</td>
<td>73.89</td>
</tr>
<tr>
<td>BOILING POINT</td>
<td>Decomposes @ 1310°C (2390°F)</td>
</tr>
<tr>
<td>DENSITY/SPECIFIC GRAVITY</td>
<td>2.1 g/cc</td>
</tr>
<tr>
<td>VOLATILES (%)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>WATER/OIL PARTITION</td>
<td>Not applicable</td>
</tr>
<tr>
<td>COEFFICIENT</td>
<td>Not applicable</td>
</tr>
<tr>
<td>VAPOR DENSITY</td>
<td>Air = 1</td>
</tr>
<tr>
<td>VAPOR PRESSURE</td>
<td>Not applicable</td>
</tr>
<tr>
<td>ODOR THRESHOLD</td>
<td>Not applicable</td>
</tr>
<tr>
<td>FREEZING POINT</td>
<td>720°C (1330°F)</td>
</tr>
<tr>
<td>SOLUBILITY IN WATER</td>
<td>1.3 g/100 cc</td>
</tr>
<tr>
<td>EVAPORATION RATE</td>
<td>Butyl Acetate = 1</td>
</tr>
<tr>
<td>pH (AS IS) @ 25°C</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH (1% SLURRY) @ 25°C</td>
<td>11</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

- STABILITY: Stable.
- CONDITIONS TO AVOID: Contact with acids.
- INCOMPATIBILITY WITH OTHER MATERIALS: Acids.
- HAZARDOUS DECOMPOSITION PRODUCTS: None.
- HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

- ROUTE(S) OF EXPOSURE
  - EYE: Moderately irritating, (rabbit), [FMC 187-0998].
  - INHALATION: LC50 >0.80 mg/L (4 hr. rat); No mortality at maximum attainable concentration, [FMC 193-1800].
  - SKIN CONTACT: Minimally irritating; PII=0.3/8.0 (rabbit), [FMC 187-0999].
  - SKIN ABSORPTION: Non-sensitizer (guinea pig), [FMC 193-1801].
  - INGESTION: Oral LD50 = 525 mg/kg (rat), [FMC 193-1799].

- EFFECTS OF OVEREXPOSURE
  - ACUTE EFFECTS: Lithium carbonate has low oral and dermal toxicity and is moderately irritating to the eyes. It is not sensitizing and is essentially non-irritating to the skin.
  - CHRONIC EFFECTS: The use of this product in industrial and commercial applications presents no significant toxicity hazard. The symptoms described below are based on therapeutic applications where relatively large doses are taken orally by medically supervised patients.

  Lithium carbonate is used therapeutically at 500-2000 mg/day oral doses for specific mental disorders. Therapeutic effects occur at blood levels of 2.8-8.3 mg lithium per liter. Minimal signs of toxicity may also occur at these therapeutic levels and involve primarily gastrointestinal upset. Increased dosage can produce tremors, drowsiness and unsteady gait. Signs of toxicity resolve rapidly on cessation of treatment. Prolonged treatment at toxic levels result in dehydration, kidney damage, weight loss and thyroid disturbances.
STATE REGULATIONS

California Proposition 65: WARNING. California Safe Drinking Water and Toxics Enforcement Act of 1986 requires that the Government of California develop a list of carcinogens and reproductive toxins and that no persons doing business shall knowingly expose any individual to a chemical known to the state to cause cancer or reproductive toxicity without first giving clear and reasonable warning to such an individual. FMC would like you to know that our Lithium Carbonate contains the indicated concentration(s) of chemicals which are listed by California as chemicals known to cause cancer(A) or reproductive toxicity(B).

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CONCENTRATION</th>
<th>LISTED AS (A), (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Carbonate</td>
<td>100%</td>
<td>(B)</td>
</tr>
</tbody>
</table>

US FEDERAL REGULATIONS

TSCA, Inventory of Chemical Substances (40 CFR 710):
Listed.

TSCA, 12 (b) Export Notification (40 CFR 707.60):
This product is not subject to TSCA 12 (b) Export Notification Requirements.

CERCLA (40 CFR 302.4):
Not listed.

SARA Title III:
Section 302 Extremely Hazardous Substances (40 CFR 355):
Not listed.
Section 313, Toxic Chemicals (40 CFR 372):
This product contains lithium carbonate which is a substance subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986.

This information must be included in all MSDS's that are copied and distributed for this material.

INTERNATIONAL REGULATIONS

Canadian (WHMIS) —
Product Identification No.: None.
Hazard Classification: Class D, Division 2B (Eye irritant).
Disclosure List: Not listed.
SECTION 16. OTHER INFORMATION

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canadian WHMIS requirements.

Since the previous issue, revision(s) were made for this MSDS in the following section(s):
All: New format

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