SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION
Catalog No. 14227

Product Name: Lithium carbonate, 98+%  
Manufacturer Name: Lancaster Synthesis, Inc.  
Supplier: Lancaster Synthesis, Inc.  
Address: 1 Industrial Drive  
Pelham, NH 03076  
Business Phone: 603-889-3306  
Business Fax: 603-889-3326  
For information in North America, call: 603-889-3306  
CHEMTREC Numbers:  
For emergencies in the US, call CHEMTREC: 800-424-9300  
For emergencies outside US, call INTERNATIONAL: (703)527-3887  
For Nonemergency, call: (800)262-8200

SECTION 2: COMPOSITION, INFORMATION ON INGREDIENTS
Catalog No. 14227

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Lithium carbonate</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS#</td>
<td>554-13-2</td>
</tr>
<tr>
<td>% Weight (Typical)</td>
<td>98+</td>
</tr>
</tbody>
</table>

SECTION 3: HAZARDS IDENTIFICATION
Catalog No. 14227

Emergency Overview: Reproductive effects. Mutation data. Irritant.

**Lithium carbonate:**

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

- **Eye Contact:** Corrosive, contact causes severe eye burns which may result in permanent tissue and corneal damage.
- **Skin Contact:** Corrosive, causes skin burns and severe irritation.
- **Inhalation:** Corrosive. Dust is irritating to the respiratory tract.
- **Ingestion:** Harmful by ingestion.
- **Signs/Symptoms:** Lithium salts affect the ionic balance of the blood. May cause kidney damage. May affect the central nervous system causing dizziness and tremors.
SECTION 4: FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 20 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention if irritation persists, or symptoms of overexposure become apparent.

Skin Contact: Immediately wash skin with plenty of water for at least 20 minutes, while removing contaminated clothing and shoes. Get medical attention especially, if irritation develops, persists, or symptoms of overexposure become apparent.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Keep warm. Get immediate medical attention.

Ingestion: If swallowed, call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical personnel. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Fire: Material is non-combustible.
Flash Point: No data
Extinguishing Media: Use an extinguisher suitable for the other materials involved.
Unsuitable Media: Water extinguishers are not recommended.
Protective Equipment: As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use proper personal protective equipment as listed in section 8.
Spill Cleanup Measures: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Refer to section 13 for disposal requirements.
Environmental Precautions: Do not allow material to enter drains or streams.

SECTION 7: HANDLING and STORAGE

Handling: This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data. It should always be handled in an efficient fume hood or equivalent system. The user should consider that the toxicological and physiological properties of many compounds are not yet well determined and that new hazardous products may arise from reactions between chemicals. Care should be taken to prevent any chemical from coming into contact with the skin or eyes and from contaminating personal clothing.

Storage: Store in a cool, dry, well ventilated area away from sources of heat and incompatible substances. Keep container tightly closed when not in use.

Hygiene Practices: Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling dust.
SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

**Engineering Controls:** Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

**Skin Protection Description:** Wear suitable protective clothing to prevent contact with skin.

**Hand Protection Description:** Wear appropriate protective gloves. Consult glove manufacturers for glove permeability data.

**Eye/Face Protection:** Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.

**Respiratory Protection:** A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited to airborne concentrations that are typically within 10 times the exposure limit. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHAs 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirators use.

**Other Protective:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

SECTION 9: PHYSICAL and CHEMICAL PROPERTIES

**Physical State/Appearance:** Solid

**Color:** White

**pH:** 11 (5 g/L @ 20°C (68°F))

**Flash Point:** No data

**Boiling Point:** No data

**Melting Point:** 618°C (1144.4°F)

**Solubility in Water:** 13 g/L @ 20°C (68°F)

**Density:** 2.11

**Molecular Formula:** ClI₂O₃

**Molecular Weight:** 73.89

SECTION 10: STABILITY and REACTIVITY

**Conditions to Avoid:** Stable under normal conditions.

**Incompatibilities with Other Materials:** Acids.
**SECTION 11 : TOXICOLOGICAL INFORMATION**

**Lithium carbonate :**

**RTECS Number:** OJS800000

**Eye Effect:** No data reported in the cited references as of the revision date.

**Skin Effects:** No data reported in the cited references as of the revision date.

**Ingestion Effects:**

- Oral - rat LD50: 525 mg/kg [Behavioral - somnolence (general depressed activity)] Lungs, Thorax, or Respiration - respiratory depression Gastrointestinal - hypermotility, diarrhea (RTECS);
- Oral - mouse LD50: 531 mg/kg (RTECS);
- Oral - man TDLo: 54 mg/kg [Behavioral - sleep] (RTECS);
- Oral - woman TDLo: 120 mg/kg/10D-I [Behavioral - excitement] (RTECS);
- Oral - man TDLo: 25 gm/kg/4Y-I [Behavioral - tremor] Sense Organs and Special Senses (Eye) - miosis (pupillary constriction) (RTECS);
- Oral - Human TDLo: 4111 mg/kg [Behavioral - tremor] Gastrointestinal - other changes (RTECS);
- Oral - Human TDLo: 4111 mg/kg (RTECS);
- Oral - woman TDLo: 8760 mg/kg/2Y-I [Endocrine - thyroid weight (goiter) Endocrine - evidence of thyroid hyperfunction] (RTECS);
- Oral - woman TDLo: 36500 mg/kg/10Y-I [Kidney, Ureter, Bladder - changes in tubules (including acute renal failure, acute tubular necrosis)] (RTECS);
- Oral - man TDLo: 8 mg/kg [Gastrointestinal - nausea or vomiting Skin and Appendages - dermatitis, other (after systemic exposure)] (RTECS);
- Oral - woman TDLo: 612 mg/kg/44D-I [Behavioral - sleep] Skin and Appendages - dermatitis, allergic (after systemic exposure) (RTECS);
- Oral - man TDLo: 1080 mg/kg/13W-I [Skin and Appendages - dermatitis, allergic (after systemic exposure)] (RTECS);
- Oral - rat TDLo: 4500 mg/kg/30D-I Nutritional and Gross Metabolic - weight loss or decreased weight gain Nutritional and Gross Metabolic - dehydration Related to Chronic Data - death;
- Oral - rat TDLo: 18200 mg/kg/26W-I Endocrine - changes in adrenal weight Nutritional and Gross Metabolic - weight loss or decreased weight gain;
- Oral - rat TDLo: 36400 mg/kg/52W-I Cardiac - changes in heart weight Gastrointestinal - other changes Related to Chronic Data - death (RTECS).

**Inhalation Effects:** No data reported in the cited references as of the revision date.

**Chronic Ingestion Effects:**

- Oral - rat TDLo: 4500 mg/kg/30D-I Nutritional and Gross Metabolic - weight loss or decreased weight gain Nutritional and Gross Metabolic - dehydration Related to Chronic Data - death;
- Oral - rat TDLo: 18200 mg/kg/26W-I Nutritional and Gross Metabolic - weight loss or decreased weight gain;
- Oral - rat TDLo: 36400 mg/kg/52W-I Cardiac - changes in heart weight Gastrointestinal - other changes Related to Chronic Data - death (RTECS).

**Carcinogenicity:** Carcinogenic by RTECS criteria.

**Mutagenicity:** Human mutation data reported. (RTECS).

**Teratogenicity:** Teratogenic effects. (RTECS).

**Reproductive Toxicity:** Reproductive effects. (RTECS).

**Other Toxicity:**

- Intraperitoneal - rat TDLo: 600 mg/kg/60D-I Kidney, Ureter, Bladder - changes in tubules (including acute renal failure, acute tubular necrosis) (RTECS);
- Intraperitoneal - rat LD50: 156 mg/kg Behavioral - somnolence (general depressed activity) Lungs, Thorax, or Respiration - respiratory depression Gastrointestinal - hypermotility, diarrhea;
- Intraperitoneal - mouse LD50: 236 mg/kg Behavioral - altered sleep time (including change in righting reflex) Behavioral - excitement Behavioral - ataxia;
- Intravenous - rat LD50: 241 mg/kg Behavioral - altered sleep time (including change in righting reflex) Lungs, Thorax, or Respiration - respiratory depression;
- Intravenous - mouse LD50: 497 mg/kg Behavioral - altered sleep time (including change in righting reflex) Lungs, Thorax, or Respiration - respiratory depression;
- Subcutaneous - rat LD50: 434 mg/kg Sense Organs and Special Senses (Eye) - lacrimation Lungs, Thorax, or Respiration - respiratory depression Skin and Appendages - hair;
- Subcutaneous - mouse LD50: 413 mg/kg
SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity: No information provided.
Bioaccumulation: No information provided.
Biodegradation: No information provided.
Environmental Stability: No information provided.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal: Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines, by a licensed disposal company.

SECTION 14 : TRANSPORT INFORMATION

DOT Hazard Class: No data.
DOT Identification Number: No data.

SECTION 15 : REGULATORY INFORMATION

**Lithium carbonate:**

TSCA 8(b): Inventory Status: Listed on the TSCA inventory.
TSCA 12(b): Export Notification None of the chemicals are listed under TSCA Section 12b.
State: LITHIUM CARBONATE can be found on the following state right to know lists: New Jersey, Massachusetts. WARNING: This product contains LITHIUM CARBONATE, a chemical known to the state of California to cause birth defects or other reproductive harm. California No Significant Risk Level: None of the chemicals in this product are listed.
Risk Phrases: R22 Harmful if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.
Safety Phrase: S22 Do not breathe dust.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 Wear suitable protective clothing.

SECTION 16 : ADDITIONAL INFORMATION

MSDS Preparation Date: January 1, 2002, Version 1
MSDS Revision Date: April 14, 2003.
MSDS Author: Actio Corporation.

Disclaimer:
This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.
Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet. We welcome any additional information about our products that customers have obtained by personal experience.

References:
1. American Chemical Society, STN Easy Online Database
6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
9. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical Hazards.

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