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Effective: 03/09/92  Issued: 07/10/93

J.T. BAKER INC., 222 Red School Lane, Phillipsburg, NJ 08865

SECTION I - PRODUCT IDENTIFICATION

Product Name: Lithium Carbonate
Common Synonyms: Carbonic Acid, Dilithium Salt; Carbonic Acid, Lithium Salt; Dilithium Carbonate
Chemical Family: Lithium Compounds
Formula: Li$_2$CO$_3$
Formula Wt.: 73.89
CAS No.: 554-13-2
NIOSH/OSHA No.: 0J5800000
Product Use: Laboratory Reagent
Product Codes: 4919,2362

PRECAUTIONARY LABELING

BAKER SAF-T-DATA* System

<table>
<thead>
<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>REACTIVITY</th>
<th>CONTACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODERATE</td>
<td>NONE</td>
<td>NONE</td>
<td>SLIGHT</td>
</tr>
</tbody>
</table>

Laboratory Protective Equipment

GOGGLES  LAB COAT

U.S. Precautionary Labeling

WARNING!
HARMFUL IF SWALLOWED.
Avoid contact with eyes, skin, clothing. Keep in tightly closed container.
Wash thoroughly after handling.

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PRECAUTIONARY LABELING (CONTINUED)

International Labeling

Do not breathe dust. Avoid contact with skin and eyes.

SAF-T-DATA* Storage Color Code: Orange (general storage)

SECTION II - COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Weight %</th>
<th>OSHA/PEL</th>
<th>ACGIH/TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lithium Carbonate</td>
<td>554-13-2</td>
<td>90-100</td>
<td>N/E</td>
<td>N/E</td>
</tr>
</tbody>
</table>

SECTION III - PHYSICAL DATA

- Boiling Point: N/A
- Melting Point: 720°C (1328°F) (at 760 mm Hg)
- Specific Gravity: 2.11 (H₂O=1)
- Solubility(H₂O): Moderate (1-10%)
- % Volatiles by Volume: 0 (21°C)
- pH: N/A
- Odor Threshold (ppm): N/A
- Coefficient Water/Oil Distribution: N/A
- Physical State: Solid
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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Closed Cup): N/A
Autoignition Temperature: N/A
Flammable Limits: Upper - N/A  Lower - N/A

Fire Extinguishing Media
Use extinguishing media appropriate for surrounding fire.

Special Fire-Fighting Procedures
None identified.

Unusual Fire & Explosion Hazards
None identified.

Toxic Gases Produced
carbon monoxide, carbon dioxide

Explosion Data-Sensitivity to Mechanical Impact
None identified.

Explosion Data-Sensitivity to Static Discharge
None identified.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value (TLV/TWA): Not Established
Short-Term Exposure Limit (STEL): Not Established
Permissible Exposure Limit (PEL): Not Established

Toxicity of components

Oral Rat LD50 for Lithium Carbonate 525 mg/kg
Intraperitoneal Rat LD50 for Lithium Carbonate 156 mg/kg
Subcutaneous Rat LD50 for Lithium Carbonate 434 mg/kg
Intravenous Rat LD50 for Lithium Carbonate 241 mg/kg

Carcinogenicity: NTP: No  IARC: No  Z List: No  OSHA Reg: No
Carcinogenicity
None identified.

Reproductive Effects
None identified.

Effects of Overexposure

INHALATION: none identified
SKIN CONTACT: irritation
EYE CONTACT: irritation
SKIN ABSORPTION: none identified
INGESTION: irritation and burns of mouth and throat, nausea, vomiting, dizziness, unconsciousness, central nervous system depression

CHRONIC EFFECTS: kidney damage, liver damage

Target Organs
none identified

Medical Conditions Generally Aggravated by Exposure
none identified

Primary Routes of Entry
ingestion, skin contact, eye contact

Emergency and First Aid Procedures

INGESTION: CALL A PHYSICIAN. If swallowed, if conscious, immediately induce vomiting.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

SKIN CONTACT: In case of contact, flush skin with water.

EYE CONTACT: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.
SECTION V - HEALTH HAZARD DATA (CONTINUED)

SARA/TITLE III HAZARD CATEGORIES and LISTS

Acute: Yes Chronic: Yes Flammability: No Pressure: No Reactivity: No
Extremely Hazardous Substance: No CERCLA Hazardous Substance: No
SARA 313 Toxic Chemicals: No TSCA Inventory: Yes

SECTION VI - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: Will not occur
Conditions to Avoid: moisture
Incompatibles: fluorine, water, strong acids
Decomposition Products: carbon monoxide, carbon dioxide

SECTION VII - SPILL & DISPOSAL PROCEDURES

Steps to be Taken in the Event of a Spill or Discharge
Wear self-contained breathing apparatus and full protective clothing. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water.

J. T. Baker NEUTRACIT®-2 or BuCAIM® caustic neutralizers are recommended for spills of this product.

Disposal Procedure
Dispose in accordance with all applicable federal, state, and local environmental regulations.

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

Use adequate general or local exhaust ventilation to keep fume or dust levels as low as possible.

Respiratory Protection: None required where adequate ventilation conditions exist. If airborne concentration is high, use an appropriate respirator or dust mask.

Eye/Skin Protection: Safety goggles, proper gloves are recommended.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* Storage Color Code: Orange (general storage)

Storage Requirements

Keep container tightly closed. Suitable for any general chemical storage area.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

Domestic (D.O.T.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

International (I.M.O.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

Marine Pollutants: No

AIR (I.C.A.O.)

Proper Shipping Name: Chemicals, n.o.s. (Non-regulated)

U.S. Customs Harmonization Number: 28369100505

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N/A = Not Applicable or Not Available
N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, Baker cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Baker warrants that the chemical meets the specifications set forth on the label.

BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE.

The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented general safety information becomes available, Baker will periodically revise this Material Safety Data Sheet.

Note: CHEMTREC, CANUTEC, and NATIONAL RESPONSE CENTER emergency telephone numbers are to be used ONLY in the event of CHEMICAL EMERGENCIES involving a spill, leak, fire, exposure, or accident involving chemicals. All non-emergency questions should be directed to Customer Service (1-800-JTBAKER) for assistance.

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Approved by Quality Assurance Department.

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