



LITHIUM CARBONATE

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

Trade Name: Lithium Carbonate
Chemical Family: Alkali carbonate

Synonyms: None
Formula: Li_2CO_3

II COMPONENT DATA

Li_2CO_3 %: 99.9 – 100.0% **CAS #:** 554-13-2 **TLV:** No applicable information was found.

III PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Handling: Observe all warnings and precautions listed for the product.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

IV PHYSICAL DATA

Physical State: Powder

Solubility in Water: 1.5 g/100 mL @ 0 °C (32 °F)

Melting Point: 618 °C (1144 °F)

Density: 2.11 g/cc

% Volatiles by Volume @ 21 °C: 0

pH: Not available

Appearance: White powder

Odor: Odorless

Boiling Point: Not available

Vapor Pressure: No information found

Vapor Density: No information found

Evaporation Rate: No information found

V PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS

Skin Protection: Wear protective gloves and clean body-covering clothing.

Eye Protection: Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

Ventilation System: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH approved): For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

VI FIRE AND EXPLOSION HAZARD INFORMATION

Fire: Not considered to be a fire hazard

Explosion: Not considered an explosion hazard

Special Firefighting Methods: None

Extinguishing Media: Any media suitable for fire in surrounding area

Special Information: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

VII REACTIVITY INFORMATION

Stability: Stable under ordinary conditions of use and storage



Hazardous Decomposition Products: Contact with acids will release carbon dioxide gas. May produce oxides of carbon and the contained metal.

Hazardous Polymerization: Will not occur

Incompatibilities: Fluorine, acids, aluminum, and zinc

Conditions to Avoid: Incompatibles

VIII FIRST AID

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin contact: Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

IX TOXICOLOGY AND HEALTH INFORMATION

Toxicological Data: Oral rat LD₅₀: 525 mg/kg. Investigated as a tumorigen, mutagen, and reproductive effector

Reproductive Toxicity: Has caused teratogenic effects in humans

Cancer Lists

Ingredient	Known	NPT Carcinogen Anticipated	IARC Category
Lithium Carbonate (554-13-2)	No	No	None

EMERGENCY OVERVIEW

WARNING! HARMFUL IF SWALLOWED; AFFECTS CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, MUSCLES AND KIDNEYS. MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Health rating:	2 – Moderate
Flammability rating:	0 – None
Reactivity rating:	0 – None
Contact rating:	1 – Slight
Lab Protective Equip:	Goggles, lab coat
Storage color code:	Orange (general storage)

POTENTIAL HEALTH EFFECTS

Inhalation: Inhalation may cause irritation to the upper respiratory tract. Symptoms may include coughing, shortness of breath and chest pain. Other symptoms may parallel those from ingestion.

Ingestion: Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting, and diarrhea. In severe cases, lithium can cause apathy, sluggishness, drowsiness, slurred speech, blurred vision, irregular eye movements, weakness, poor coordination, lethargy, heart effects, brain effects, ringing in the ears, tremors and muscle twitching, central nervous system damage, kidney effects, thyroid changes, coma, pulmonary edema and renal failure.

Skin Contact: May cause irritation with redness and pain

Eye Contact: May cause irritation, redness, and pain

Chronic Exposure: Chronic exposure may cause symptoms paralleling ingestion.

Aggravation of Pre-existing Conditions: No information found

Effects of Overexposure to Lithium Ion: Lithium ion is relatively non-toxic unless ingested in large amounts as reported in two NIOSH studies conducted at manufacturing locations (Health Hazard Evaluation Report HHE 80-036-922 and HHE 77-59-496). The NIOSH reports also state that the effects of lithium exposure listed below are based on extensive studies of human ingestion of LiCl and Li₂CO₃ of amounts in excess of 0.5 grams/day.



X TRANSPORTATION INFORMATION

Not regulated

XI SPILL AND LEAK PROCEDURES

Steps to Be Taken in Case Material Is Released or Spilled: Ventilate area of leak or spill. Keep unnecessary and unprotected people away from area of spill. Wear appropriate personal protective equipment as specified in Section V.

Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust.

XII WASTE DISPOSAL

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use, or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state, and local requirements.

XIII ADDITIONAL REGULATORY INFORMATION

Chemical Inventory Status – Part 1

<i>INGREDIENT</i>	<i>TSCA</i>	<i>EC</i>	<i>JAPAN</i>	<i>AUSTRALIA</i>
Lithium Carbonate (554-13-2)	Yes	Yes	Yes	Yes

Chemical Inventory Status – Part 2

<i>INGREDIENT</i>	<i>KOREA</i>	<i>DSL</i>	<i>NDSL</i>	<i>PHIL</i>
Lithium Carbonate (554-13-2)	Yes	Yes	No	Yes

Federal, State & International Regulations – Part 1

<i>INGREDIENT</i>	<i>SARA 302</i>	<i>SARA 313</i>
Lithium Carbonate (554-13-2)	<i>RQ</i> No	<i>TPQ</i> No
	<i>LIST</i> Yes	<i>CHEMICAL CATG.</i> No

Federal, State & International Regulations – Part 2

<i>INGREDIENT</i>	<i>CERCLA</i>	<i>216.33</i>	<i>8 (d)</i>
Lithium Carbonate (554-13-2)	No	No	No

Chemical Weapons Convention: No

TSCA 12 (b): No

CDTA: No

SARA 311/312: Acute:	Yes	Chronic:	Yes	Fire:	No	Pressure:	No
Reactivity:	No			(Pure/Solid)			

WARNING:

THIS PRODUCT CONTAINS A CHEMICAL (S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

AUSTRALIAN Hazchem Code: No information found

Poison Schedule: No information found

WHMIS: This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

UNITED STATES

Section 311 Hazard Category (40 CFR 370): Immediate (Acute) Health Hazard

Section 313 Reportable Ingredients (40 CFR 372): This product contains lithium carbonate which is subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986. This information must be included in all MSDS's that are copied and distributed for this material.

Section 302 Extremely Hazardous Substances (40 CFR 355): Not listed

CERCLA Hazardous Substance (40 CFR 302.4): Not 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.: None

Hazard Classification: Class D, Division 2B (Eye irritant)

Ingredient Disclosure List: Not listed

XIV ADDITIONAL INFORMATION

NFPA Ratings

Health: 2

Flammability: 0

Reactivity: 0

Label Hazard Warning

WARNING! HARMFUL IF SWALLOWED. AFFECTS CENTRAL NERVOUS SYSTEM, RESPIRATORY SYSTEM, MUSCLES AND KIDNEYS. MAYBE HARMFUL IF INHALED. MAY CAUSE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT.

Label Precautions

Avoid contact with eyes, skin and clothing. Avoid breathing dust. **Keep container closed.** Use **only** with adequate ventilation. Wash thoroughly after handling.

Label First Aid

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes.

Product Use

Laboratory reagent

Revision Information

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.

Prepared by: Alger Alternative Energy

Revision date: October 15, 2011

XV REFERENCES

1. ACGIH: *Industrial Ventilation, A Manual of Recommended Practices*;
2. NIOSH Health Hazard Evaluation Report HHE 80-036-922;
3. NIOSH Health Hazard Evaluation Report HHE 77-59-496.

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