

**SECTION 01: PRODUCT AND COMPANY IDENTIFICATION**

**Product name:** Lithium Carbonate  
**Formula:**  $\text{Li}_2\text{CO}_3$   
**Chemical family:** Carbonates  
**Synonyms:** Dilithium Carbonate and Carbonic acid Lithium salt  
**Product use:** For laboratory use only

**Manufacturer:** CLAISSE  
**Address:** 350, FRANQUET, QUEBEC (QUEBEC) G1P 4P3  
CANADA  
**Phone:** +1 418 656-6453  
**Fax:** +1 418 656-1169

**Emergency telephone number:**  
CANUTEC (24h): +1 613 996-6666

**SECTION 02: HAZARDS IDENTIFICATION****GHS and (EC) No 1272/2008 classification**

Eye irritation (Category 2).  
Acute toxicity, Oral (Category 4).  
Reproductive toxicity (Category 1A).  
STOT-SE (Category 1: nervous system and Category 3: respiratory tract irritation)  
STOT-RE (Category 1: nervous system and kidney)

**Label elements:**

Pictogram:



Signal word: Health  
Hazard  
SGH 08

**Hazard statements:**

H302 Harmful if swallowed  
H319 Causes serious eye irritation  
H335 May cause respiratory irritation  
H360 May damage fertility or the unborn child  
H362 May cause harm to breast-fed children  
H370 Causes damage to organs  
H372 Cause damage to organs through prolonged or repeated exposure

**Precautionary statements:**

- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P263 Avoid contact during pregnancy/while nursing.  
P264 Wash hands and clothes thoroughly after handling.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
P302+P352 IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

**Other hazards**

No data available

**SECTION 03: COMPONENT INFORMATION**

Compound	Synonym	Molecular formula	Molecular Weight (g/mol)	CAS-No.	EC-No.	Concentration (%)
Lithium Carbonate	-	Li <sub>2</sub> CO <sub>3</sub>	73.89	554-13-2	209-062-5	100

**SECTION 04: FIRST AID MEASURES**
**Description of first aid measures**
**General information**

Seek immediate medical advice.  
Take affected persons out of danger area and lay down.

**After inhalation**

In case of unconsciousness place patient stably in side position for transportation.  
Supply fresh air. If required, provide artificial respiration. Keep patient warm. If symptoms persist, consult a physician.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly. If skin irritation persists, consult a physician.

**After eye contact**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a physician.

**After swallowing**

Rinse out mouth and then drink plenty of water. If symptoms persist, consult a physician.

**Most important symptoms and effects, both acute and delayed**

No data available.

**Indication of any immediate medical attention and special treatment needed**

No data available.

## SECTION 05: FIRE FIGHTING MEASURES

### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### Unsuitable extinguishing media

No data available.

### Special protective equipment for fire fighters

Wear self-contained breathing apparatus for firefighting if necessary.

### Hazardous combustion products

Hazardous decomposition products formed under fire conditions: carbon oxides and lithium oxides.

## SECTION 06: ACCIDENTAL RELEASE MEASURES

### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapours, fumes or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

### Environmental precautions

Avoid dispersal of spilled material, runoff and contact with soil waterways, drains and sewers.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed and non-leaking containers for local chemical disposal.

### Reference to other sections

See Section 7 for information on safe handling and storage.

See Section 8 for information on exposure controls and personal protection.

See Section 13 for disposal information.

## SECTION 07: HANDLING AND STORAGE

### Precautions for safe handling

Provide suction extractors if dust is formed.

Do not inhale dust, smoke or mist.

Avoid contact with the eyes and skin.

Prevent formation of dust.

Prevent formation of aerosols.

### Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles: no special measures required.

Information about storage in one common storage facility: not required.

Further information about storage conditions: keep container tightly sealed store receptacle in a well-ventilated area; store in dry conditions.

### Specific end use(s)

No data available.

## SECTION 08: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

No exposure limits have been established.

**Exposure control**
**Personal protective equipment**
**General protective and hygienic measures**

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work shifts. Avoid contact with the eyes and skin.

**Respiratory protection**

For nuisance exposure, use type N100 (US) or type P2 (EU EN 143) particle respirator. For higher level protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand protection**

Handle with gloves. The glove material has to be impermeable and resistant to the product, the substance or preparation. Selection of the glove material must be made considering the penetration times, rates of diffusion and degradation. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.



Protective gloves.

**Eye protection**

Wear safety glasses with side shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).



Safety glasses with side shields (EN 166).

**Skin and body protection**

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of dangerous substance at the specific workplace.

**Specific engineering controls**

Use mechanical exhaust or laboratory fume hood to avoid exposure.

**Environmental exposure controls**

No data available.

## SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**

Form: Powder  
 Colour: White

pH: Basic in solution

Melting point/freezing point: 723°C / 1333°F.

Initial boiling point/boiling range: No data available

Flash point:	No data available
Flammability:	No data available
Ignition point:	No data available
Autoignition point:	No data available
Lower flammable/explosive limit:	No data available
Upper flammable/explosive limit:	No data available
Vapour pressure:	No data available
Relative density:	No data available
Solubility:	1.3 g/100 mL at 25°C in water
Partition coefficient n-octanol/water:	No data available
Decomposition temperature:	No data available
Viscosity:	No data available
Vapour density:	No data available
Odour:	No data available
Odour threshold:	No data available
Evaporation rate:	No data available
Explosive properties:	No data available
Oxidizing properties:	No data available

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

The solution in water is a weak base. Reacts violently with fluorine.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No dangerous reactions known.

### Conditions to avoid

Incompatible materials.

### Incompatible materials

Strong oxidizing agents, strong acids (carbon oxides emission) and fluorine.

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions: carbon oxide and lithium oxide.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Acute toxicity

Compound	Oral LD50	Inhalation LC50	Dermal LD50	Other
Lithium Carbonate	525 mg/kg bw	>2 mg/L	>3000 mg/kg	No data

### Skin corrosion/irritation

An acute skin irritation/corrosion study was performed with lithium carbonate in accordance with OECD Guideline 404. Based on the results obtained, lithium carbonate has not to be classified and labelled irritating to the skin according to Directive 67/548/EEC (DSD) and Regulation (EC) No 1272/2008 (CLP).

### Serious eye damage/eye irritation

An acute eye irritation/corrosion study was performed with lithium carbonate in accordance with OECD Guideline 405. With respect to eye irritation, lithium carbonate has to be classified into Cat. 2 (H319) according to the Regulation (EC) No 1272/2008 (CLP).

### Respiratory or skin sensitization

A skin sensitisation test was performed with lithium carbonate according to OECD 406 and EU method B.6 (Buehler test). based on the results obtained, lithium carbonate has not to be classified and labelled with respect to skin sensitisation according to Directive 67/548/EEC (DSD) and Regulation (EC) No 1272/2008 (CLP).

### Germ cell mutagenicity (in vitro) – gene mutation

Based on the inconclusive results from genotoxicity tests in bacteria and animals but the negative results in patients, the applicant concluded that lithium carbonate is not classified as a genotoxic in humans at therapeutic levels.

### Germ cell mutagenicity (in vivo) – DNA damage and/or repair

Based on data in multiple mutagenicity tests on a variety of lithium salts it is concluded that lithium lacks mutagenicity. Consequently, lithium carbonate is not classified as a genotoxic or clastogenic substance.

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH (A4 group).

### Reproductive toxicity

Based on data in multiple reproductive toxicity tests during pregnancy (PIM 309F [2000], Birth Defects 3rd [2000], HSDB [2007] and IUCLID [2000]) on a variety of lithium salts, the substance was classified in reproductive toxicity Category 1A. In addition, based on data on humans lactation studies (PIM 309F [2000]) the substance was classified in an additional category for effects on or via lactation.

### STOT – SE (GHS)

The substance is irritating to the eyes, skin and respiratory tract. The substance may cause effects on the central nervous system. Based on Kemi-Riskline NR 2002:16, Handbook of Japanese pharmaceutical drugs (2010) and IUCLID (2000), the classification was determined as Category 1 (nervous system). However, it was reported that irritation of the upper respiratory tract was observed in humans by exposure to dust of this substance (Kemi-Riskline NR 2002:16). Based on this information, the classification was determined as Category 3 (respiratory tract irritation).

### STOT – RE (GHS)

The substance may have effects on the central nervous system and kidneys. May cause reproductive toxicity in humans. Based on the information on human toxicity (Kemi-Riskline NR 2002:16, Handbook of Japanese pharmaceutical drugs [2010] and IUCLID [2000]), the classification was determined as Category 1 (nervous system). Due to a description of possible occurrence of chronic renal failure (Kemi-Riskline NR 2002:16), the classification was also determined as Category 1 (kidney).

**Signs and symptoms of exposure**

Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Nausea, anorexia, dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion. Vomiting, Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy. Based on human data obtained from routine long-term treatment of bipolar disorder with lithium, a NOAEL for long-term oral toxicity of 6.43 mg lithium carbonate/kg bw/day was calculated.

**Synergistic effects**

No data available.

**Additional information**

Compound	RTECS
Lithium Carbonate	OJ5800000

## SECTION 12: ECOLOGICAL INFORMATION

**Toxicity**
**Aquatic environment toxicity (acute)**

No data available.

**Aquatic environment toxicity (long-term)**

No data available.

**Persistence and degradability**

No data available.

**Bioaccumulative potential**

No data available.

**Mobility in soil**

No data available.

**PBT and vPvB assessment**

PBT: Not applicable.

vPvB: Not applicable.

**Other adverse effects**

Will affect drinking water supplies. The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effects on the environment.

## SECTION 13: DISPOSAL CONSIDERATIONS

**Product disposal**

The generation of waste should be avoided or minimized wherever possible.

**Contaminated packaging disposal**

Dispose as an unused product.

**Waste treatment-relevant information**

Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional and local authority requirements.

**Sewage disposal-relevant information**

Avoid dispersal of spilled material, runoff and contact with soil, waterways, drains and sewers.

**Other disposal recommendations**

Contact a licensed professional waste disposal service to dispose of this material.

**SECTION 14: TRANSPORT INFORMATION****UN number**

ADR, ADN, IMDG, IATA, TDG, DOT Not applicable.

**UN Proper shipping name**

Not applicable.

**Transport hazard class(es)**

ADR, ADN, IMDG, IATA, TDG, DOT Not applicable.

**Packing group**

ADR/IMDG/IATATDG/DOT Not applicable.

**Environmental hazards**

Environmentally hazardous substance/marine pollutant: No.

**Special precaution for user**

Not applicable.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

**SECTION 15: REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of regulation (EC) No. 1907/2006.

**Chemical safety assessment**

A chemical safety assessment has not been carried out.

**DSL status**

All components of this product are on the Canadian DSL list.

**WHMIS classification**

Uncontrolled product according to WHMIS classification criteria.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulation.

**HMIS classification**

Health hazard:	2
Chronic health hazard:	*
Flammability:	0
Physical hazards:	0



**Potential health effects**

Inhalation:	May cause respiratory irritation.
Skin:	May cause skin irritation.
Eyes:	Causes serious eye irritation.
Ingestion:	Harmful if swallowed.

**SECTION 16: OTHER INFORMATION****Date of issue**

2016-08-15

**Notice to the reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the only responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only.

**Abbreviations and acronyms**

ACGIH:	American Conference of Governmental Industrial Hygienists
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN:	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterway
b.w.:	Body weight
CAA:	Clean Air Act
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
CEN:	European Committee for Standardization
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act
CFR:	Code of Federal Regulations
CLP:	Classification, Labelling and Packaging
CPR:	Controlled Products Regulations
DNEL:	Derived No-Effect Level
DOT:	Department of Transportation
DSL:	Domestic Substance List
EINECS:	European Inventory of Existing Commercial Chemical Substances
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
HDPE:	High Density PolyEthylene
HEPA:	High Efficiency Particulate Air
HMIS:	Hazardous Material Information System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IBC:	Intermediate Bulk Container
IDLH:	Immediately Dangerous to Life or Health Concentrations
IMDG:	International Maritime Dangerous Goods Code
LC50:	Median Lethal Concentration
LD50:	Median Lethal Dose
LOAEL:	Lowest Observed Adverse Effect Level
LOEC:	Lowest Observable Effect Concentration
MARPOL:	MARine POLLution
NIOSH:	The National Institute for Occupational Safety and Health
NOAEL:	No Observed Adverse Effect Level
NOEC:	No Observable Effect Concentration
OECD:	Organisation for Economic Co-operation and Development
OSHA:	Occupational Safety and Health Administration
PBT:	Persistent Bioaccumulative and Toxic

PEL:	Permissible Exposure Limits
PNEC:	Predicted No-Effect Concentration
RCF:	Refractory Ceramic Fibers
RTECS:	Registry of Toxic Effects of Chemical Substances
SARA:	Superfund Amendments and Reauthorization Act
SCP:	Standards Completion Program (NIOSH/OSHA)
STEL:	Short Term Exposure Limit
STOT – RE:	Specific Target Organ Toxicity – Repeated exposure
STOT – SE:	Specific Target Organ Toxicity – Single exposure
TDG:	Transport of Dangerous Goods
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act
TWA:	Time-Weighted Average exposure value
UN:	United Nations
vPvB:	very Persistent and very Bioaccumulative
WHMIS:	Workplace Hazardous Materials Information System