

## Section 1. Identification

**Product name** : Lithium Carbonate  
**Other means of identification** : Dilithium carbonate, Carbonic acid, Lithium salt (1:2)  
**Product type** : Powder.

### Relevant identified uses of the substance or mixture and uses advised against

**Material uses** : Industrial applications: Manufacture of chemicals. Chemical synthesis. Lithium hydroxide production. Manufacture of ceramics and glass. Cathode / battery manufacturing.

**Supplier's details** : Rio Tinto Commercial Americas Inc.  
200 E. Randolph Street,  
Suite 7100, Chicago IL 60601-7329,  
United States  
Tel: +1 800 872 6729

Manufacturer:  
Rincon Mining Pty Limited  
Necochea 867, Planta Baja  
CP 4400, Salta  
Argentina  
Tel: +54 387 495 5900

**e-mail address of person responsible for this SDS** : rtb.sds@riotinto.com

**Emergency telephone number** : Toll Free (24 Hr)  
+1 866 928 0789  
Non-Toll Free (24 Hr)  
+1 215 207 0061 (Rio Tinto Lithium)

For advice on chemical emergencies, spillages, fires or first aid.

## Section 2. Hazard identification

**Classification of the substance or mixture** : ACUTE TOXICITY (oral) - Category 4  
EYE IRRITATION - Category 2A

### GHS label elements

**Hazard pictograms** :



**Signal word** : Warning

## Section 2. Hazard identification

- Hazard statements** : Harmful if swallowed.  
Causes serious eye irritation.
- Precautionary statements**
- Prevention** :  Wear eye or face protection.
- Response** :  SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Storage** : Not applicable.
- Disposal** :  Dispose of contents/container in accordance with local regulation.
- Hazards not otherwise classified** :  Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Substance

Ingredient name	% (w/w)	Identifiers	Trade secret
<input checked="" type="checkbox"/> Lithium carbonate	≥98	CAS: 554-13-2	

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.

## Section 4. First aid measures

**Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : Harmful if swallowed.

### Over-exposure signs/symptoms

**Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark** : The product is not flammable, combustible or explosive.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Lithium carbonate	Rio Tinto recommended OEL (Canada, 6/2022) [Lithium & compounds (as Li)] STEL: 0.02 mg/m <sup>3</sup> (Inhalable). Form: (as Li).

### Biological exposure indices

## Section 8. Exposure controls/personal protection

No exposure indices known.

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

**Physical state** : Solid. [Crystalline powder.]

**Color** : White.

**Odor** : Odorless.

**Odor threshold** : Not available.

**pH** : 11.2 [Conc. (% w/w): 1%]

**Melting point/freezing point** : 722°C (1331.6°F) [EU A.1]

## Section 9. Physical and chemical properties

<b>Boiling point or initial boiling point and boiling range</b>	: Not applicable. [Decomposes]
<b>Flash point</b>	: Not applicable (solid).
<b>Evaporation rate</b>	: Not available.
<b>Flammability</b>	: Non-flammable. [EU A.10]
<b>Lower and upper explosion limit/flammability limit</b>	: Not applicable (solid).
<b>Vapor pressure</b>	: Not applicable. [melting point >300°C]
<b>Relative vapor density</b>	: Not applicable (solid).
<b>Relative density</b>	: 2.1 [20 °C]
<b>Density</b>	: 2.1 g/cm <sup>3</sup> [20°C (68°F)]
<b>Bulk density</b>	: Not available.
<b>Granulometry</b>	: Not available.
<b>Solubility in water</b>	: 8.4 g/l at 20 ± 0.5 °C [OECD 105]
<b>Partition coefficient: n-octanol/water</b>	: Not applicable. [Inorganic substance.]
<b>Auto-ignition temperature</b>	: Not applicable (solid).
<b>Decomposition temperature</b>	: 300°C (2372°F)
<b>Viscosity</b>	: Not applicable. (solid)
<b>Particle characteristics</b>	
<b>Median particle size</b>	: Not available.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: Strong acids and Strong oxidizer (such as Fluorine.) Reacts violently with Fluorine.
<b>Hazardous decomposition products</b>	: Hazardous decomposition products: Lithium oxide. Thermal decomposition: Hazardous decomposition products: > 600 °C

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Lithium carbonate	LC50 Inhalation Dusts and mists	Rat	>2 mg/l	4 hours
	LD50 Dermal	Rabbit	>3000 mg/kg	-
	LD50 Oral	Rat	525 mg/kg	-

**Conclusion/Summary** : Harmful if swallowed.

## Section 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Lithium carbonate	Eyes - Irritant	New Zealand White Rabbit	-	0.1g	-
	Skin - Not irritant	New Zealand White Rabbit	-	0.5g	-

### Conclusion/Summary

- Skin** :  Non-irritant to skin. Based on the available data, the classification criteria are not met.
- Eyes** :  Irritant to eyes. Based on the results obtained with unwashed eyes, lithium carbonate has to be classified and labelled as Cat.2 (H319).
- Respiratory** :  Based on the available data, the classification criteria are not met.

### Respiratory or skin sensitization

Product/ingredient name	Route of exposure	Species	Result
Lithium carbonate	skin	Guinea pig	Not sensitizing

### Conclusion/Summary

- Skin** :  Not a skin sensitizer. Based on the available data, the classification criteria are not met.
- Respiratory** :  No respiratory sensitization studies have been conducted. Based on the available data, the classification criteria are not met.

### Mutagenicity

Product/ingredient name	Test	Experiment	Result
Lithium carbonate (based on read-across to Lithium hydroxide).	OECD 471	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 473	Experiment: In vitro Subject: Mammalian-Human	Negative

- Conclusion/Summary** :  Not mutagenic (based on read-across to Lithium hydroxide). Based on the available data, the classification criteria are not met.

### Carcinogenicity

- Conclusion/Summary** :  No Carcinogenicity studies have been conducted. Based on the available data, the classification criteria are not met.

### Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental effects	Species	Effects	Exposure
Lithium carbonate	-	-	-	Rat	The NOAEL for reproductive toxicity and foetal toxicity is considered to be 45 mg/kg bw/day as no obvious reproductive changes were observed in both generations.	-

- Conclusion/Summary** :  The available experimental test data are reliable and suitable for classification purposes under Regulation (EC) No 1272/2008. Based on the available data, the classification criteria are not met.

### Teratogenicity

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
Lithium carbonate	Positive - Oral	Rat	-	-

**Conclusion/Summary** : See Reproductive toxicity.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Based on the available data, the classification criteria are not met.			

### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Based on the available data, the classification criteria are not met.			

### Aspiration hazard

Name	Result
Physical form of solid powder indicates no aspiration hazard potential.	

**Information on the likely routes of exposure** : Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects



## Section 11. Toxicological information

- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
lithium carbonate	525	N/A	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Lithium carbonate	Acute EC50 135 mg/l Fresh water	Algae	72 hours
	Acute NOEC 9 mg/l Fresh water	Algae	72 hours
	Acute LC50 30.3 mg/l Fresh water	Oncorhynchus mykiss	96 hours
	Chronic NOEC 9 mg/l Fresh water	Daphnia: Daphnia magna	21 days
	Acute EC50 33.2 mg/l Fresh water	Daphnia: Daphnia magna	48 hours
	Chronic NOEC 15.28 mg/l Fresh water	Brachydanio rerio	34 days

**Conclusion/Summary** : Based on the available data, the classification criteria are not met.

### Persistence and degradability

**Conclusion/Summary** : Not applicable. Inorganic substance.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<p>Lithium Carbonate:</p> <p>Lithium salts are not considered to bioaccumulate. The anionic part of the lithium salts is either natural or chemically indistinguishable from natural substances. Anionic parts like carbonate, chloride or nitrate can be found ubiquitous in nature. Thus, only data on the bioaccumulation potential of the lithium component are considered. Recalculation of the highest BAF/BCF values of the evaluated literature resulted in a BCF of 43 L/kg and a BAF of 85 for lithium</p>			

## Section 12. Ecological information

carbonate. Thus, lithium carbonate is not considered as bioaccumulative.

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : The mobility of the test item depends on the anion exchange capacity of the soils as the main component of the test material is an anion, however based on available K<sub>d</sub> values the substance adsorption potential can be regarded as low.

**Mobility** : Low

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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 local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	<b>TDG Classification</b>	<b>DOT Classification</b>	<b>IMDG</b>	<b>IATA</b>
<b>UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>UN proper shipping name</b>	-	-	-	-
<b>Transport hazard class(es)</b>	-	-	-	-
<b>Packing group</b>	-	-	-	-
<b>Environmental hazards</b>	No.	No.	No.	No.

**Special precautions for user** : Not applicable.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

### Canadian lists

**Canadian NPRI** : The following components are listed: lithium carbonate

**CEPA Toxic substances** : None of the components are listed.

### International regulations

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

## Section 15. Regulatory information

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</b> : All components are listed or exempted.
<b>Japan</b>	: <b>Japan inventory (CSCL)</b> : All components are listed or exempted. <b>Japan inventory (ISHL)</b> : Not determined.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Philippines</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>Thailand</b>	: All components are listed or exempted.
<b>Turkey</b>	: All components are listed or exempted.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

## Section 16. Other information

### History

**Date of issue/Date of revision** : 11/25/2024

**Date of previous issue** : 2/5/2024

**Version** : 1.01

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- HPR = Hazardous Products Regulations
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- IMSBC = International Maritime Solid Bulk Cargoes Code
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
- N/A = Not available
- SGG = Segregation Group
- UN = United Nations

### Procedure used to derive the classification

## Section 16. Other information

Classification	Justification
<input checked="" type="checkbox"/> ACUTE TOXICITY (oral) - Category 4 <input checked="" type="checkbox"/> EYE IRRITATION - Category 2A	Expert judgment Expert judgment

**Additional information** :  Keep out of reach of children.  
 Do not ingest.  
 Not for use in pharmaceutical applications (except where expressly authorized by the relevant regulator).  
 Refer to safety data sheet.

**References** : Not available.

Indicates information that has changed from previously issued version.

Canada / 4.14 / EN-US

### Notice to 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 sole 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 hazards that exist.