SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Albemarle®

Lithium Carbonate, Fine Powder

SDS Number: RS_000001063

Version	Revision Date:	Date of last issue: 04/15/2024	Print Date:
1.8	05/14/2024	Date of first issue: 12/18/2018	05/21/2024

SECTION 1. IDENTIFICATION

Product name	:	Lithium Carbonate, Fine Powder
Substance name	:	Lithium carbonate
CAS-No.	:	554-13-2

Manufacturer or supplier's details

Company name of supplier	:	Albemarle Corporation
Address	:	4250 Congress Street, Suite 900 Charlotte , NC 28209 United States of America (USA)
Telephone	:	980.299.5700
Telefax	:	980.299.5512
Emergency telephone	:	+32 (0) 70-233-201 (EUROPE) (+1)225-344-7147 (US and WORLDWIDE) +65-6733-1661 (ASIA PACIFIC) +86-532-8388-9090 (CHINA) +61 2 8014 4558 or 18000 74234 (AUSTRALIA only)
Contact person product safety	:	DEPARTMENT OF PRODUCT SAFETY
E-mail address of person responsible for the SDS	:	PRODUCTSAFETY@ALBEMARLE.COM

Recommended use of the chemical and restrictions on use

Recommended use	:	Paint additive Raw material for chemical industry. Raw material for pharmaceutical industry. Raw material for the glass industry. Raw material for the building industry Manufacture of batteries and accumulators
Restrictions on use	:	None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Acute toxicity (Oral)	:	Category 4
Eye irritation	:	Category 2A
Short-term (acute) aquatic hazard	:	Category 3

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H402 Harmful to aquatic life.

Precautionary Statements :

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

The information required is contained in this Material Safety Data Sheet.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance
Chemical nature : Lithium Salts
Substance name : Lithium carbonate

CAS-No. : 554-13-2

Components

Chemical name	CAS-No.	Concentration (% w/w)
lithium carbonate	554-13-2	>= 90 - <= 100

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing Take off contaminated clothing and shoes immediately. Move out of dangerous area. Keep warm and in a quiet place.
If inhaled	:	Move to fresh air. If not breathing, give artificial respiration. Keep the victim calm and in a semi-upright position. If symptoms persist, call a physician.
In case of skin contact	:	Wash off with soap and water. If symptoms persist, call a physician.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician immediately.
Most important symptoms and effects, both acute and delayed	:	Discomfort Irritation
Notes to physician	:	Treat symptomatically. For specialist advice physicians should contact the Poisons Information Service.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	Hazardous decomposition products formed under fire conditions.
Hazardous combustion products	:	Carbon oxides Metal oxides
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust/ fume/ gas/ mist/ vapors/ spray. Keep people away from and upwind of spill/leak.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.
Methods and materials for containment and cleaning up	:	Use mechanical handling equipment. Avoid dust formation. Pick up and transfer to properly labeled containers. Adequate disposal

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Avoid creating dust. Handle in accordance with good industrial hygiene and safety practice. In general, emissions are controlled and prevented by implementing an appropriate management system, including regular informing and training workers.
Conditions for safe storage	:	Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.
Materials to avoid	:	Do not store near acids.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Respiratory protection	:	In case of inadequate ventilation wear respiratory protection. P2 filter
Hand protection Material	:	Wear suitable gloves.

Remarks	:	Protective gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Protective gloves have to be replaced at the first sign of deterioration.
Eye protection	:	Safety glasses with side-shields
Skin and body protection	:	Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Protective measures	:	Handle in accordance with good industrial hygiene and safety practice. Ensure that eye flushing systems and safety showers are located close to the working place.
Hygiene measures	:	Take off contaminated clothing and shoes immediately. Avoid contact with skin, eyes and clothing. Do not breathe dust. Smoking, eating and drinking should be prohibited in the application area. Keep away from food, drink and animal feedingstuffs. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	fine powder, granular
Color	:	colorless
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	No data available
Melting point/range	:	1332 °F / 722 °C (1,013 hPa) Method: OECD Test Guideline 102
Boiling point/boiling range	:	ca. 2,390 °F / 1,310 °C
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower	:	No data available

flammability limit		
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	2.11 g/cm3 (68 °F / 20 °C)
Bulk density	:	430 - 950 kg/m3
Solubility(ies)		
Water solubility	:	8.4 g/l (68 °F / 20 °C) Method: OECD Test Guideline 105
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	> 1112 °F / > 600 °C To avoid thermal decomposition, do not overheat.
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Molecular weight	:	73.89 g/mol
Particle characteristics		
Particle size	:	For further information, refer to the product technical data sheet.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Possibility of hazardous reactions
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Exothermic reaction with acids.
Conditions to avoid	:	Avoid dust formation. Protect from moisture.
Incompatible materials	:	Acids
Hazardous decomposition	:	No decomposition if stored and applied as directed.

products

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

lithium carbonate:

Acute oral toxicity	:	LD50 (Rat): 525 mg/kg Remarks: Information taken from reference works and the literature.
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Remarks: Limit Test
Acute dermal toxicity	:	LD50 (Rat, male and female): > 3,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Product:

Remarks	:	No skin irritation

Components:

lithium carbonate:

Species	:	Rabbit
Exposure time	:	4 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
GLP	:	yes

Serious eye damage/eye irritation

Product:

Remarks	:	Causes serious eye irritation.

Components:

lithium carbonate:

Species	:	Rabbit
Result	:	Eye irritation

Method : OECD Test Guideline 405
GLP : yes

Respiratory or skin sensitization

Product:

Remarks : No sensitising effects are known.

Components:

lithium carbonate:

Test Type : Buehler Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Did not cause sensitization on laboratory animals.
GLP : yes

Germ cell mutagenicity

Components:

lithium carbonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test substance: Read-across (Analogy)

Test Type: reverse mutation assay
Test system: Escherichia coli
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes
Test substance: Read-across (Analogy)

Test Type: Chromosome aberration test in vitro
Test system: Human lymphocytes
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: yes
Test substance: Read-across (Analogy)

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: yes
Test substance: Read-across (Analogy)

Carcinogenicity

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

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Components:

lithium carbonate:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Strain: wistar
Application Route: Oral
General Toxicity Parent: NOAEL: 15 mg/kg bw/day
General Toxicity F1: NOAEL: 45 mg/kg body weight
General Toxicity F2: NOAEL: 45 mg/kg body weight
Method: OECD Test Guideline 416
GLP: yes

Effects on fetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
General Toxicity Maternal: NOEL: 30 mg/kg bw/day
Embryo-fetal toxicity.: NOEL: 90 mg/kg body weight
Method: OECD Test Guideline 414
GLP: yes

Repeated dose toxicity

Components:

lithium carbonate:

NOAEL : 6,43 mg/kg bw/day
Application Route : Oral
Remarks : Epidemiological data

Further information

Product:

Remarks : May cause skin irritation in susceptible persons.
Dust contact with the eyes can lead to mechanical irritation.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

lithium carbonate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 30.3 mg/l
End point: mortality
Exposure time: 96 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 33.2 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 400 mg/l
End point: Growth rate
Exposure time: 72 h
Test Type: static test
Analytical monitoring: yes
Method: OECD Test Guideline 201
GLP: yes

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 17.35 mg/l
End point: mortality
Exposure time: 34 d
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 210
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chron- : NOEC (Daphnia magna (Water flea)): 9 mg/l
End point: mortality

ic toxicity)

Exposure time: 21 d
Test Type: semi-static test
Analytical monitoring: yes
Method: OECD Test Guideline 211
GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): 278 mg/l
End point: Respiration inhibition
Exposure time: 3 h
Test Type: static test
Test substance: Read-across (Analogy)
Method: OECD Test Guideline 209
GLP: yes

Persistence and degradability

Components:

lithium carbonate:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Components:

lithium carbonate:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Refer to manufacturer/ supplier for information on recovery/ recycling.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Serious eye damage or eye irritation

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

lithium carbonate	554-13-2	>= 90 - <= 100 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

lithium carbonate	554-13-2

Pennsylvania Right To Know

lithium carbonate	554-13-2

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including lithium carbonate, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

The ingredients of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL

ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
EINECS	:	On the inventory, or in compliance with the inventory
TECI	:	On the inventory, or in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

No data available

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Pre-

vention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 05/14/2024

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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