

ALBEMARLE® SAFETY DATA SHEET

051-GHS

LITHIUM CARBONATE

Preparation Date : 13-Apr-2016

Revision Date: 14-Jul-2017

Revision Number 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier**Product Name** LITHIUM CARBONATE**Other means of identification****Synonyms**401260 Lithium Carbonate BG <40 micron
401223 Lithium Carbonate, "fines"**Chemical Family**

Inorganic Salt

CAS-No

554-12-3

FormulaLi₂CO₃**Recommended use of the chemical and restrictions on use****General function** Raw material for chemical industry, pharmaceutical and the glass industry.**Uses advised against** No information available**Details of the supplier of the safety data sheet****Company**Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801Albemarle U.S., Inc.
348 Holiday Inn Drive
Kings Mountain, NC 28086**For Non-Emergency**

704-739-2501 (8AM-5PM M-Th; 8AM-12PM Fri)

'Competent Body for SDS'Department of product safety
productsafety@albemarle.com**Emergency telephone number****Emergency Telephone Numbers** In case of emergency, call Albemarle emergency response at +1 225 344 7147

2. HAZARDS IDENTIFICATION

Classification

Acute Toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2
Chronic aquatic toxicity	Category 3

Label elements**Emergency Overview****Warning****Hazard Statements**Harmful if swallowed
Causes serious eye irritation

Harmful to aquatic life with long lasting effects



Physical state crystalline powder.

Color White.

Odor Odorless.

Prevention

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear eye/face protection
 Avoid release to the environment

Response

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
 IF ON SKIN: Wash with plenty of soap and water
 IF INHALED: Move to fresh air.
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell Rinse mouth

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not applicable

Other Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms

401260 Lithium Carbonate BG <40 micron
 401223 Lithium Carbonate, "fines"

Pure substance/mixture

Substance

Component	CAS-No	Weight %
Lithium carbonate	554-13-2	<=100

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General Advice

Take off contaminated clothing and shoes immediately. First aid responders should pay attention to self-protection and use the recommended protective clothing. Move out of dangerous area. Keep warm and in a quiet place.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing has stopped, apply artificial respiration. If symptoms persist, call a physician.
Ingestion	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.
Protection of First-aiders	Use personal protective equipment as required.
<u>Most important symptoms and effects, both acute and delayed</u>	
Symptoms	Discomfort. Irritating to eyes. Harmful if swallowed. Symptoms of overexposure include nausea, vomiting, rashes, dizziness, drowsiness, central nervous system effects.
<u>Indication of any immediate medical attention and special treatment needed</u>	
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media Water spray jet, Dry powder, Carbon dioxide (CO₂), Foam.

Unsuitable Extinguishing Media High volume water jet.

Specific Hazards Arising from the Chemical

Combustion/explosion hazards High temperatures may liberate toxic or corrosive gases.

Hazardous Combustion Products Carbon monoxide, Carbon dioxide (CO₂).

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus and protective suit. 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Wear suitable protective equipment Avoid contact with skin, eyes and clothing. Do not breathe dust. Keep people away from and upwind of spill/leak. Handle in accordance with good industrial hygiene and safety practice

For emergency responders Use personal protective equipment as required.

Environmental Precautions

Environmental precautions Do not flush into surface water or sanitary sewer system Avoid release to the environment

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning up Take up mechanically and collect in suitable container for disposal. Avoid dust formation.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Mechanical ventilation is recommended. Wear personal protective equipment. Avoid dust formation. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture.

Incompatible Materials Avoid strong acids and oxidizers. Fluorine.

Dust Explosion Properties Avoid dust formation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Component	CAS-No	ACGIH TLV (TWA)	OSHA PEL (TWA)	NIOSH IDLH
Lithium carbonate	554-13-2	-	-	-

Component	CAS-No	Alberta	British Columbia	Ontario	Quebec
Lithium carbonate	554-13-2	-	-	-	-

Appropriate engineering controls

Engineering Controls Showers.
Eyewash stations.
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection Tightly fitting safety goggles.

Skin Protection If repeated or prolonged skin contact or contamination of clothing is likely, protective clothing should be worn. Rubber gloves resistant to chemical permeation

Hand protection Gloves resistant to chemical permeation.

Respiratory protection Whenever workplace conditions warrant, wear properly fitted, approved respirator with high-efficiency (dust/fume/mist) filter cartridges.

General Hygiene Considerations When using, do not eat, drink or smoke. Wash hands before breaks and at the end of workday. Avoid contact with skin, eyes and clothing. Wear suitable gloves and eye/face protection. Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state crystalline powder.
Color White.
Odor Odorless.
Odor Threshold None

Molecular Weight 73.89 g/mol
pH 9 - 11 at 1 g/l (as aqueous solution)
Melting point/freezing point 722 °C / 1332 °F Method: OECD Test Guideline 102
Boiling Point/Range ca 1,310 °C / 2390 °F
Flash Point Not applicable
Evaporation Rate No data available.
Flammability (solid, gas) No data available
Flammability Limit in Air
 Upper flammability limit: No data available
 Lower flammability limit: No data available
Vapor Pressure 1 hPa (610 °C)
Vapor Density No data available
Density 2.11 g/cm³ (20°C), ca. 750 kg/m³ (Bulk Density)

Solubility(ies)	
Water Solubility	8.4 g/l (20 °C) Method: OECD Test Guideline 102
Solubility in other solvents	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	>600 °C
Viscosity, kinematic	No data available
Dynamic viscosity	No data available
Explosive Properties	No data available
Oxidizing Properties	No data available

10. STABILITY AND REACTIVITY

Reactivity Hazard	No data available.
Stability	Stable.
Hazardous Reactions	May react with strong acids generating heat with boiling and spattering.
Conditions to Avoid	Avoid moisture. Excess heat.
Materials to avoid	Fluorine, Avoid strong acids and oxidizing agents.
Hazardous decomposition products	Thermal decomposition of this product can produce lithium and carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	No.
Eye contact	Yes.
Skin contact	No.
Ingestion	Yes. Harmful if swallowed.

Potential Health Effects

Acute Effects

Skin Corrosion/irritation	Not irritating. (. OECD Test No. 404: Acute Dermal Irritation/Corrosion.).
Serious eye damage/eye irritation	Irritating to eyes. (. OECD Test No. 405: Acute Eye Irritation/Corrosion.).
Respiratory irritation	No data available
Sensitization	Buehler Test: Not a skin sensitizer. (guinea pig). (. OECD Test No. 406: Skin Sensitization.).
STOT - single exposure	No information available.

Chronic Effects

Mutagenic Effects

OECD Test No. 476: In vitro Mammalian Cell Gene Mutation Test: negative. (with or without metabolic activation).
 OECD Test No. 473: In vitro Mammalian Chromosome Aberration Test: negative. (with or without metabolic activation).
 Not mutagenic in AMES Test.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Component	CAS-No	ACGIH Carcinogens	IARC	NTP	OSHA Regulated Carcinogens

Lithium carbonate	554-13-2	-	-	-	-
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Reproductive Effects Two-generation reproductive toxicity: (rat). oral: Maternal toxicity: NOAEL (No observed adverse effect level). 15 mg/kg bw/day. Developmental Toxicity: NOAEL (No observed adverse effect level). 45 mg/kg bw/day. (. OECD Test No. 416: Two-Generation Reproduction Toxicity.).

STOT - repeated exposure No information available.

Chronic Effects No information available

Aspiration hazard No information available.

Numerical measures of toxicity

Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

LD50 Oral: Rat Oral LD50: 525 mg/kg (Lit).
LD50 Dermal: Rat Dermal LD50: > 3000 mg/kg
Inhalation LC50: LC50/inhalation/4h/rat : > 2.17 mg/L

Component Information

Component	Rat Oral LD50:	Rabbit Dermal LD50:	Rat Dermal LD50 :	Rat Inhalation LC50:
Lithium carbonate 554-13-2	525 mg/kg	-	>3000 mg/kg	> 2.17 mg/L (4 h)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects

Component	Freshwater Algae EC50/72h :	Freshwater Fish LC50/96h :	Water Flea EC50/48h :
Lithium carbonate (CAS #: 554-13-2)	>400 mg/l	30.3 mg/l	33 mg/l

Persistence/Degradability Not applicable: inorganic.

Bioaccumulation/ Accumulation Not likely to bioaccumulate.

Mobility in Environmental Media No information available.

Other adverse effects Slightly water endangering. Avoid subsoil penetration.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Do not reuse container.

14. TRANSPORT INFORMATION

DOT
Proper Shipping Name NOT REGULATED FOR TRANSPORTATION
Hazard Class Not regulated
UN No. Not regulated
Packing Group Not regulated
Description Not regulated

TDG Not regulated

IMDG/IMO
IMO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IMO Labelling and Marking Not regulated
Proper Shipping Name Not regulated
Transport Description Not regulated

IATA/ICAO
IATA/ICAO Class Not regulated
Packing Group Not regulated
UN-No Not regulated
IATA/ICAO Labelling/Marking Not regulated
Proper shipping name Not regulated
Transport Description Not regulated

15. REGULATORY INFORMATION											
International Inventories	TSCA	DSL	NDSL	AICS	EINECS	ENCS	KECL	PICCS	IECSC	NZIoC	TCSI
LITHIUM CARBONATE	X	X	-	X	X	X	X	X	X	X	X

(X) Complies (-) Does not Comply

SARA 313
 Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	Weight %	SARA 313 - De minimis
Lithium carbonate (CAS #: 554-13-2)	≤100	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Reportable and Threshold Planning Quantities
 This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

State Right-to-Know
 This product contains the following chemicals regulated in the states listed below.

Component	California Prop. 65	New Jersey	Massachusetts	Pennsylvania
Lithium carbonate (CAS #: 554-13-2)	Developmental	X	X	-

16. OTHER INFORMATION

NFPA	Health 2	Flammability 0	Instability 0	Physical Hazards 0
HMIS	Health 2	Flammability 0	Physical Hazards 0	

Prepared By Health & Environment Department Albemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
ALBEMARLE CORPORATION
451 FLORIDA ST.
BATON ROUGE, LA. 70801
(800) 535-3030

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Disclaimer:

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

End of Safety Data Sheet