

CTM Potters Supplies SAFETY DATA SHEET

COMMISSION REGULATION (EU) 2020/878

Substance name: Lithium Carbonate 24

SDS reference: 07SDS06

Revision: (date): 09/12/2022

Version number: 6

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Substance name	Lithium Carbonate
EC No.	209-062-5
CAS No.	554-13-2
Index No.	-
REACH Registration No.	01-2119516034-53-0011 (EU) 01-0841228232-2-0001 (UK)
Other means of identification	Lithium carbonate

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	ES 1: Manufacture: Manufacture of lithium carbonate. (PROCS: 1, 2, 3, 4, 5, 8a, 8b, 9, 15) ES 2: Formulation or re-packing; Various products. Formulation into mixture. Adsorbents (PC 2), Heat Transfer Fluids (PC 16). (PROCS: 1, 2, 3, 4, 5, 8a, 8b, 9,15) ES 3: Use at industrial sites; Other. Use as an intermediate to manufacture other chemicals (fine chemicals and pharmaceuticals). (PROCS: 1, 2, 3, 4, 5, 8a, 8b, 9, 15) ES 4: Use at industrial sites; Heat Transfer Fluids; Other. Industrial use of substance in closed systems - Absorption Chillers. Heat Transfer Fluids (PC 16). (PROCS: 2, 8b, 15) ES 5: Widespread use by professional workers; Heat Transfer Fluids; Electricity, steam, gas water supply and sewage treatment. Wide, dispersive use of substances, closed systems - professional use. Heat Transfer Fluids (PC 16). Electricity, steam, gas water supply and sewage treatment (SU 23). (PROCS: 2, 8a, 8b, 9)
Uses advised against	None

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier	Simba Materials Limited
Address	Unit 7-8 Broomhouse Lane Industrial Estate, Doncaster DN12 1EQ

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Telephone number +44 (0) 1709 770801 / 01395 233077

E-mail address of competent person responsible for the SDS admin@simbamaterials.co.uk

National Contact

1.4. Emergency telephone number

Telephone number +44(0) 333 333 9946

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Acute Tox. 4	H302	Harmful if swallowed
Eye Irrit. 2	H319	Causes serious eye irritation.

Additional information

For full text of Hazard- and EU Hazard-statements: see SECTION 16

2.2. Label elements

Hazard pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

Precautionary statement(s)

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves, protective clothing, eye protection and face protection.

P301+P330: IF SWALLOWED: Rinse mouth.

P312: Call a POISON CENTRE or doctor if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P337+P313 If eye irritation persists seek medical advice/attention.

P501 : Dispose of contents / container in accordance with local / regional / national / international regulations

Supplemental information on the label
Supplementary Hazard Information (EU)

None

2.3. Other hazards

PBT and vPvB assessment is not applicable to inorganic substances. Lithium Carbonate does not cause endocrine disruption.

SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical Name	Lithium Carbonate
Identification Number	
EC No.	209-062-5
CAS No.	554-13-2
Index No.	-
REACH Registration No.	01-2119516034-53-0011 (EU) 01-0841228232-2-0001 (UK)
Other means of identification	Lithium Carbonate
%	> 98%
M-factor	Not applicable
Acute Toxicity Estimate (ATE)	Not applicable
Specific Concentration Limit (SCL)	Not applicable
Particle Characteristics	d10: 8.0 µm, d50: 461 µm, d90: 977 µm (DIN EN ISO/IEC 17025.)

SECTION 4: First aid measures

4.1. Description of first aid measures

General notes	If symptoms persist, seek medical attention.
Following inhalation	Remove person to fresh air and keep comfortable for breathing. Keep at rest. If experiencing respiratory symptoms: Get immediate medical advice/attention.
Following skin contact	Remove contaminated clothing immediately. Wash thoroughly with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

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Following eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. If eye irritation persists seek medical advice/attention.
Following ingestion	Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a doctor if you feel unwell.
Self-protection of the first aider	If it is suspected that the mixture is still present, wear appropriate personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms:

Following inhalation: May irritate the respiratory tract and mucous membrane.

Following skin contact: May cause redness or irritation.

Following eye contact: Causes serious eye irritation.

Following ingestion: Harmful if swallowed.

The following acute adverse effects have been described in patients receiving lithium therapy:

Gastrointestinal disorders (Nausea. Vomiting. Diarrhoea.)

Long-term sequelae from acute lithium poisoning include adverse CNS effects.

4.3. Indication of any immediate medical attention and special treatment needed

Treat systematically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use fire-extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media

None.

5.2. Special hazards arising from the substance or mixture

Combustion or thermal decomposition will evolve toxic and irritant vapours.

Hazardous combustion products

Lithium oxides. Carbon dioxide and carbon monoxide.

5.3. Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus (SCBA) approved for firefighting.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Persons not wearing personal protective clothing should be restricted from the spillage area.
For emergency responders	Ensure adequate ventilation. Avoid dust generation. Wear suitable protective clothing, gloves and eye/face protection.

6.2. Environmental precautions

Do not allow to enter drains, sewers or watercourses. Ensure waste is collected and contained.

6.3. Methods and material for containment and cleaning up

Sweep up and shovel into waste drums or plastic bags. Avoid dust generation.
Dispose of waste according to local/national regulations.

6.4. Reference to other sections

For Personal Protective Equipment, see Section 8. For disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid dust generation. Ensure adequate ventilation. Wear suitable personal protective equipment.
Avoid contact with skin and eyes. Do not breathe dust.
Wash hands before breaks and at the end of workday. Do not eat, drink or smoke when using this product.
Keep away from food, drink and animal feeding stuff. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Keep dry. Keep in a cool, well-ventilated place. Keep container tightly closed. Keep only in the original container.
Keep away from strong acids.

7.3. Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No Occupational Exposure Limit assigned.

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Derived No Effect Level (DNEL)

Lithium Carbonate

Workers		
Inhalation		
Chronic Effects, Systemic	10	mg/m ³
Acute Effects, Systemic	30	mg/m ³
Dermal		
Chronic Effects, Systemic	64.3	mg/kg bw/day
Acute Effects, Systemic	100	mg/kg bw/day
Consumers		
Inhalation		
Chronic Effects, Systemic	9.64	mg/m ³
Acute Effects, Systemic	28.92	mg/m ³
Dermal		
Chronic Effects, Systemic	64.3	mg/kg bw/day
Acute Effects, Systemic	50	mg/kg bw/day
Oral		
Chronic Effects, Systemic	6.43	mg/kg bw/day
Acute Effects, Systemic	19.23	mg/kg bw/day

Predicted No Effect Concentration (PNEC)

Lithium Carbonate

Environmental Protection Target	PNEC
Fresh water	9 mg/l
Marine water	0.9 mg/l
Intermittent releases (freshwater)	0.3 mg/l
Freshwater sediments	238.4 mg/kg sediment dw
Marine water sediments	23.84 mg/kg sediment dw
Microorganisms in sewage treatment (STP)	122.2 mg/l
Soil	44.11 mg/kg soil dw

8.2. Exposure controls

Appropriate engineering controls

Ensure adequate ventilation.

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Individual protection measures, such as personal protective equipment

Eye/face protection



Goggles or safety glasses with side shields giving complete protection to eyes according to EN 166:2001.

Skin protection

Hand protection



Protective gloves conforming to EN374.
Recommended gloves: Nitrile Rubber

Other

Laboratory coat or other chemical resistant protective clothing.

Respiratory protection



In case of insufficient ventilation wear suitable respiratory equipment.
Dust mask. Type P, EN143 recommended.

Thermal hazards

Not applicable.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

(a) Physical state	Solid.
(b) Colour	White.
(c) Odour	Odourless
Odour Threshold	Not applicable
(d) Melting point/freezing point	722 °C @ 1013 hPa
(e) Boiling point or initial boiling point and boiling range	Not applicable (decomposes)
(f) Flammability	Not flammable.
(g) Lower and upper explosion limit	Not applicable.
(h) Flash point	Not applicable.
(i) Auto-ignition temperature	Not applicable.
(j) Decomposition temperature	1300 °C (EU A.1/OECD Guideline 102)
(k) pH	c. 11 (1% aqueous slurry)
(l) Kinematic viscosity	Not applicable.
(m) Solubility	8.4 g/L @ 20 °C (water) (EU A.6/OECD Guideline 105)
(n) Partition coefficient n-octanol/water (log value)	Not applicable.

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(o) Vapour pressure	Not applicable.
(p) Density and/or relative density	2.1 g/cm ³ @ 20 °C (Literature information)
(q) Relative vapour density	Not applicable.
(r) Particle characteristics	d10: 8.0 µm, d50: 461 µm, d90: 977 µm (DIN EN ISO/IEC 17025.)
(s) Explosive Properties	Not explosive
(t) Oxidising Properties	Not oxidising

9.2. Other information

Information with regard to physical hazard classes

Not classified

Other safety characteristics

None

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal storage and temperature conditions.

10.2. Chemical stability

Stable under normal storage and temperature conditions.

10.3. Possibility of hazardous reactions

None identified.

10.4. Conditions to avoid

Avoid generation of dust.

10.5. Incompatible materials

Strong Acids. Strong oxidisers. Other substance incompatible with bases.

10.6. Hazardous decomposition products

Thermal decomposition products: Lithium oxides. Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) acute toxicity

acute toxicity - oral

LD50 (oral) (rat) 525 mg/kg bw
(Literature information).

Acute Tox. 4 H302: Harmful if swallowed.

acute toxicity - dermal

LD50 (dermal) (rat) > 2000 mg/kg bw
EU B.3/OECD Guideline 402

Not classified, based on the available data the classification criteria are not met.

acute toxicity - inhalation

LC50 > 2000 mg/m³ (4h) (rat)
OECD Guideline 403

Not classified, based on the available data the classification criteria are not met.

(b) skin corrosion/irritation

Non-irritant (Rabbit)

Not classified, based on the available data the classification criteria are not met.

(c) serious eye damage/irritation

Irritant (Rabbit)

Eye Irrit. 2: Causes serious eye irritation.

(d) respiratory or skin sensitisation

respiratory sensitisation

Not classified, based on the available data the classification criteria are not met.

skin sensitisation

Non sensitising (Guinea Pig)
OECD Guideline 406/EU B.6/EPA OPP 81-6

Not classified, based on the available data the classification criteria are not met.

(e) germ cell mutagenicity

In vitro genotoxicity

Data obtained by analogy conclusion

Gene-mutations microorganisms: negative
(OECD Guideline 471/EU B.13/14)

Gene-mutations mammalian cells: negative
(OECD Guideline 476/EU B.17)

Chromosome aberrations mammalian cells: negative
(OECD Guideline 473/EU B.10)

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- In vivo genotoxicity
Evaluation of lithium compounds: negative
(literature information, Lagerkvist, B.J., Lindell, B. (2002))
Lithium carbonate is not genotoxic in vitro and in vivo.
- (f) carcinogenicity
Not classified, based on the available data the classification criteria are not met.
No data suggest carcinogenic potential of lithium carbonate.
- (g) reproductive toxicity
Not classified, based on the available data the classification criteria are not met.
Effect on fertility:
NOAEL: 45 mg/kg bw/day (rat, oral)
- Effects on developmental toxicity
NOAEL: 30 mg/kg bw/day (maternal toxicity)
NOAEL: 90 mg/kg bw/day (embryotoxicity)
OECD guideline 414/EU B.31.
- (h) STOT-single exposure
Not classified, based on the available data the classification criteria are not met.
- (i) STOT-repeated exposure
Not classified, based on the available data the classification criteria are not met.
Lithium Carbonate
NOAEL: 6.43 mg/kg bw/day (human)
- (j) aspiration hazard
Not classified, based on the available data the classification criteria are not met.
Not classified. Data lacking.

Information on likely routes of exposure

Following inhalation: May irritate the respiratory tract and mucous membrane.

Following skin contact: May cause redness or irritation.

Following eye contact: Causes serious eye irritation.

Following ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

The following acute adverse effects have been described in patients receiving lithium therapy:

Gastrointestinal disorders (Nausea. Vomiting. Diarrhoea.)

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Long-term sequelae from acute lithium poisoning include adverse CNS effects.

Toxicokinetics, metabolism and distribution

Lithium carbonate is poorly absorbed through skin (10% is set as worst case), readily and completely absorbed from the gastrointestinal tract. Upon inhalation, resorption and bioavailability of lithium carbonate is expected to be low. Lithium is not bound to proteins but is quickly distributed throughout the body water both intra- and extracellularly. Lithium is not metabolised to any appreciable extent in the human body. Excretion of lithium is fast and takes place almost completely via urine unchanged.

11.2 Information on other hazards

Endocrine disrupting properties

Lithium carbonate does not cause endocrine disruption.

Other information

No other information.

SECTION 12: Ecological information

12.1. Toxicity

Not classified, based on the available data the classification criteria are not met.

Data on aquatic toxicity

Acute (short-term) toxicity

Fish	LC50, 96h (Oncorhynchus mykiss) 30.3 mg/L OECD guideline 203
Crustaceans	EC50, 48h (daphnia magna) 33.2 mg/L OECD guideline 202
Algae and other aquatic plants	EC50, 72h (Pseudokirchneriella subcapitata) > 400 mg/L NOEC, 72 h (Pseudokirchneriella subcapitata) 50 mg/L OECD guideline 201
Microorganisms	Activated Sludge (read across) EC50 3h 278 mg/L EC10 3h 122.2 mg/L

Chronic (long-term) toxicity

Fish	NOEC 34 days (Danio rerio) 15.28 mg/L (read across)
Crustaceans	NOEC 21 days (Daphnia magna) 9 mg/L (read across)

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12.2. Persistence and degradability

Hydrolysis: Lithium carbonate dissociates in water. Hydrolysis produces basic solutions of lithium hydroxide and lithium hydrogen carbonate.

Biodegradation: Not relevant for inorganic substances.

12.3. Bioaccumulative potential

Lithium Carbonate has low potential for bioaccumulation.

12.4. Mobility in soil

Low potential for adsorption.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment is not applicable to inorganic substances.

12.6. Endocrine disrupting properties

Lithium carbonate does not cause endocrine disruption.

12.7. Other adverse effects

None

SECTION 13: Disposal considerations

13.1. Waste treatment methods

LevertonHELM is licensed to dispose of these preparations by recycling and also to waste. Contact LevertonHELM for details.

Hazardous waste: HP4 Irritant, HP 6 Acute Toxicity.

Suitable methods:

Dispose of contents / container in accordance with local / regional / national / international regulations. Seek the advice of an approved waste disposal contractor for disposal at a licensed facility in accordance with national legislation.

Dispose of this material and its container to hazardous or special waste collection point.

SECTION 14: Transport information

ADR / RID / ADN / IMDG / ICAO-TI / IATA

14.1. UN number or ID number

Not classified as dangerous for transport under ADR, RID, ADN, IMDG or IATA.

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14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Not applicable

14.6. Special precautions for user

Not applicable

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulations

The substance is classified and labelled according to the CLP Regulation. This safety data sheet is prepared in accordance with Annex II to Regulation (EC) No 1907/2006 as amended by Regulation (EU) No. 2020/878.

Authorisations and/or restrictions on use

Authorisations

Lithium Carbonate is not on the REACH Candidate list.
Lithium carbonate is not listed in Annex XIV of REACH.

Restrictions on use

No restrictions according to REACH Annex XVII.

National regulations (Germany)

Wassergefährdungskategorie (water hazard class): Lithiumcarbonat (2435) WGK1

TechnischeAnleitungLuft (TA-Luft): Chapter 5.2.1 Total dust, including fine dust

National regulations (UK)

The substance is classified and labelled according to the GB CLP Regulation. This safety data sheet is prepared in accordance with Annex II to Regulation (EC) No 1907/2006 as amended by UK REACH.

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15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

i) Indication of changes

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EU Update to Regulation (EU) No. 2020/878.
Updates to sections 1, 2, 3, 8, 9, 11, 12, 13, 15

ii) Abbreviations and acronyms

DNEL	Derived no-effect level
EC50	Effective concentration of substance that causes 50% of the maximum response.
NOEC	No observed effect concentration
NOAEL	No observed adverse effect level
LD50	Lethal dose 50%
LC50	Median lethal concentration
PBT	Persistent, bioaccumulative and toxic
PNEC	Predicted no-effect concentration
vPvB	Very persistent and very bioaccumulative

iii) Key literature references and sources for data

ECHA REACH Dossier
GESTIS International Limit Values
Regulation (EC) No. 1272/2008 (CLP)
Regulation (EC) No. 1907/2006 (REACH)
Regulation (EU) No. 2020/878
edlists.org/the-ed-lists

iv) Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Not applicable.

v) Relevant H-statements (number and full text)

Acute Tox. 4 H302	Acute Toxicity, category 4: Harmful if swallowed.
Eye Irrit. 2 H319	Serious Eye Damage/eye irritation, category 2: Causes serious eye irritation.

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vi) Training advice

Read SDS and supplier instructions on correct use of the product. Workers should be trained to handle hazardous chemicals.

vii) Further information

No other information

End of safety data sheet

DISCLAIMER

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. This safety data sheet is not a risk assessment. Recipients are advised to make their own risk assessment as required by other Health and Safety legislations.