LITHIUM CARBONATE
Safety Data Sheet
accordingtoRegulation(EC)No. 453/2010
Dateofissue:24/01/2012Revisiondate:09/12/2013

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

1.1. Product identifier
Product form : Substance
Chemical name : Lithium carbonate
EC No : 209-062-5
CAS No. : 554-13-2
REACH registration No. : 01-211951634-53
Formula : Li2CO3
Synonyms : Lithium carbonate 60 mesh; Lithium carbonate 325 mesh

1.2. Relevant identified uses of the substance or mixture and uses advised against
1.2.1.Relevantidentifieduses
RecommendedUse
National Poisons Information Service (London Centre)
+44 20 7771 5307
ES1:Formulation; Ceramic glass (PC9a, PC9b, PC15)
ES2:Formulation; Welding consumables (PC7, PC38)
ES3:Use at industrial site; Welding consumables (PC7, PC38, SU0)
ES4:Formulation; Formulation of construction chemicals, open systems (PC1, PC9b)
ES5:Formulation; Formulation of construction chemicals, closed systems (PC1, PC9b) ES6/ES7: Use at industrial site; Industrial use of construction chemicals (includes without spraying) (PC1, PC9b, SU13)
ES8/ES10: Use by professional worker; Professional use of construction chemicals (includes without spraying) (PC1, PC9b, SU19)
ES9/ES11: Service life (professional worker) (SU19)
ES12/ES14: Consumer use; Consumer use of construction chemicals
ES13/ES15: Service life (consumers)
See annex for more detailed information.
1.2.2. Uses advisedagainst
Usesadvisedagainst
No information available

1.3. Details of the supplier of the safety data sheet
Keramikos
Oudeweg 153
2031 CC Haarlem
T 023 – 542 44 16

1.4. Emergency telephone number

023 – 542 44 16

SECTION 2: Hazards identification.

2.1. Classification of the substance or mixture

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

[CLP] Acute Toxicity: Category 4
Serious eye damage/eye irritation: Category 2

Classificationaccordingto Directive67/548/EECor1999/45/EC

Xn; R22 – Xi;R36

Full text of R-phrases: see section 16

2.2. Label elements

LabellingaccordingtoRegulation(EC)No.1272/2008(CLP)

Hazard pictograms (CLP):

Signal word (CLP):
Warning

Hazardstatements(CLP):

H302 - Harmful if swallowed H319
– Causes serious eye irritation

Precautionarystatements(CLP):

P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician 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

2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH, annex XIII.
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

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SECTION 3: Composition/information on ingredients.

3.1. Substances

Chemical Name	**EC-No**	**CAS-No.**	Weight %	**Classification (67/548/EEC)**	**Classification (1272/2008/EC)**	**Reach Registration** Number
Lithium Carbonate	209-062-5	554-13-2	>99	Xn; R2 Xi; R36	Acute tox. 4 H302 Eye irr. 2 H319	01-2119516034-53

For the full text of the R-Phrases mentioned in this Section, see Section 16

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures.

4.1. Description of first aid measures

First-aid measures after inhalation: Remove victim to fresh air. If breathing is difficult, give oxygen. If breathing stops, perform cardio pulmonary resuscitation (CPR). Take to hospital.

First-aid measures after skin contact: Wash immediately with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Seek medical attention if ill effect or irritation develops.

First-aid measures after eye contact : In case of eye contact, immediately rinse with clean water for 10-15 minutes. Call a doctor.

First-aid measures after ingestion : If swallowed, do not induce vomiting: seek medical advice immediately and show the container or label.

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

Ingestion may cause irritation to mucous membranes. Ingestion may cause stomach discomfort. Central nervous system, Kidney disorders, Drowsiness. Irritating to eyes: Redness, Pain.

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

It is strongly recommended to have the presence of emergency showers and eye baths close to the workstations.

Notes to physician: Treat symptomatically.

SECTION 5: Firefighting measures.

5.1. Extinguishing media

Suitable extinguishing media: No restriction in case of fire in the vicinity

Unsuitable extinguishing media: High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire hazard: Not flammable.

Explosion hazard: In the presence of water, contact with metals may produce hydrogen which may form explosive mixtures with air.

Reactivity: Stable under normal conditions of handling and storage.

Special hazard: Hazardous decomposition products formed under fire conditions: Carbon oxides, Lithium oxide. Do not allow run-off from fore fighting to enter drains or water courses.

5.3. Advice for firefighters

Protection during firefighting: Use of approved supplied air or self-contained breathing apparatus operated in positive pressure mode are satisfactory. Totally impervious protective suits, gloves, and boots must be worn.

SECTION 6: Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures

General measures: Keep public away from danger area. See section 8.2. Keep away from **heat source.**

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and soil. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up: Sweep or shovel spills into appropriate container for disposal. Avoid dust production.

6.4. Reference to other sections

See section 8 and 13 for more information.

SECTION 7: Handling and storage.

7.1. Precautions for safe handling

Precautions for safe handling: Do not breathe dust. Wash hands plentifully and other exposed areas with water after handling. Remove contaminated clothing and shoes. Wash clothing before re-using.

Packaging: Even those that have been emptied, will retain product residue. Always obey safety warnings and handle empty packaging as if they were full. Avoid all contact with this substance.

Hygiene measures: When using do not eat, drink or smoke. Wash hands and other exposed areas with mild soap and water before eat, drink or smoke and when leaving work. Remove contaminated clothing and shoes.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in dry, cool, well-ventilated area. Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Exposure Scenario: See annex

SECTION 8: Exposure controls/personal protection.

8.1. Control parameters

Exposure limits:

The product does not contain any hazardous materials with occupational exposure limits established.

Derived No Effect Level (DNEL):

Worker, long term exposure - systemic effects, Inhalation: 10 mg/m^3

Worker, acute / short-term exposure - systemic effects, Inhation: 30 mg/m^3

Worker, long-term exposure - systemic effects, Dermal: 64.3 mg/kg bw/d

Worker, acute / short-term exposure - systemic effects, Dermal: 100 mg/kg bw/d

General population, long-term exposure - systemic effects, Inhalation: 9.64 mg/m3
General population, acute / short-term exposure - systemic effects, Inhalation: 28.92 mg/m3
General population, long-term exposure - systemic effects, Dermal: 64.3 mg/kg bw/d
General population, acute / short-term exposure - systemic effects, Dermal: 50 mg/kg bw/d
General population, long-term exposure - systemic effects, Oral: 6.43 mg/kg bw/d
General population, acute / short-term exposure - systemic effects, Oral: 19.23 mg/kg bw/d

Predicted No Effect Concentration (PNEC) Freshwater: 9 mg/L
Marine water: 0.9 mg/L
Intermittent release: 0.3 mg/L
Sewage treatment plant: 122.2 mg/L Freshwater sediment: 35.2 mg/kg dw
Marine sediment: 3.52 mg/kg dw Soil: 1.76 mg/kg dw

8.2. Exposure controls

Local vacuuming is recommended to maintain the emissions of dust or fumes at the lowest admissible level for exposure. Periodical controls should be done to working environment.

Appropriate engineering controls: If handling conditions produce dust, it should be necessary to use personal protective equipments. Do not eat, drink or smoke while handling the product. At the end of work, wash or shower. Before breaks, wash hands. After work shower or wash. Change work clothes after handling the product. Remove soiled or splashed clothing and wash it before re-using it. Shower and washroom facilities should be separate from changing rooms. The substance must be kept away from food, drink and condiments.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Well-fitted chemical protective goggles with plastic lenses (e.g. Clear PVC). Or facial safety screen. It is generally known that contact lenses must not be worn when working with chemicals because they may contribute to the severity of possible damage to the eyes.

Hand protection: Protective gloves: Nitrile rubber (EN374). Glove thickness: 0.11 mm. Break through time:

Skin and body protection: Long sleeved clothing.

Respiratory protection: In the case of dust or aerosol formation use respirator with an approved filter (EN143).

Recommended filter type: P2

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Provide regular cleaning of equipment, work area and clothing.

Environmental Exposure Controls: Do not allow material to contaminate ground water system.

SECTION 9: Physical and chemical; properties.

Physical state	hite. odourless.
Colour	Not applicable 11.2 (as 1% solution) No data available 723^{0}C
Odour Odour threshold pH	
Relative evaporation rate (butylacetate=1)	No data available
Melting point	No data available
Freezing point	
Boiling point	Not explosive.
Flash point	No data available
Self ignition temperature	1,200^{0}C
Decomposition temperature Flammability (solid, gas)	Not flammable Not applicable No data available No data available
Vapour pressure	
Relative vapour density at 20 °C	
Relative density Density	

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Solubility in water	8.4 -13g/l @20^{0C} Log Pow =
Partition coefficient (n-octanol/water)	-6,19(@25^{0}C)
Viscosity, kinematic	No data available
Viscosity, dynamic	Water: 1.27 g/l (20
Explosive properties	°C) Not explosive Non
Oxidising properties Explosive limits	oxidising Not applicable

9.2. Other information **Density:**

2.1 (@20°C) **Vapour pressure:** Study technically not feasible **Bulk density:** ~250 kg/m^3

SECTION 10: Stability and reactivity.

10.1. Reactivity
No information available.

10.2. Chemical stability
Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions
Reacts violently with Fluorine, Oxidising agents, Acids

10.4. Conditions to avoid
Heat, flames and sparks. Protect from moisture.

10.5. Incompatible materials
Alkaline earth metals, Fluorine, Oxidising agents, Acids.

10.6. Hazardous decomposition products
Carbon dioxide (CO2), Carbon monoxide (CO), Lithium oxide.

SECTION 11: Toxicological information.

11.1. Information on toxicological effects

Acute toxicity

Ingestion: Harmful if swallowed.

Skin contact: Based on available data, the classification criteria are not met.

Inhalation: Based on available data, the classification criteria are not met.

Chemical Name	LD50 Oral	LD50 Dermal	LC Inhalation
Lithium Carbonate	**525mg/lg (Rat)**	**>2,000mg/kg (Rat, OECD 402)**	2.17mg/L **(Rat, OECD 403)** 4h

Skin corrosion/irritation: Non-irritating (In vivo, rabbit, OECD 404).

Respiratoryorskinsensitisation: Did not cause sensitisation on laboratory animals (In vivo, guinea pig, OECD 406). **Germ cellmutagenicity:** Not known to cause heritable genetic damage. Read Across Data OECD 471 (Ames test)
OECD 473, OECD 476: Negative.

Carcinogenicity: Contains no ingredient listed as a carcinogen.

Reproductive toxicity: Based on available data, the classification criteria are not met (Read Across Data). NOAEL oral, rat, (P): 15 mg/kg bw/d (OECD 416), NOAEL oral, rat, (F1/F2): 45 mg/kg bw/d (OECD 416). NOAEL oral, rat: 30 mg/kg bw/d (OECD 414), NOAEL oral, rat: 90 mg/kg bw/d (OECD 414). **STOT-singleexposure:** No known effect.

STOT-repeated exposure: Based on available data, the classification criteria are not met. NOAEL oral, rat: 6.43 mg/kg bw/d , NOAEL inhalation: 22.5 mg/m3, NOAEL dermal: 64.3 mg/kg bw/d. **Aspiration hazard** No known effect.

SECTION 12: Ecocological information.

12.1. Toxicity

Contains no substances known to be hazardous for the environment.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Lithium Carbonate	LC50: **400mg/L** 72h	LC50: **30.3mg/L 96h**		LC50: **33.2mg/L** 48h

	Desmodesmus subspicatus (OECD 201) NOEC: 50mg/L 72h Desmodesmus subspicatus (OECD 201)	Oncorhynchus mykiss (OECD 403) NOEC: 17.35mg/L 34d Brachydanio rerio (OECD 210)		Daphnia magna (OECD 202) NOEC: 9.0mg/L 21d Daphnia magna (OECD 211)

12.2. Persistence and degradability
Readily biodegradable

12.3. Bioaccumulative potential
Bio-accumulation is unlikely. Lithium carbonate: log Pow -6.19

12.4. Mobility in soil
No information available.

12.5. Results of PBT and vPvB assessment
This substance/mixture does not meet the PBT criteria of REACH, annex XIII.
This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects
No experimental data available.

SECTION 13: Disposal considerations.

13.1. Waste treatment methods
Waste from residues / unused products
Dispose of in accordance with local regulations.

Contaminated packaging
Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other information
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information.

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number
Not considered DG

14.2. UN proper shipping name
Not considered DG.

14.3. Transport hazard class(es)
Not applicable

14.4. Packing group
Not applicable

14.5. Environmental hazards
It is not considered hazardous to the environment.

14.6. Special precautions for user
Protect
from moisture.
Keep away from foodstuffs and pharmaceuticals.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

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SECTION 15: Regulatory information.

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

Restrictions on use: No information available.

Other regulations: No information available.

15.2. Chemical safety assessment

A Chemical safety assessment has been carried out for this substance.

SECTION 16: Other information.

Full text of R-phrases referred to under sections 2 and 3 R36 - Irritating to eyes R22 - Harmful if swallowed

Full text of H-Statements referred to under sections 2 and 3 H302 - Harmful if swallowed H319 - Causes serious eye irritation

Abbreviations/acronyms

ES: Exposure Scenario
PC: Product Category
SU: Sector of Use
(E)EC: European Commission
REACH: Registration, Evaluation, Authorisation and Restriction of Chemical substances
STOT: Specific Target Organ Toxicity PBT:
Persistent, Bioaccumulating, Toxic vPvB: very
Persistent and very Bioaccumulating
ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
RID: Regulations for the International Transport of Dangerous Goods by Rail
ADN: Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures
IMDG: International Maritime Dangerous Goods Code ICAO:
International Civil Aviation Organization

Revision Note
Recommended Use, First Aid Measures, Extinguishing Media Which Must not be Used for Safety Reasons, Personal precautions, protective equipment and emergency procedures,

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according to Regulation (EC) No. 453/2010 Date ofissue: 24/01/2012 Revision date: 09/12/2013

Handling and storage, Derived No Effect Level (DNEL), Predicted No Effect Concentration (PNEC), Personal protective equipment, Physical and chemical properties, Reactivity, Toxicological information, Ecotoxicity.

Training advice:

Workers must be trained in the proper use and handling of this product as required under applicable regulations.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. Label element according to Regulation (EC) No 1272/2008.

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. Any chemical product may be handled in safe conditions if its physicochemical and toxicological properties are known, and technical methods and appropriate organising measures are used, as well as adequate personal protective equipment.

This safety data sheet has been prepared based on Regulation 453/2010 of the Commission on May 20. 2010 for the preparation of Safety Data Sheet for amending Regulation (EC) No. 1907/2006 of the European parliament and Council concerning the Registration, Evaluation, Authorisation and Restriction of substances and Chemicals (REACH)

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