

Lithium chloride

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 9/18/2012 Revision date: 3/7/2019 Supersedes: 9/5/2018 Version: 2.2

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

1.1. Product identifier

Product form	: Substance
Substance name	: Lithium chloride
IUPAC name	: lithium(1+) chloride
EC-No.	: 231-212-3
CAS-No.	: 7447-41-8
Product code	: 22094921
Formula	: LiCl

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

1.2.1. Relevant identified uses

Industrial/Professional use spec	: Industrial For professional use only Laboratory chemicals
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1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Scafell Organics
Molekula Ltd
Lingfield Way
Darlington - England
T +44 (0) 1949 823777 / +44 (0) 7590 545705
info@molekula.com / kbowen@molekula.com - www.molekula.com

1.4. Emergency telephone number

Emergency number : +44 (0) 7590 545705

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute toxicity (oral), Category 4	H302
Skin corrosion/irritation, Category 2	H315
Serious eye damage/eye irritation, Category 2	H319
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS07

Signal word (CLP)

: Warning

Hazard statements (CLP)

: H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Precautionary statements (CLP)

: P280 - Wear protective clothing, eye protection, face protection, protective gloves.
P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

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

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type : Mono-constituent

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Name	Product identifier	%
Lithium chloride	(CAS-No.) 7447-41-8 (EC-No.) 231-212-3	100

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Do not remove clothing if it sticks to the skin. Wash skin with plenty of water. Take off immediately all contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell.

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

Symptoms/effects after inhalation	: Inhalation may cause irritation (cough, short breathing, difficulty in breathing).
Symptoms/effects after skin contact	: Causes skin irritation. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	: Causes eye irritation. redness, itching, tears.
Symptoms/effects after ingestion	: Harmful if swallowed. Abdominal pain, nausea.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : hydrogen chloride. Lithium.

5.3. Advice for firefighters

Precautionary measures fire	: Eliminate all ignition sources if safe to do so. Evacuate unnecessary personnel.
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment. Use extinguishing agent suitable for surrounding fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: Warn all persons of toxic hazard.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Remove ignition sources. Do not breathe dusts or mists.

6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
Emergency procedures	: Evacuate unnecessary personnel. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Avoid contact with skin, eyes and clothing. Do not breathe dust. Do not touch or walk on the spilled product.
Measures in case of dust release	: Keep upwind. Avoid creating or spreading dust.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Minimise generation of dust. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid the use of application devices that increase dust-formation.

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Precautions for safe handling	: Ensure that there is a suitable ventilation system. Do not handle in a confined space. Handle under inert gas. Protect from moisture.
Hygiene measures	: Do not eat, drink or smoke when using this product. Take off immediately all contaminated clothing and wash it before reuse. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures	: Handle and store contents under inert gas. Protect from moisture.
Storage conditions	: Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat sources.
Incompatible products	: Strong acids. Strong oxidisers.
Incompatible materials	: Material is hygroscopic. Moisture. Water, humidity.
Storage area	: Store in dry protected location to prevent any moisture contact. Store at ambient temperature.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Lithium chloride (7447-41-8)	
DNEL/DMEL (Workers)	
Acute - systemic effects, inhalation	30 mg/m ³
Long-term - systemic effects, dermal	73.2 mg/kg bw/day
Long-term - systemic effects, inhalation	10 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, dermal	50 mg/kg bw/day
Acute - systemic effects, inhalation	30 mg/m ³
Acute - systemic effects, oral	21.96 mg/kg bw/day
Long-term - systemic effects, oral	7.32 mg/kg bw/day
Long-term - systemic effects, inhalation	10 mg/m ³
Long-term - systemic effects, dermal	73.2 mg/kg bw/day
PNEC (Water)	
PNEC aqua (freshwater)	10.4 mg/l
PNEC aqua (marine water)	1.04 mg/l
PNEC aqua (intermittent, freshwater)	10.4 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	49.9 mg/kg dwt
PNEC sediment (marine water)	4.99 mg/kg dwt
PNEC (Soil)	
PNEC soil	4.13 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	140.2 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety procedures. Provide local exhaust or general room ventilation.

Personal protective equipment:

Avoid all unnecessary exposure.

Materials for protective clothing:

Use chemically protective clothing

Hand protection:

The protective gloves to be used must comply with the specifications of the regulation 2016/425 and the resultant standard EN 374

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Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Disposable gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.11		EN 374

Eye protection:

Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Use eye protection according to EN 166, designed to protect against powders and dusts. Chemical goggles or safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Fine dust, Dust	With side shields	EN 166

Skin and body protection:

Wear suitable protective clothing. Emergency safety showers should be available in the immediate vicinity of any potential exposure. Keep suitable chemically resistant protective clothing readily available for emergency use

Type	Standard
Protective clothing (with elasticated cuffs and closed neck)	EN ISO 13982

Respiratory protection:

Self contained breathing apparatus, in case of emergency. In case of insufficient ventilation, wear suitable respiratory equipment

Device	Filter type	Condition	Standard
Respiratory protective device with a particle filter	Type P1, Type P2	Dust protection	EN 143

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystalline solid.
Molecular mass	: 42.394 g/mol
Colour	: white.
Odour	: No data available
Odour threshold	: No data available
pH	: 6
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 613 °C
Freezing point	: No data available
Boiling point	: 1360 °C
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2.07 g/cm ³
Solubility	: No data available
Log Pow	: -2.7 g/cm ³
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

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10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Moisture.

10.5. Incompatible materials

Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : hydrogen chloride. Lithium.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Oral: Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Lithium chloride (7447-41-8)

LD50 oral rat	526 mg/kg
Skin corrosion/irritation	: Causes skin irritation. pH: 6
Serious eye damage/irritation	: Causes serious eye irritation. pH: 6
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Potential adverse human health effects and symptoms	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

Lithium chloride (7447-41-8)

LC50 fish 1	158 mg/l 96h - Oncorhynchus mykiss (rainbow trout)
EC50 Daphnia 1	249 mg/l Daphnia magna (Water flea)

12.2. Persistence and degradability

Lithium chloride (7447-41-8)

Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

Lithium chloride (7447-41-8)

Log Pow	-2.7 g/cm ³
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12.4. Mobility in soil

No additional information available

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12.5. Results of PBT and vPvB assessment

Lithium chloride (7447-41-8)

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

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

12.6. Other adverse effects

Additional information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Lithium chloride is not on the REACH Candidate List

Lithium chloride is not on the REACH Annex XIV List

Directive 2012/18/EU (SEVESO III)

15.1.2. National regulations

Germany

Reference to AwSV

: Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to AwSV; ID No. 2440)

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12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : Lithium chloride is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : Lithium chloride is listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : Lithium chloride is listed

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H- and EUH-statements:	
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

SDS EU (REACH Annex II)

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.