

According to Regulation (EC) No 1907/2006

# Lithium chloride

Version number: 2  
Issued: 2023-09-01



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

### 1.1. Product identifier

**Trade name**

Lithium chloride

**CAS number**

7447-41-8

**EC number**

231-212-3

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

**Relevant identified uses**

Research and development.

**Not suitable for use in**

Not suitable for human consumption or veterinary purposes.

### 1.3. Details of the supplier of the safety data sheet

**Supplier**

Molekula Group

Street address

Molekula Ltd, Lingfield Way, Darlington,

DL1 4XX Darlington

United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

**Contact person**

Kevin Banks

**Email address**

+44 (0) 7769276927

### 1.4. Emergency telephone number

**Poison center/Additional emergency number**

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

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## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

#### Classification

Skin irritation, hazard category 2

Eye irritation, hazard category 2

Acute toxicity, oral, hazard category 4

Specific Target Organ Toxicity — Single exposure, hazard category 3

#### Hazard statements

H302, H315, H319, H335

### 2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

#### Hazard pictograms



#### Signal word

Warning

#### Hazard statements

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

#### Precautionary statements

P261 Avoid breathing dust/fumes/gas/mist/vapours/spray.

P264 Wash skin thoroughly after handling.

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

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of water/.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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

P330 Rinse mouth.

P332 + P313 If skin irritation occurs: Get medical advice/attention.

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

P362 + P364 Take off contaminated clothing and wash it before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container to .

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## 2.3. Other hazards

No data available

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Lithium chloride	7447-41-8 231-212-3 - -	100%	Acute Tox. 4 - oral, Skin Irrit. 2, Eye Irrit. 2, STOT SE 3	H302, H315, H319, H335 - -	-

#### Molecular weight

42.39

#### Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

#### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

#### Skin contact

IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

#### Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

#### Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

#### Information for doctors

First aiders/ medical personnel need to protect themselves.

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

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

### Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

### Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

### Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

### Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

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

Treat symptomatically. No special treatment requirement.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

#### Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

### 5.2. Special hazards arising from the substance or mixture

Specific hazards:

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

Hydrogen Chloride gas

Lithium Oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

### 5.3. Advice for firefighters

#### Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin and eyes. For personal protection, see section 8.

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## 6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

## 6.3. Methods and material for containment and cleaning up

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

## 6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

#### Preventive handling precautions

Read and follow manufacturer's recommendations. Wear protective clothing, gloves, eye and face protection. Keep away from food, drink and animal feeding stuffs. Keep container tightly closed. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers. For precautions see section 2.2.

#### General hygiene

Observe good chemical hygiene practices. Remove contaminated clothing and launder thoroughly before re-use. Wash contaminated skin thoroughly after handling. Do not eat, drink or smoke when using this product.

### 7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature. Store in a dry place. Store in a closed container.

Hygroscopic.

Store contents under inert gas.

Moisture Sensitive.

### 7.3. Specific end use(s)

No specific usage precautions noted.

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
Lithium chloride (7447-41-8/231-212-3)	DNEL	Acute (short term) Inhalation	30 mg/m <sup>3</sup>	Workers	Systemic
Lithium chloride (7447-41-8/231-212-3)	DNEL	Chronic (long term) Inhalation	10 mg/m <sup>3</sup>	Workers	Systemic
Lithium chloride (7447-41-8/231-212-3)	DNEL	Chronic (long term) Inhalation	10 mg/m <sup>3</sup>	Consumers	Systemic

#### PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
Lithium chloride (7447-41-8/231-212-3)	PNEC	Freshwater	10.4 mg/l
Lithium chloride (7447-41-8/231-212-3)	PNEC	Sediment (freshwater)	49.9 mg/kg
Lithium chloride (7447-41-8/231-212-3)	PNEC	Marine water	1.004 mg/l
Lithium chloride (7447-41-8/231-212-3)	PNEC	Sediment (marine water)	4.99 mg/kg
Lithium chloride (7447-41-8/231-212-3)	PNEC	Soil	4.13 mg/kg
Lithium chloride (7447-41-8/231-212-3)	PNEC	Sewage Treatment Plant	140.2 mg/l

### 8.2. Exposure controls

#### Eye / face protection

Wear eye protection.

#### Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

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## **Other skin protection**

Wash skin thoroughly after handling.

## **Respiratory protection**

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

## **Environmental exposure controls**

Avoid discharge into drains.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### **Physical state**

Solid

#### **Colour**

Colourless.

#### **Odour**

Odourless.

#### **Melting point / freezing point**

605 °C

#### **Boiling point or initial boiling point and boiling range**

1380 - 1382 °C

#### **Flammability**

No data available

#### **Lower and upper explosion limit**

No data available

#### **Flash point**

No data available

#### **Auto-ignition temperature**

No data available

#### **Decomposition temperature**

No data available

#### **pH**

7 - 8

#### **Kinematic viscosity**

No data available

#### **Solubility**

No data available

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## Partition coefficient n-octanol/water

No data available

## Vapour pressure

No data available

## Density and/or relative density

No data available

## Relative vapour density

No data available

## Particle characteristics

No data available

## 9.2. Other information

No data available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

There are no known reactivity hazards associated with this product.

### 10.2. Chemical stability

Stable under the prescribed storage conditions.

### 10.3. Possibility of hazardous reactions

Risk of explosion/exothermic reaction with:

Alkali metals.

halogen-halogen compounds

Violent reactions possible with:

Strong acids.

### 10.4. Conditions to avoid

Moisture. Store contents under inert gas.

### 10.5. Incompatible materials

Risk of explosion and/or of toxic gas formation exists with: Strong oxidising agents. Halogenated compounds Alkali metals.

May react violently with:

Acids.

### 10.6. Hazardous decomposition products

See section 5.

## SECTION 11: Toxicological information

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

#### Acute toxicity



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Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Duration of exposure	Test animals
Lithium chloride 7447-41-8 / 231-212-3	LD50	526 mg/kg	Oral	-	Rat
Lithium chloride 7447-41-8 / 231-212-3	LC50	>5.57 mg/l	Inhalation.	4 hours	Rat
Lithium chloride 7447-41-8 / 231-212-3	LD50	>2000 mg/kg	Dermal	-	Rat

### Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	Severe skin irritation.	24 hours	Rabbit

### Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
Lithium chloride 7447-41-8 / 231-212-3	Causes eye irritation.	Rabbit

### Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
Lithium chloride 7447-41-8 / 231-212-3	Not a skin sensitiser.	Guinea Pig	Buehler test:

### Germ cell mutagenicity

Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
Lithium chloride 7447-41-8 / 231-212-3	Negative.	with and without metabolic activation	Escherichia coli/Salmonella typhimurium	Ames test
Lithium chloride	Negative.	with and without meta-	Mouse lymphoma cells	-

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Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
7447-41-8 / 231-212-3		bolic activation		

**Aspiration hazard**

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

**11.2. Information on other hazards**

No data available

**SECTION 12: Ecological information****12.1. Toxicity****Acute fish toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	LC50	158 mg/l	96 hours	Onchorhynchus mykiss (Rainbow trout)

**Acute algae toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	ErC50	>400 mg/l	72 hours	Desmodesmus sub- spicatus (green algae)

**Acute crustacean toxicity**

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	EC50	249 mg/l	48 hours	Daphnia magna

**Micro-/macro organism toxicity**

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Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	EC50	320.05 mg/l	3 hours	Activated sludge.

## Chronical toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Lithium chloride 7447-41-8 / 231-212-3	EC50	>10.4 mg/l	21 days	Daphnia magna
Lithium chloride 7447-41-8 / 231-212-3	NOEC	18 mg/l	34 days	Brachydanio rerio (Zebra Fish)

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

No data available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

#### Disposal considerations

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

## SECTION 14: Transport information

### 14.1. UN number

Not applicable

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## 14.2. UN proper shipping name

Not applicable

## 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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### National regulations

No data available

### 15.2. Chemical safety assessment

No data available

## SECTION 16: Other information

### Phrase meaning

Skin Irrit. 2 - Skin irritation, hazard category 2

Eye Irrit. 2 - Eye irritation, hazard category 2

Acute Tox. 4 - oral - Acute toxicity, oral, hazard category 4

STOT SE 3 - Specific Target Organ Toxicity — Single exposure, hazard category 3

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.