

MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
EC-No. : 231-102-5
CAS-No. : 7439-93-2
Product code : 04421
Formula : Li

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

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Substances and Mixtures H260
which, in contact with
water, emit flammable
gases, Category 1
Skin corrosion/irritation, H314
Category 1B

Full text of H statements : see section 16

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Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R14/15

C; R34

Full text of R-phrases: 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] Extra labelling to display Extra classification(s) to display

Hazard pictograms (CLP)



GHS02

GHS05

Signal word (CLP)

: Danger

Hazard statements (CLP)

: H260 - In contact with water releases flammable gases which may ignite spontaneously.
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP)

: P223 - Do not allow contact with water.
P231+P232 - Handle under inert gas. Protect from moisture.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378 - In case of fire: Use ... to extinguish.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%
LITHIUM (METAL) Extra Pure	(CAS-No.) 7439-93-2 (EC-No.) 231-102-5	100

Full text of R- and 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 after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

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First-aid measures after skin contact	: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.

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

Symptoms/effects : Causes severe skin burns and eye damage.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Dry powder.
Unsuitable extinguishing media : Do not use extinguishing media containing water.

5.2. Special hazards arising from the substance or mixture

Fire hazard : In case of fire, use sand - Never use water.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel. No flames, no sparks. Eliminate all sources of ignition.

6.1.2. For emergency responders

Protective equipment : Use personal protective equipment as required.

6.2. Environmental precautions

Do not allow water (or moist air) contact with this material.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Collect spillage. On land, sweep or shovel into suitable containers. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Do not allow contact with water.
Precautions for safe handling : Protect from moisture. Handle under inert gas. Do not breathe dust/fume/gas/mist/vapours/spray.
Hygiene measures : Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a dry place. Protect from moisture. Store in dry protected location to prevent any moisture contact.
Incompatible materials : Do not allow contact with water.

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7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection	: protective gloves
Eye protection	: Chemical goggles or face shield
Skin and body protection	: Wear suitable protective clothing
Respiratory protection	: Wear appropriate mask

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Molecular mass	: 6.94 g/mol
Colour	: silver white.
Odour	: odourless.
Odour threshold	: No data available
pH	: 12
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 180.5 °C
Freezing point	: No data available
Boiling point	: 1317 °C
Flash point	: No data available
Auto-ignition temperature	: 179 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: In contact with water releases flammable gases which may ignite spontaneously.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.5 g/cm ³
Solubility	: Water: Reacts violently with water
Log Pow	: No data available

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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

Corrosive vapours. Reacts violently with water.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

In contact with water releases flammable gases which may ignite spontaneously. Highly reactive material. Reacts violently with water.

10.4. Conditions to avoid

Moisture. Water, humidity.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 12
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 12
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Do not allow water (or moist air) contact with this material.

SECTION 14: Transport information

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

14.1. UN number

UN-No. (ADR) : 1415

UN-No. (IMDG) : 1415

UN-No. (IATA) : 1415

UN-No. (ADN) : 1415

UN-No. (RID) : 1415

14.2. UN proper shipping name

Proper Shipping Name (ADR) : LITHIUM

Proper Shipping Name (IMDG) : LITHIUM

Proper Shipping Name (IATA) : Lithium

Proper Shipping Name (ADN) : LITHIUM

Proper Shipping Name (RID) : LITHIUM

Transport document description (ADR) : UN 1415 LITHIUM, 4.3, I, (B/E)

Transport document description (IMDG) : UN 1415 LITHIUM, 4.3, I

Transport document description (IATA) : UN 1415 Lithium, 4.3, I

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Transport document description (ADN) : UN 1415 LITHIUM, 4.3, I

Transport document description (RID) : UN 1415 LITHIUM, 4.3, I

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 4.3

Danger labels (ADR) : 4.3



IMDG

Transport hazard class(es) (IMDG) : 4.3

Danger labels (IMDG) : 4.3



IATA

Transport hazard class(es) (IATA) : 4.3

Hazard labels (IATA) : 4.3



ADN

Transport hazard class(es) (ADN) : 4.3

Danger labels (ADN) : 4.3



RID

Transport hazard class(es) (RID) : 4.3

Danger labels (RID) : 4.3



14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

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Packing group (ADN) : I
Packing group (RID) : I

14.5. Environmental hazards

Dangerous for the environment : No
Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : W2
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P403, IBC04
Mixed packing provisions (ADR) : MP2
Tank code (ADR) : L10BN(+)
Tank special provisions (ADR) : TU1, TE5, TT3, TM2
Vehicle for tank carriage : AT
Transport category (ADR) : 1
Special provisions for carriage - Packages (ADR) : V1
Special provisions for carriage - Loading, unloading and handling (ADR) : CV23
Special provisions for carriage - Operation (ADR) : S20
Hazard identification number (Kemler No.) : X423
Orange plates :



Tunnel restriction code (ADR) : B/E
EAC code : 4W

- Transport by sea

Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P403
Special packing provisions (IMDG) : PP31
IBC packing instructions (IMDG) : IBC04
IBC special provisions (IMDG) : B1
EmS-No. (Fire) : F-G
EmS-No. (Spillage) : S-N
Stowage category (IMDG) : E
Stowage and handling (IMDG) : H1
Segregation (IMDG) : SG35, SG26
MFAG-No : 138

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden
PCA limited quantity max net quantity (IATA) : Forbidden
PCA packing instructions (IATA) : Forbidden
PCA max net quantity (IATA) : Forbidden

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CAO packing instructions (IATA)	: 487
CAO max net quantity (IATA)	: 15kg
Special provisions (IATA)	: A1
ERG code (IATA)	: 4W

- Inland waterway transport

Classification code (ADN)	: W2
Limited quantities (ADN)	: 0
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Provisions for handling and stowage of the cargo (ADN)	: HA08
Number of blue cones/lights (ADN)	: 0

- Rail transport

Classification code (RID)	: W2
Limited quantities (RID)	: 0
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P403, IBC04
Mixed packing provisions (RID)	: MP2
Tank codes for RID tanks (RID)	: L10BN(+)
Special provisions for RID tanks (RID)	: TU1, TE5, TT3, TM2
Transport category (RID)	: 1
Special provisions for carriage – Packages (RID)	: W1
Special provisions for carriage - Loading, unloading and handling (RID)	: CW23
Hazard identification number (RID)	: X423

14.7. Transport in bulk according to Annex II of MARPOL 73/78 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 (METAL) Extra Pure is not on the REACH Candidate List

LITHIUM (METAL) Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, Slightly hazardous to water (Classification according to AwSV; ID No. 7195)

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

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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 : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed
NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Full text of R-, H- and EUH-statements:

Skin Corr. 1B	Skin corrosion/irritation, Category 1B
Water-react. 1	Substances and Mixtures which, in contact with water, emit flammable gases, Category 1
H260	In contact with water releases flammable gases which may ignite spontaneously.
H314	Causes severe skin burns and eye damage.
R14/15	Reacts violently with water, liberating extremely flammable gases
R34	Causes burns
C	Corrosive
F	Highly flammable

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