

according to Regulation (EC) No 1907/2006

Lithiumsulfat-Monohydrat technisch

Revision: 24.06.2024

Product code: 34170

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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Substance name: sulfuric acid, dilithium salt, monohydrate
CAS No: 10102-25-7
EC No: 233-820-4

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

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
ACD
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
Telefax: 0203/5194-290
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
Telephone: 0203/5194-107/117
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Regulation (EC) No 1272/2008**

Acute Tox. 4; H302
Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

2.2. Label elements**Regulation (EC) No 1272/2008**

Signal word: Warning

Pictograms:

**Hazard statements**

H302 Harmful if swallowed.

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H319 Causes serious eye irritation.

Precautionary statements

P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing and eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/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.
P330 Rinse mouth.
P337+P313 If eye irritation persists: Get medical advice/attention.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients**3.1. Substances**

Sum formula: $\text{Li}_2\text{SO}_4 \cdot \text{H}_2\text{O}$
Molecular weight: 128 g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
10102-25-7	sulfuric acid, dilithium salt, monohydrate			100 %
	233-820-4			
	Acute Tox. 4, Eye Irrit. 2; H302 H319			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
10102-25-7	233-820-4	sulfuric acid, dilithium salt, monohydrate	100 %
	inhalation: LC50 = > 2 mg/l (dusts or mists); dermal: LD50 = > 3000 mg/kg; oral: LD50 = 613 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Self-protection of the first aider

After inhalation

Provide fresh air.
Call a doctor if you feel unwell.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.
Call a doctor if you feel unwell.

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After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.
Protect uninjured eye.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Dizziness
Liver and kidney damage
Gastrointestinal complaints
Vomiting

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

No data available

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids
Hazardous combustion products
In case of fire may be liberated:
Sulphur oxides
Lithiumoxide

5.3. Advice for firefighters

Do not inhale explosion and combustion gases.
In case of fire: Wear self-contained breathing apparatus.

Additional information

Suppress gases/vapours/mists with water spray jet.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Avoid dust formation. Do not breathe dust.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

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For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up**For containment**

Cover drains. Prevent spread over a wide area (e.g. by containment or oil barriers). Take up dust-free and set down dust-free. Collect in closed and suitable containers for disposal.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Read label before use.

Handle and open container with care.

Avoid dust formation.

Do not breathe dust.

When using do not eat, drink, smoke, sniff.

Keep container tightly closed.

Use personal protection equipment.

Provide adequate ventilation.

Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed.

Hints on joint storage

national regulations

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Further information on storage conditions

Store in a dry place.
Protect against: Humidity

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****DNEL/DMEL values**

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
10102-25-7	sulfuric acid, dilithium salt, monohydrate			
Worker DNEL, long-term		inhalation	systemic	10 mg/m³
Worker DNEL, long-term		dermal	systemic	95 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	10 mg/m³
Consumer DNEL, long-term		dermal	systemic	95 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	9,5 mg/kg bw/day

PNEC values

CAS No	Substance	
Environmental compartment	Value	
10102-25-7	sulfuric acid, dilithium salt, monohydrate	
Freshwater	13,5 mg/l	
Freshwater (intermittent releases)	13,5 mg/l	
Marine water	1,35 mg/l	
Freshwater sediment	350,1 mg/kg	
Marine sediment	35,01 mg/kg	
Micro-organisms in sewage treatment plants (STP)	182 mg/l	
Soil	64,77 mg/kg	

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Avoid dust formation. Do not breathe dust.

Individual protection measures, such as personal protective equipment**Eye/face protection**

goggles
Wear eye protection/face protection.

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact
Trade name/designation: KCL 741 Dermatril® L

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Suitable material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Suitable material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Take off immediately all contaminated clothing.
Wash hands before breaks and after work.
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: dust formation
Filtering device with filter or ventilator filtering device of type: P2
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Thermal hazards

No data available

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state:	solid	
Colour:	white	
Odour:	odourless	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		No data available
Flammability:		No data available
Lower explosion limits:		No data available
Upper explosion limits:		No data available
Flash point:		X
Auto-ignition temperature:		No data available
Decomposition temperature:		No data available
pH-Value (at 25 °C):		5-7 (128 g/l)
Viscosity / kinematic:		No data available
Water solubility: (at 20 °C)		128 g/l

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Solubility in other solvents

No data available

Dissolution rate:

No data available

Partition coefficient n-octanol/water:

No data available

Dispersion stability:

No data available

Vapour pressure:

No data available

Vapour pressure:

No data available

Density:

2,06 g/cm³

Relative density:

No data available

Bulk density:

~940 kg/m³

Relative vapour density:

No data available

Particle characteristics:

No data available

9.2. Other information**Information with regard to physical hazard classes**

Explosive properties

No data available

Sustained combustibility:

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:

No data available

Solvent separation test:

No data available

Solvent content:

0

Solid content:

100%

Sublimation point:

No data available

Softening point:

No data available

Pour point:

No data available

No data available:

Viscosity / dynamic:

No data available

Flow time:

No data available

Further Information

No data available

SECTION 10: Stability and reactivity**10.1. Reactivity**

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent, strong

10.4. Conditions to avoid

Humidity

10.5. Incompatible materials

No data available

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10.6. Hazardous decomposition products

In case of fire may be liberated:

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****Toxicokinetics, metabolism and distribution**

No data available

Acute toxicity

Harmful if swallowed.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
10102-25-7	sulfuric acid, dilithium salt, monohydrate				
	oral	LD50 613 mg/kg	Rat	Environ. I Health Persp. 106, Suppl. 2,	Only handbook or published data availabl
	dermal	LD50 > 3000 mg/kg	Rabbit	Study report (1976)	OECD Guideline 402
	inhalation (4 h) dust/mist	LC50 > 2 mg/l	Rat	Study report (1988)	OECD Guideline 403

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

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Endocrine disrupting properties

not relevant

Other information

Grosse Dosen: Schwindel und Entkräftung;

Bei Einschränkung der Natriumaufnahme: Nierenschäden;

Dehydration

Gewichtsverlust

dermatologische Auswirkungen

Schilddrüsenstörungen

Auswirkungen auf das Zentralnervensystem: undeutliche Sprache, verschwommene Sicht, Gefühlsverlust, Ataxie und Konvulsionen;

Durchfall

Erbrechen

neuromuskuläre Auswirkungen: Zittern, Clonus und hyperaktive Reflexe;

Gemäss unseren Kenntnissen sind die chemischen, physikalischen und toxikologischen Eigenschaften nicht umfassend untersucht worden.

Further information

No data available

SECTION 12: Ecological information**12.1. Toxicity**

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

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
10102-25-7	sulfuric acid, dilithium salt, monohydrate					
	Acute fish toxicity	LC50 30,3 mg/l	96 h	Oncorhynchus mykiss	REACH Registration Dossier	OECD Guideline 203
	Acute algae toxicity	ErC50 > 400 mg/l	72 h	Desmodesmus subspicatus	REACH Registration Dossier	OECD Guideline 201
	Acute crustacea toxicity	EC50 33,2 mg/l	48 h	Daphnia magna	REACH Registration Dossier	OECD Guideline 202
	Fish toxicity	NOEC 17,35 mg/l	34 d	Danio rerio	REACH Registration Dossier	OECD Guideline 210
	Crustacea toxicity	NOEC 1,7 mg/l	21 d	Daphnia magna	REACH Registration Dossier	OECD Guideline 211
	Acute bacteria toxicity	EC50 180,8 mg/l ()	3 h	activated sludge, domestic	REACH Registration Dossier	EU Method C.11

12.2. Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3. Bioaccumulative potential

No data available

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BCF

CAS No	Chemical name	BCF	Species	Source
10102-25-7	sulfuric acid, dilithium salt, monohydrate	11,42	Maize	REACH Registration D

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

No data available

Further information

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1. Waste treatment methods**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not allow to enter into surface water or drains.

Contaminated packaging

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Land transport (ADR/RID)

- 14.1. UN number or ID number:**
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

- 14.1. UN number or ID number:**
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

- 14.1. UN number or ID number:**
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

- 14.1. UN number or ID number:**
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.
No dangerous good in sense of this transport regulation.

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14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulatory information**

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,7,8,9,10,11,12,14,15.

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4

Eye Irrit. 2: Eye irritation, hazard category 2

Relevant H and EUH statements (number and full text)

H302 Harmful if swallowed.

H319 Causes serious eye irritation.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.