



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Lithium hydroxide (LiOH), anhydrous
Identification number 215-183-4 (EC number)
Registration number -
Document number 1MS
Synonyms None.
Materion Code 1MS
Issue date 24-June-2019
Revision date 21-October-2019

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Laura Hamilton

1.4. Emergency telephone number

Supersedes date 24-June-2019
Version number 02

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

Identified uses Not available.
Uses advised against None known.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1

H314 - Causes severe skin burns and eye damage.

Hazard summary Harmful if swallowed.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Lithium hydroxide

Hazard pictograms



Signal word Danger

Hazard statements

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.

Precautionary statements

Prevention Not available.

Response

P301 + P312
P305 + P351 + P338

If swallowed: Call a poison centre/doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Wash contaminated clothing before reuse.

P363

Storage

Not available.

Disposal

P501

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

Supplemental label information

None.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

| Chemical name | % | CAS-No. / EC No. | REACH Registration No. | Index No. | Notes |
|------------------------|---------------------------------------|------------------------|------------------------|-----------|-------|
| Lithium hydroxide | 100 | 1310-65-2 215-183-4 | - | - | |
| Classification: | Acute Tox. 4;H302, Skin Corr. 1B;H314 | | | | |

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation

Not available.

Skin contact

Wash off with soap and water. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.

Ingestion

Rinse mouth.

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

Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

Keep victim under observation.

SECTION 5: Firefighting measures

General fire hazards

No unusual fire or explosion hazards noted.

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

None known.

5.2. Special hazards arising from the substance or mixture

Irritating, corrosive and/or toxic gases or fumes will be released during a fire.

5.3. Advice for firefighters

Special protective equipment for firefighters

Not available.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders

Keep unnecessary personnel away.

6.2. Environmental precautions

No special environmental precautions required.

6.3. Methods and material for containment and cleaning up Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections Not available.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store in original tightly closed container.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

| Material | Type | Value |
|-----------------------------------|------|---------------------|
| Lithium hydroxide (CAS 1310-65-2) | STEL | 1 mg/m ³ |

Ireland. Occupational Exposure Limits

| Material | Type | Value |
|-----------------------------------|------|---------------------|
| Lithium hydroxide (CAS 1310-65-2) | STEL | 1 mg/m ³ |

Sweden. OELs. Work Environment Authority (AV), Occupational Exposure Limit Values (AFS 2015:7)

| Material | Type | Value | Form |
|-----------------------------------|---------|------------------------|-----------------|
| Lithium hydroxide (CAS 1310-65-2) | Ceiling | 0,02 mg/m ³ | Inhalable dust. |

UK. EH40 Workplace Exposure Limits (WELs)

| Material | Type | Value |
|-----------------------------------|------|---------------------|
| Lithium hydroxide (CAS 1310-65-2) | STEL | 1 mg/m ³ |

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

- Hand protection Wear appropriate chemical resistant gloves.

| | |
|--|---|
| - Other | Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment. |
| Respiratory protection | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. |
| Hygiene measures | Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |
| Environmental exposure controls | Environmental manager must be informed of all major releases. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

| | |
|---|---------------------------------|
| Physical state | Solid. |
| Form | Solid. |
| Colour | Not available. |
| Odour | Not available. |
| Odour threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |
| Initial boiling point and boiling range | Not available. |
| Flash point | Not available. |
| Evaporation rate | Not available. |
| Flammability (solid, gas) | Not available. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Vapour pressure | < 0,0000001 kPa (25 °C (77 °F)) |
| Vapour density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |
| 9.2. Other information | |
| Molecular formula | HLiO |
| Molecular weight | 23,95 g/mol |

SECTION 10: Stability and reactivity

| | |
|---|---|
| 10.1. Reactivity | Not available. |
| 10.2. Chemical stability | Material is stable under normal conditions. |
| 10.3. Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| 10.4. Conditions to avoid | Contact with incompatible materials. |
| 10.5. Incompatible materials | None known. |
| 10.6. Hazardous decomposition products | No hazardous decomposition products are known. |

SECTION 11: Toxicological information

| | |
|---|---|
| General information | Occupational exposure to the substance or mixture may cause adverse effects. |
| Information on likely routes of exposure | |
| Inhalation | Prolonged inhalation may be harmful. |
| Skin contact | Due to lack of data the classification is not possible. |
| Eye contact | Due to lack of data the classification is not possible. |
| Ingestion | Due to lack of data the classification is not possible. |
| Symptoms | Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |

11.1. Information on toxicological effects

| | |
|--|---|
| Acute toxicity | Not known. |
| Skin corrosion/irritation | Due to lack of data the classification is not possible. |
| Serious eye damage/eye irritation | Due to lack of data the classification is not possible. |
| Respiratory sensitisation | Due to partial or complete lack of data the classification is not possible. |
| Skin sensitisation | Due to partial or complete lack of data the classification is not possible. |
| Germ cell mutagenicity | Due to partial or complete lack of data the classification is not possible. |
| Carcinogenicity | Due to partial or complete lack of data the classification is not possible. |
| Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended) | |
| Not listed. | |
| Reproductive toxicity | Due to partial or complete lack of data the classification is not possible. |
| Specific target organ toxicity - single exposure | Due to partial or complete lack of data the classification is not possible. |
| Specific target organ toxicity - repeated exposure | Due to partial or complete lack of data the classification is not possible. |
| Aspiration hazard | Due to partial or complete lack of data the classification is not possible. |
| Mixture versus substance information | No information available. |
| Other information | This product has no known adverse effect on human health. |

SECTION 12: Ecological information

| | |
|--|---|
| 12.1. Toxicity | Due to partial or complete lack of data the classification for hazardous to the aquatic environment, is not possible. |
| 12.2. Persistence and degradability | No data is available on the degradability of this product. |
| 12.3. Bioaccumulative potential | No data available. |
| Partition coefficient n-octanol/water (log Kow) | Not available. |
| Bioconcentration factor (BCF) | Not available. |
| 12.4. Mobility in soil | No data available. |
| 12.5. Results of PBT and vPvB assessment | Not a PBT or vPvB substance or mixture. |
| 12.6. Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|-------------------------------------|--|
| Residual waste | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. |
| EU waste code | Not available. |
| Disposal methods/information | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Special precautions | Dispose in accordance with all applicable regulations. |

SECTION 14: Transport information

ADR

| | |
|---|-------------------|
| 14.1. UN number | UN2680 |
| 14.2. UN proper shipping name | Lithium hydroxide |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| Hazard No. (ADR) | Not available. |
| Tunnel restriction code | Not available. |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

RID

| | |
|---|-------------------|
| 14.1. UN number | UN2680 |
| 14.2. UN proper shipping name | Lithium hydroxide |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

ADN

| | |
|---|-------------------|
| 14.1. UN number | UN2680 |
| 14.2. UN proper shipping name | Lithium hydroxide |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| Label(s) | 8 |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not available. |

IATA

| | |
|---|----------------------------|
| 14.1. UN number | UN2680 |
| 14.2. UN proper shipping name | Lithium hydroxide |
| 14.3. Transport hazard class(es) | |
| Class | 8 |
| Subsidiary risk | - |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| ERG Code | 8L |
| 14.6. Special precautions for user | Not available. |
| Other information | |
| Passenger and cargo aircraft | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

IMDG

| | |
|--------------------------------------|-------------------|
| 14.1. UN number | UN2680 |
| 14.2. UN proper shipping name | LITHIUM HYDROXIDE |

14.3. Transport hazard class(es)

Class 8

Subsidiary risk -

14.4. Packing group II

14.5. Environmental hazards

Marine pollutant No.

EmS F-A, S-B

14.6. Special precautions for user Not available.

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information**List of abbreviations**

Not available.

References

Not available.

Training information

Follow training instructions when handling this material.

Disclaimer

Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.