SAFETY DATA SHEET

SILL420 / SILL440

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

1.1 Product identifier:
   Product name: SILL420 / SILL440
   Registration number REACH: Not applicable (mixture)
   Product type REACH: Mixture

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

   1.2.1 Relevant identified uses
       Binding agent
       Coating
       Paint
       Surface treatment product

   1.2.2 Uses advised against
       No uses advised against known

1.3 Details of the supplier of the safety data sheet:
   Supplier of the safety data sheet
   SILMACO nv
   Industrieweg 90
   B-3620 Lanaken
   ☎ +32 89 73 02 22
   ☏ +32 89 72 27 24
   info@silmaco.com

1.4 Emergency telephone number:
   During business hours, 8:00-17:00:
   +32 89 73 02 22

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:
   Classified as dangerous according to the criteria of Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Class</th>
<th>Category</th>
<th>Hazard statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin Corr.</td>
<td>category 1B</td>
<td>H314: Causes severe skin burns and eye damage.</td>
</tr>
</tbody>
</table>

2.2 Label elements:

   Contains: Lithium hydroxide, monohydrate.
   Signal word: Danger
   H-statements:
     H314: Causes severe skin burns and eye damage.
   P-statements:
     P280: Wear protective gloves, protective clothing and eye protection/face protection.
     P260: Do not breathe vapours/mist.
     P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
     P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
     P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
     P310: Immediately call a POISON CENTER/doctor.

2.3 Other hazards:
   No other hazards known

SECTION 3: Composition/information on ingredients

Created by: Brandweerinformatiecentrum voor gevaarlijke stoffen vzw (BIG)
Technische Schoolstraat 43 A, B-2440 Geel
http://www.big.be
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Revision number: 0000

Publication date: 2018-04-25

Product number: 56305
3.1 Substances:
Not applicable

3.2 Mixtures:

<table>
<thead>
<tr>
<th>Name</th>
<th>REACH Registration No</th>
<th>CAS No</th>
<th>EC No</th>
<th>Conc. (C)</th>
<th>Classification according to CLP</th>
<th>Note</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Constituent</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Constituent</td>
</tr>
</tbody>
</table>

(1) For H-statements in full: see heading 16
(2) Substance with a Community workplace exposure limit

SECTION 4: First aid measures

4.1 Description of first aid measures:

General:

After inhalation:
Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

After skin contact:
Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. If burned surface > 10%: take victim to hospital.

After eye contact:
Rinse immediately with plenty of water for 15 minutes. Do not apply neutralizing agents. Take victim to an ophthalmologist.

After ingestion:
Rinse mouth with water. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service.

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

4.2.1 Acute symptoms
After inhalation:
No effects known.

After skin contact:
Caustic burns/corrosion of the skin.

After eye contact:
Corrosion of the eye tissue.

After ingestion:
Vomiting, Burns to the gastric/intestinal mucosa. Possible esophageal perforation.

4.2.2 Delayed symptoms
No effects known.

4.3 Indication of any immediate medical attention and special treatment needed:
If applicable and available it will be listed below.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

5.1.1 Suitable extinguishing media:
Adapt extinguishing media to the environment.

5.1.2 Unsuitable extinguishing media:
No unsuitable extinguishing media known.

5.2 Special hazards arising from the substance or mixture:

5.3 Advice for firefighters:

5.3.1 Instructions:
Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water. Take account of toxic/corrosive precipitation water.

5.3.2 Special protective equipment for fire-fighters:
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:
No naked flames. Large spills/in confined spaces: consider evacuation.

6.1.1 Protective equipment for non-emergency personnel
See heading 8.2

6.1.2 Protective equipment for emergency responders

Suitable protective clothing
See heading 8.2

6.2 Environmental precautions:
Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Take account of toxic/corrosive precipitation water. Prevent soil and water pollution. Prevent spreading in sewers.

6.3 Methods and material for containment and cleaning up:
Take up liquid spill into absorbent material, e.g.: sand. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

6.4 Reference to other sections:
See heading 13.

SECTION 7: Handling and storage
The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

7.1 Precautions for safe handling:
Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Remove contaminated clothing immediately. Do not discharge the waste into the drain.

7.2 Conditions for safe storage, including any incompatibilities:

7.2.1 Safe storage requirements:
Storage temperature: <50 °C. Protect against frost. Keep locked up. Unauthorized persons are not admitted. Meet the legal requirements.

7.2.2 Keep away from:
Heat sources, (strong) acids, metals.

7.2.3 Suitable packaging material:
Steel, HDPE.

7.2.4 Non suitable packaging material:
Zinc, tin, aluminium, copper.

7.3 Specific end use(s):
If applicable and available, exposure scenarios are attached in annex. See information supplied by the manufacturer.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

8.1.1 Occupational exposure
a) Occupational exposure limit values
If limit values are applicable and available these will be listed below.

<table>
<thead>
<tr>
<th>Country</th>
<th>Substance</th>
<th>Exposure Limit</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Silice amorphes : silice fondue SID2 (poussières alvéolaires)</td>
<td>Time-weighted average exposure limit 8 h</td>
<td>0.1 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Silices amorphes : terre de diatomées, non calcinées (fraction inhalable)</td>
<td>Time-weighted average exposure limit 8 h</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Silices amorphes : fumées (fraction alvéolaire)</td>
<td>Time-weighted average exposure limit 8 h</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Germany</td>
<td>Kieselsäuren, amorphe</td>
<td>Time-weighted average exposure limit 8 h (TRGS 900)</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td>UK</td>
<td>Silica, amorphous inhalable dust</td>
<td>Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))</td>
<td>6 mg/m³</td>
</tr>
</tbody>
</table>

Publication date: 2018-04-25
Silica, amorphous respirable dust

Time-weighted average exposure limit 8 h (Workplace exposure limit (EH40/2005))

2.4 mg/m³

b) National biological limit values
If limit values are applicable and available these will be listed below.

8.1.2 Sampling methods
If applicable and available it will be listed below.

Silica, Amorphous (Respirable) NIOSH 7501

8.1.3 Applicable limit values when using the substance or mixture as intended
If limit values are applicable and available these will be listed below.

8.1.4 DNEL/PNEC values

DNEL - Workers

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
<th>Effect level (DNEL/DMEL)</th>
<th>Type</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>silicon dioxide</td>
<td>4 mg/m³</td>
<td>DNEL</td>
<td>Long-term systemic effects inhalation</td>
<td></td>
</tr>
</tbody>
</table>

Lithium hydroxide, monohydrate

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
<th>Effect level (DNEL/DMEL)</th>
<th>Type</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long-term systemic effects inhalation</td>
<td>10 mg/m³</td>
<td>DNEL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute systemic effects inhalation</td>
<td>30 mg/m³</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long-term systemic effects dermal</td>
<td>41.35 mg/kg bw/day</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute systemic effects dermal</td>
<td>100 mg/kg bw/day</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DNEL - General population

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
<th>Effect level (DNEL/DMEL)</th>
<th>Type</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>lithium hydroxide, monohydrate</td>
<td></td>
<td>DNEL</td>
<td>Long-term systemic effects inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute systemic effects inhalation</td>
<td>18.63 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long-term systemic effects dermal</td>
<td>41.35 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute systemic effects dermal</td>
<td>50 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Long-term systemic effects oral</td>
<td>4.13 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Acute systemic effects oral</td>
<td>12.4 mg/kg bw/day</td>
</tr>
</tbody>
</table>

PNEC

<table>
<thead>
<tr>
<th>Substance</th>
<th>Value</th>
<th>Compartments</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>lithium hydroxide, monohydrate</td>
<td></td>
<td>Fresh water</td>
<td>2.3 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0.23 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aqua (intermittent releases)</td>
<td>0.344 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STP</td>
<td>79.2 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fresh water sediment</td>
<td>9 mg/kg sediment dw</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water sediment</td>
<td>0.9 mg/kg sediment dw</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>0.45 mg/kg soil dw</td>
</tr>
</tbody>
</table>

8.1.5 Control banding
If applicable and available it will be listed below.

8.2 Exposure controls:
The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

8.2.1 Appropriate engineering controls
Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

8.2.2 Individual protection measures, such as personal protective equipment
Observe strict hygiene. Keep container tightly closed. Do not eat, drink or smoke during work.

a) Respiratory protection:
High gas/vapour concentration: gas mask with filter type B.

b) Hand protection:
Gloves.
- materials (good resistance)
  PVC, latex, rubber.

c) Eye protection:
Face shield.

d) Skin protection:
Corrosion-proof clothing.

8.2.3 Environmental exposure controls:
See headings 6.2, 6.3 and 13
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless</td>
</tr>
<tr>
<td>Particle size</td>
<td>Not applicable (liquid)</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>Non combustible</td>
</tr>
<tr>
<td>Log Kow</td>
<td>Not applicable (mixture)</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>23 mPa.s ; 20 °C</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point</td>
<td>0 °C - 12 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>100 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>23 hPa</td>
</tr>
<tr>
<td>Solubility</td>
<td>water ; soluble</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.1 - 1.3</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No chemical group associated with explosive properties</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>No chemical group associated with oxidising properties</td>
</tr>
<tr>
<td>pH</td>
<td>10 - 12 ; 1 %</td>
</tr>
</tbody>
</table>

9.2 Other information:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute density</td>
<td>1100 kg/m³ - 1300 kg/m³</td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

10.1 Reactivity:

Substance has basic reaction.

10.2 Chemical stability:

No data available.

10.3 Possibility of hazardous reactions:

Reacts exothermically with (some) acids.

10.4 Conditions to avoid:

Keep away from naked flames/heat.

10.5 Incompatible materials:

(strong) acids, metals.

10.6 Hazardous decomposition products:

Reacts with (some) metals: release of highly flammable gases/vapours (hydrogen) with (increased) risk of fire/explosion.

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

11.1.1 Test results

Acute toxicity

SILL420 / SILL440

No (test)data on the mixture available

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Exposure time</th>
<th>Species</th>
<th>Value determination</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>&gt; 10000 mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>&gt; 5000 mg/kg</td>
<td>Rabbit</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SILL420 / SILL440**

**Lithium hydroxide, monohydrate**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Exposure time</th>
<th>Species</th>
<th>Value determination</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td></td>
<td>368 mg/kg bw</td>
<td>Rat (female)</td>
<td>Experimental value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>LD50</td>
<td></td>
<td>491 mg/kg bw</td>
<td>Rat (male)</td>
<td>Experimental value</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>OECD 402</td>
<td>&gt; 2000 mg/kg bw</td>
<td>Rat (male/female)</td>
<td>Read-across</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inhalation (dust)</td>
<td>LC50</td>
<td>OECD 403</td>
<td>&gt; 6.15 mg/l</td>
<td>4 h</td>
<td>Rat (male/female)</td>
<td>Experimental value</td>
<td></td>
</tr>
</tbody>
</table>

Judgement is based on the relevant ingredients.

**Conclusion**

Not classified for acute toxicity.

**Corrosion/Irritation**

**SILL420 / SILL440**

No (test)data on the mixture available.

**Lithium hydroxide, monohydrate**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Result</th>
<th>Method</th>
<th>Exposure time</th>
<th>Time point</th>
<th>Species</th>
<th>Value determination</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye</td>
<td>Serious eye damage; category 1</td>
<td>Literature study</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable (in vitro test)</td>
<td>Corrosive</td>
<td>In vitro skin irritation/corrosion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification is based on the relevant ingredients.

**Conclusion**

Causes severe skin burns and eye damage.

**Respiratory or skin sensitisation**

**SILL420 / SILL440**

No (test)data on the mixture available.

**Lithium hydroxide, monohydrate**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Result</th>
<th>Method</th>
<th>Exposure time</th>
<th>Observation time point</th>
<th>Species</th>
<th>Value determination</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>Not sensitizing</td>
<td>OECD 406</td>
<td></td>
<td>Guinea pig (male/female)</td>
<td>Read-across</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Judgement is based on the relevant ingredients.

**Conclusion**

Not classified as sensitizing for skin.

**Specific target organ toxicity**

**SILL420 / SILL440**

No (test)data on the mixture available.

**Lithium hydroxide, monohydrate**

<table>
<thead>
<tr>
<th>Route of exposure</th>
<th>Parameter</th>
<th>Method</th>
<th>Value</th>
<th>Organ</th>
<th>Effect</th>
<th>Exposure time</th>
<th>Species</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>NOAEL</td>
<td></td>
<td>84 mg/kg bw/day</td>
<td></td>
<td>No effect</td>
<td>2 year(s)</td>
<td>Rat (female)</td>
<td>Read-across</td>
</tr>
</tbody>
</table>

Judgement is based on the relevant ingredients.

**Conclusion**

Not classified for subchronic toxicity.

**Mutagenicity (in vitro)**

**SILL420 / SILL440**

No (test)data on the mixture available.

**Lithium hydroxide, monohydrate**

<table>
<thead>
<tr>
<th>Result</th>
<th>Method</th>
<th>Test substrate</th>
<th>Effect</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>OECD 473</td>
<td>Human lymphocytes</td>
<td>No effect</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Negative</td>
<td>OECD 476</td>
<td>Mouse (lymphoma L5178Y cells)</td>
<td>No effect</td>
<td>Experimental value</td>
</tr>
<tr>
<td>Negative</td>
<td>OECD 471</td>
<td>Bacteria (S. typhimurium)</td>
<td>No effect</td>
<td>Experimental value</td>
</tr>
</tbody>
</table>

**Mutagenicity (in vivo)**

**SILL420 / SILL440**

No (test)data on the mixture available.
Carcinogenicity

**SILL420 / SILL440**

No (test)data on the mixture available

Reproductive toxicity

**SILL420 / SILL440**

No (test)data on the mixture available

lithium hydroxide, monohydrate

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Value Description</th>
<th>Exposure time</th>
<th>Species</th>
<th>Effect</th>
<th>Organ</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental toxicity</td>
<td>NOAEL (P)</td>
<td>OECD 414</td>
<td>34.1 mg/kg bw/day</td>
<td>2 weeks (daily)</td>
<td>Rat (female)</td>
<td>Maternal toxicity</td>
<td>Read-across</td>
</tr>
<tr>
<td></td>
<td>NOAEL (F1)</td>
<td>OECD 414</td>
<td>102 mg/kg bw/day</td>
<td>2 weeks (daily)</td>
<td>Rat (male/female)</td>
<td>Embryotoxicity</td>
<td>Read-across</td>
</tr>
</tbody>
</table>

Judgement is based on the relevant ingredients

**Conclusion CMR**

Not classified for carcinogenicity
Not classified for mutagenic or genotoxic toxicity
Not classified for reprotoxic or developmental toxicity

Toxicity other effects

**SILL420 / SILL440**

No (test)data on the mixture available

Chronic effects from short and long-term exposure

**SILL420 / SILL440**

No effects known.

**SECTION 12: Ecological information**

12.1 Toxicity:

**SILL420 / SILL440**

No (test)data on the mixture available

**silicon dioxide**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Method</th>
<th>Value Description</th>
<th>Duration</th>
<th>Species</th>
<th>Test design</th>
<th>Fresh/salt water</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity fishes</td>
<td>LC50</td>
<td>&gt; 10000 mg/l</td>
<td>96 h</td>
<td>Brachydaniio rerio</td>
<td>Static system</td>
<td>Fresh water</td>
<td>Experimental value; Lethal</td>
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<tr>
<td>Acute toxicity invertebrates</td>
<td>EC50</td>
<td>&gt; 10000 mg/l</td>
<td>24 h</td>
<td>Daphnia magna</td>
<td>Static system</td>
<td>Fresh water</td>
<td>Calculated value; pH &gt; 7</td>
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<tr>
<td>Toxicity algae and other aquatic plants</td>
<td>EC50</td>
<td>440 mg/l</td>
<td>72 h</td>
<td>Selenastrum capricornutum</td>
<td>Static system</td>
<td>Fresh water</td>
<td>Experimental value; Biomass</td>
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**lithium hydroxide, monohydrate**

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<th>Parameter</th>
<th>Method</th>
<th>Value Description</th>
<th>Duration</th>
<th>Species</th>
<th>Test design</th>
<th>Fresh/salt water</th>
<th>Value determination</th>
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<tr>
<td>Acute toxicity fishes</td>
<td>LC50</td>
<td>109 mg/l</td>
<td>96 h</td>
<td>Danio rerio</td>
<td>Static system</td>
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<td>Acute toxicity invertebrates</td>
<td>EC50</td>
<td>33.5 mg/l</td>
<td>48 h</td>
<td>Daphnia magna</td>
<td>Static system</td>
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<tr>
<td>Toxicity algae and other aquatic plants</td>
<td>EC50</td>
<td>41.62 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriea subcapitata</td>
<td>Static system</td>
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<td>Experimental value; Growth rate</td>
</tr>
<tr>
<td></td>
<td>EC50</td>
<td>151.44 mg/l</td>
<td>72 h</td>
<td>Pseudokirchneriea subcapitata</td>
<td>Static system</td>
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<td>Experimental value; Growth rate</td>
</tr>
<tr>
<td>Long-term toxicity fish</td>
<td>NOEC</td>
<td>1.19 mg/l</td>
<td>26 day(s)</td>
<td>Pimephales promelas</td>
<td>Flow-through system</td>
<td>Fresh water</td>
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<tr>
<td></td>
<td>LOEC</td>
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<td>26 day(s)</td>
<td>Pimephales promelas</td>
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<tr>
<td>Long-term toxicity aquatic invertebrates</td>
<td>NOEC</td>
<td>4 mg/l</td>
<td>21 day(s)</td>
<td>Daphnia magna</td>
<td>Semi-static system</td>
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<tr>
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<td>LOEC</td>
<td>8 mg/l</td>
<td>21 day(s)</td>
<td>Daphnia magna</td>
<td>Semi-static system</td>
<td>Fresh water</td>
<td>Experimental value; Reproduction</td>
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<td>Toxicity aquatic micro-organisms</td>
<td>EC10</td>
<td>138.8 mg/l</td>
<td>3 h</td>
<td>Activated sludge</td>
<td>Static system</td>
<td>Fresh water</td>
<td>Calculated value</td>
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</tbody>
</table>
Judgement of the mixture is based on the relevant ingredients

**Conclusion**

pH shift

Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008

12.2 Persistence and degradability:

Biodegradability: not applicable

12.3 Bioaccumulative potential:

**SILL420 / SILL440**

<table>
<thead>
<tr>
<th>Log Kow</th>
<th>Method</th>
<th>Remark</th>
<th>Value</th>
<th>Temperature</th>
<th>Value determination</th>
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</table>

<table>
<thead>
<tr>
<th>Log Kow</th>
<th>Method</th>
<th>Remark</th>
<th>Value</th>
<th>Temperature</th>
<th>Value determination</th>
</tr>
</thead>
<tbody>
<tr>
<td>lithium hydroxide, monohydrate</td>
<td></td>
<td>No data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Conclusion**

Not bioaccumulative

12.4 Mobility in soil:

No (test)data on mobility of the components available

12.5 Results of PBT and vPvB assessment:

The criteria of PBT and vPvB as listed in Annex XIII of Regulation (EC) No 1907/2006 do not apply to inorganic substances.

12.6 Other adverse effects:

**SILL420 / SILL440**

**Global warming potential (GWP)**

None of the known components is included in the list of fluorinated greenhouse gases (Regulation (EC) No 517/2014)

**Ozone-depleting potential (ODP)**

Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009)

**Ground water**

Ground water pollutant

**lithium hydroxide, monohydrate**

Ground water

Ground water pollutant

**SECTION 13: Disposal considerations**

The information in this section is a general description. If applicable and available, exposure scenarios are attached in annex. Always use the relevant exposure scenarios that correspond to your identified use.

13.1 Waste treatment methods:

13.1.1 Provisions relating to waste


06 02 05* (wastes from the MFSU of bases: other bases). Depending on branch of industry and production process, also other waste codes may be applicable. Hazardous waste according to Directive 2008/98/EC.

13.1.2 Disposal methods

Recycle/reuse. Neutralize. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

13.1.3 Packaging/Container


15 01 10* (packaging containing residues of or contaminated by dangerous substances).

**SECTION 14: Transport information**

Publication date: 2018-04-25
Road (ADR)
14.1 UN number: 3266
14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (lithium hydroxide, monohydrate)
14.3 Transport hazard class(es):
- Hazard identification number: 80
- Class: 8
- Classification code: C5
14.4 Packing group: 1
14.5 Environmental hazards:
- Environmentally hazardous substance mark: no
14.6 Special precautions for user:
- Special provisions: 274
- Limited quantities: Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Rail (RID)
14.1 UN number: 3266
14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (lithium hydroxide, monohydrate)
14.3 Transport hazard class(es):
- Hazard identification number: 80
- Class: 8
- Classification code: C5
14.4 Packing group: 1
14.5 Environmental hazards:
- Environmentally hazardous substance mark: no
14.6 Special precautions for user:
- Special provisions: 274
- Limited quantities: Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Inland waterways (ADN)
14.1 UN number: 3266
14.2 UN proper shipping name: Corrosive liquid, basic, inorganic, n.o.s. (lithium hydroxide, monohydrate)
14.3 Transport hazard class(es):
- Class: 8
- Classification code: C5
14.4 Packing group: 1
14.5 Environmental hazards:
- Environmentally hazardous substance mark: no
14.6 Special precautions for user:
- Special provisions: 274
- Limited quantities: Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

Sea (IMDG/IMSBC)
14.1 UN number: 3266
14.2 UN proper shipping name:
Corrosive liquid, basic, inorganic, n.o.s. (lithium hydroxide, monohydrate)

14.3 Transport hazard class(es):
Class 8

14.4 Packing group:
Packing group I
Labels B

14.5 Environmental hazards:
Marine pollutant
Environmentally hazardous substance mark no

14.6 Special precautions for user:
Special provisions 274
Limited quantities Combination packagings: not more than 1 liter per inner packaging for liquids. A package shall not weigh more than 30 kg. (gross mass)

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code:
Annex II of MARPOL 73/78

Air (ICAO-TI/IATA-DGR)
14.1 UN number:
UN number 3266

14.2 UN proper shipping name:
Proper shipping name Corrosive liquid, basic, inorganic, n.o.s. (lithium hydroxide, monohydrate)

14.3 Transport hazard class(es):
Class 8

14.4 Packing group:
Packing group I
Labels B

14.5 Environmental hazards:
Environmentally hazardous substance mark no

14.6 Special precautions for user:
Special provisions A3
Passenger and cargo transport: limited quantities: maximum net quantity per packaging 0.5 L

SECTION 15: Regulatory information

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

European legislation:
VOC content Directive 2010/75/EU

<table>
<thead>
<tr>
<th>VOC content</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not applicable (inorganic)</td>
<td></td>
</tr>
</tbody>
</table>

National legislation The Netherlands
SILL420 / SILL440
LWCA (the Netherlands): KGA category 05

National legislation Germany
SILL420 / SILL440
silicon dioxide
Schwangerschaft Gruppe C
Schwangerschaft Gruppe C

National legislation France
15.2 Chemical safety assessment:
No chemical safety assessment is required.

SECTION 16: Other information

Full text of any H-statements referred to under headings 2 and 3:
H302   Harmful if swallowed.
H314   Causes severe skin burns and eye damage.

(*) = INTERNAL CLASSIFICATION BY BIG
PBT-substances = persistent, bioaccumulative and toxic substances
CLP (EU-GHS) Classification, labelling and packaging (Globally Harmonised System in Europe)

The information in this safety data sheet is based on data and samples provided to BIG. The sheet was written to the best of our ability and according to the state of knowledge at that time. The safety data sheet only constitutes a guideline for the safe handling, use, consumption, storage, transport and disposal of the substances/preparations/mixtures mentioned under point 1. New safety data sheets are written from time to time. Only the most recent versions may be used. Old versions must be destroyed. Unless indicated otherwise word for word on the safety data sheet, the information does not apply to substances/preparations/mixtures in purer form, mixed with other substances or in processes. The safety data sheet offers no quality specification for the substances/preparations/mixtures in question. Compliance with the instructions in this safety data sheet does not release the user from the obligation to take all measures dictated by common sense, regulations and recommendations or which are necessary and/or useful based on the real applicable circumstances. BIG does not guarantee the accuracy or exhaustiveness of the information provided and cannot be held liable for any changes by third parties. This safety data sheet is only to be used within the European Union, Switzerland, Iceland, Norway and Liechtenstein. Any use outside of this area is at your own risk. Use of this safety data sheet is subject to the licence and liability limiting conditions as stated in your BIG licence agreement or when this is failing the general conditions of BIG. All intellectual property rights to this sheet are the property of BIG and its distribution and reproduction are limited. Consult the mentioned agreement/conditions for details.