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

1.1 Product identifier

**Trade name**

Sodium hydroxide

**Substance name**
sodium hydroxide

**Identification numbers**

- **CAS no.** 1310-73-2
- **EC no.** 215-185-5
- **Index no.** 011-002-00-6

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

**Relevant identified uses of the substance or mixture**
chemical analysis

**Uses advised against**
No data available.

1.3 Details of the supplier of the safety data sheet

**Address**
ELTRA GmbH
Retsch-Allee 1-5
42781 Haan
GERMANY

Telephone no. +49 (0) 2104 23 33-400
Fax no. +49 (0) 2104 23 33-499

**Information provided by / telephone**
+49 (0) 2104 23 33-192

**Advice on Safety Data Sheet**
info@eltra.com

1.4 Emergency telephone number

For medical advice (in German and English):
+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

**Classification in accordance with Regulation (EC) No 1272/2008 (CLP)**
Skin Corr. 1A; H314

<table>
<thead>
<tr>
<th>Note</th>
<th>Specific concentration limits</th>
<th>M-factor (acute)</th>
<th>M-factor (chronic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Eye Irrit. 2; H319: C &gt;= 0.5%</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin Irrit. 2; H315: C &gt;= 0.5%</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin Corr. 1B; H314; C &gt;= 2%</td>
<td></td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin Corr. 1A; H314; C &gt;= 5%</td>
<td></td>
<td>-</td>
</tr>
</tbody>
</table>

**Classification information**

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:
Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP
Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)**
Product identifier
011-002-00-6 (sodium hydroxide)

Hazard pictograms

GHS05

Signal word
Danger

Hazard statement(s)
H314 Causes severe skin burns and eye damage.

Precautionary statement(s)
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
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. P310 Immediately call a POISON CENTER/doctor. P363 Wash contaminated clothing before reuse. P405 Store locked up. P501 Dispose of contents/container to hazardous or special waste collection point.

2.3 Other hazards
No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization
Substance name sodium hydroxide
Formula NaOH

Identification numbers
CAS no. 1310-73-2
EC no. 215-185-5
Index no. 011-002-00-6

3.2 Mixtures
Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
If the patient is likely to become unconscious, place and transport in stable sideways position. Remove contaminated, soaked clothing immediately and dispose of safely.

After inhalation
Ensure supply of fresh air. Take medical treatment.

After skin contact
In case of contact with skin wash off immediately with soap and water. Dab off with polyethylene glycol 400. Seek medical attention.

After eye contact
Separate eyelids, wash the eyes thoroughly with water (15 min.). Call a doctor immediately.

After ingestion
Rinse out mouth and drink 200 - 300 ml water. Do not induce vomiting. Call a doctor immediately. Never give
anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Effects
Risk of stomach perforation

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
Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Unsuitable extinguishing media
No data available.

5.2 Special hazards arising from the substance or mixture
In case of fires, hazardous combustion gases are formed: Carbon dioxide (CO2); Carbon monoxide (CO)

5.3 Advice for firefighters
Run-off water from fire fighting must not be discharged into drains or enter surface water. Use self-contained breathing apparatus. Wear protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Refer to protective measures listed in sections 7 and 8. Evacuate endangered area; Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation.

For emergency responders
No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions
Do not discharge into surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up
Use chemical neutralising agents. Take up mechanically. Send in suitable containers for recovery or disposal. Clean thoroughly.

6.4 Reference to other sections
No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
Provide good ventilation at the work area (local exhaust ventilation, if necessary). Product inherent handling risks must be minimised taking the appropriate measures for protection and preventive actions. The working process should be designed to rule out the release of hazardous substances or skin contact as far it is possible by the state of the art.

General protective and hygiene measures
Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke during work time. Wash hands before breaks and after work. Remove soiled or soaked clothing immediately. Use barrier skin cream. Avoid contact with eyes and skin. Do not inhale dust. Provide eye wash fountain in work area. Have emergency shower available.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed and dry in a cool, well-ventilated place. Product is hygroscopic.

Requirements for storage rooms and vessels
Always keep in containers of same material as the original. Containers which are opened must be carefully closed.
EC safety data sheet

Trade name: Sodium hydroxide

Current version: 4.0.1, issued: 31.01.2020  Replaced version: 4.0.0, issued: 22.08.2018  Region: GB

and kept upright to prevent leakage.

Incompatible products
Do not store together with: Aluminium; Plastics, rubber; Metals; metal alloys; Zinc; tin

7.3 Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

<table>
<thead>
<tr>
<th>No</th>
<th>Substance name</th>
<th>CAS no.</th>
<th>EC no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>sodium hydroxide</td>
<td>1310-73-2</td>
<td>215-185-5</td>
</tr>
</tbody>
</table>

List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Substance name</th>
<th>WEL short-term (15 min reference period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>2 mg/m³</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Appropriate engineering controls
No data available.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust, aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.
Respirator  P3

Eye / face protection
Tightly fitting safety glasses (EN 166).

Hand protection
Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer’s instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.
Appropriate Material  nitrile rubber
Material thickness  0.11 mm
Breakthrough time  > 480 min

Other
Normal chemical work clothing.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Form/Colour</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>solid</td>
<td>grey to black</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Odour</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>odourless</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Odour threshold | No data available |

<table>
<thead>
<tr>
<th>pH value</th>
<th>Value</th>
<th>appr.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>13.8</td>
<td></td>
</tr>
</tbody>
</table>
Trade name: Sodium hydroxide

<table>
<thead>
<tr>
<th>Reference temperature</th>
<th>Concentration</th>
<th>Reference temperature</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20 °C</td>
<td></td>
<td>50 g/l H2O</td>
</tr>
</tbody>
</table>

| Boiling point / boiling range | No data available |
| Melting point / melting range | No data available |
| Decomposition point / decomposition range | No data available |
| Flash point | Not applicable |
| Auto-ignition temperature | No data available |
| Oxidising properties | No data available |
| Explosive properties | No data available |
| Flammability (solid, gas) | No data available |
| Lower flammability or explosive limits | No data available |
| Upper flammability or explosive limits | No data available |
| Vapour pressure | Not applicable |
| Vapour density | No data available |
| Evaporation rate | No data available |
| Relative density | No data available |
| Density | No data available |
| Bulk density | Value appr. 800 kg/m³ |
| Solubility in water | Reference temperature 20 °C |
| Solubility(ies) | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Viscosity | No data available |

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity
10.1 Reactivity
No data available.

10.2 Chemical stability
No data available.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
Stable under recommended storage and handling conditions (See section 7). Protect against humidity.

10.5 Incompatible materials
plastic; Tin; zinc; zinc alloys; aluminium; Hazardous reactions upon contact with: Earth alkali metals; Ammonium compounds; Cyanide; Magnesium; organic nitro compounds; combustible materials; oxidizing agents; Acids; Explosion hazard upon contact with: Metals; light metals

10.6 Hazardous decomposition products
Hydrogen

SECTION 11: Toxicological information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Toxicological Effect</th>
<th>Species</th>
<th>Source</th>
<th>Evaluation</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute dermal toxicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute inhalalational toxicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>rabbit</td>
<td>RTECS</td>
<td>corrosive</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>rabbit</td>
<td>RTECS</td>
<td>corrosive</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory tract irritation</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Comments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Reproduction toxicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>STOT - single exposure</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Aspiration hazard</td>
<td></td>
<td></td>
<td></td>
<td>No data available.</td>
</tr>
</tbody>
</table>
EC safety data sheet

Trade name: Sodium hydroxide

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Replaced version: 4.0.0, issued: 22.08.2018
Region: GB

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Product is caustic.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Toxicity to fish (acute)</th>
<th>Comments</th>
<th>No data available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish (chronic)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Toxicity to Daphnia (acute)</td>
<td>Comments</td>
<td>No data available.</td>
</tr>
<tr>
<td>Toxicity to Daphnia (chronic)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae (acute)</td>
<td>Comments</td>
<td>No data available.</td>
</tr>
<tr>
<td>Toxicity to algae (chronic)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Bacteria toxicity</td>
<td>Comments</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability

Biodegradability

| Comments | 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 Other adverse effects

| Other adverse effects | Adverse effect due to pH-shifting possible. |

12.7 Other information

Product is not allowed to discharge into aquatic environment, drains or sewage treatment plants.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging
Packaging that cannot be cleaned should be disposed off as product waste. Uncontaminated packaging may be taken for recycling.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

| Class | 8 |
| Classification code | C6 |
Trade name: Sodium hydroxide

Packing group II
Hazard identification no. 80
UN number UN1823
Proper shipping name SODIUM HYDROXIDE, SOLID
Tunnel restriction code E
Label 8

14.2 Transport IMDG
Class 8
Packing group II
UN number UN1823
Proper shipping name SODIUM HYDROXIDE, SOLID
EmS F-A, S-B
Label 8

14.3 Transport ICAO-TI / IATA
Class 8
Packing group II
UN number UN1823
Proper shipping name Sodium hydroxide, solid
Label 8

14.4 Other information
No data available.

14.5 Environmental hazards
Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user
No data available.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)
In accordance with the Reach regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation
In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

The substance is not subject to the provisions of annex XVII (restriction entries) of the Reach regulation (EC) 1907/2006.

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances
This substance is not subject to Part I or 2 of Annex I

Other regulations
Adhere to the national sanitary and occupational safety regulations when using this product.

15.2 Chemical safety assessment
No data available.

SECTION 16: Other information

Further information
Article no. 90210-500 g; 90212-250 g
Sources of key data used to compile the data sheet:
National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Department issuing safety data sheet
UMCO GmbH
Georg-Wilhelm-Str. 187, D-21107 Hamburg
Tel.: +49 40 / 555 546 300  Fax: +49 40 / 555 546 357  e-mail: umco@umco.de

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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