SAFETY DATA SHEET
SODIUM HYDROXIDE 1M (1N)

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

1.1. Product identifier

Product name  SODIUM HYDROXIDE 1M (1N)
Product number  1095

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

Identified uses  Laboratory reagent.
Uses advised against  No specific uses advised against are identified. Use only for intended applications.

1.3. Details of the supplier of the safety data sheet

Supplier  Reagent Chemical Services
18 Aston Fields Road
Whitehouse Industrial Estate
Runcorn
Cheshire WA7 3DL

T: 01928 716903 (08.30 - 17.00)
F: 01928 716425
E: info@reagent.co.uk

1.4. Emergency telephone number

Emergency telephone  OHES Environmental Ltd 24-7
Tel. 0333 333 9939 (24 hour)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Health hazards  Skin Corr. 1B - H314 Eye Dam. 1 - H318
Environmental hazards  Not Classified

2.2. Label elements

Pictogram

Signal word  Danger

Hazard statements  H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
SODIUM HYDROXIDE 1M (1N)

Precautionary statements

P260 Do not breathe vapour/ spray.
P264 Wash contaminated skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301+P330+P31 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/ 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.
P501 Dispose of contents/ container in accordance with local regulations.

Contains

SODIUM HYDROXIDE

Supplementary precautionary statements

P321 Specific treatment (see medical advice on this label).
P363 Wash contaminated clothing before reuse.
P405 Store locked up.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>SODIUM HYDROXIDE</th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>REACH registration number: 01-2119457892-27-0000</td>
<td></td>
</tr>
</tbody>
</table>

Classification

Skin Corr. 1A - H314
Eye Dam. 1 - H318

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Immediate first aid is imperative. Show this Safety Data Sheet to the medical personnel.

Inhalation

Remove affected person from source of contamination. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if symptoms are severe or persist.

Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention immediately.

Skin contact

Remove contaminated clothing and rinse skin thoroughly with water. Rinse cautiously with water for several minutes. Get medical attention immediately.

Eye contact

Rinse immediately with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes. Get medical attention immediately.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue.

4.2. Most important symptoms and effects, both acute and delayed
SODIUM HYDROXIDE 1M (1N)

General information
The severity of the symptoms described will vary dependent on the concentration and the length of exposure.

Inhalation
Vapours are corrosive. General respiratory distress, unproductive cough. Sore throat.

Ingestion
Prolonged or repeated exposure may cause the following adverse effects: May cause chemical burns in mouth, oesophagus and stomach. Severe stomach pain. Nausea, vomiting.

Skin contact
Prolonged contact causes serious tissue damage. Chemical burns.

Eye contact
Prolonged contact causes serious eye and tissue damage. Profuse watering of the eyes. Corneal damage. Vapour or spray may cause eye damage, impaired sight or blindness.

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

Notes for the doctor
Treat symptomatically.

Specific treatments
No specific chemical antidote is known to be required after exposure to this product.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Use alcohol-resistant foam, carbon dioxide or dry powder to extinguish.

Unsuitable extinguishing media
Do not use water, if avoidable.

5.2. Special hazards arising from the substance or mixture
Specific hazards
The product is non-combustible.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Hydrogen. Oxides of the following substances: Sodium.

5.3. Advice for firefighters
Protective actions during firefighting
Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Fight fire from safe distance or protected location. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Control run-off water by containing and keeping it out of sewers and watercourses.

Special protective equipment for firefighters
Wear chemical protective suit. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of vapours and contact with skin and eyes. Wash thoroughly after dealing with a spillage.

For emergency responders
Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions
Environmental precautions
To prevent release, place container with damaged side up. Avoid the spillage or runoff entering drains, sewers or watercourses. Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up
SODIUM HYDROXIDE 1M (1N)

Methods for cleaning up
Wear protective clothing as described in Section 8 of this safety data sheet. Do not touch or walk into spilled material. Collect and absorb spillage with sand, earth or other non-combustible material. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet. Avoid contact with skin, eyes and clothing. Do not breathe spray. Wash hands thoroughly after handling.

Advice on general occupational hygiene
Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Provide eyewash station and safety shower. Contaminated clothing should be placed in a closed container for disposal or decontamination. Warn cleaning personnel of any hazardous properties of the product.

7.2. Conditions for safe storage, including any incompatibilities
Storage precautions
Store in tightly-closed, original container in a dry and cool place. Store away from the following materials: Acids. Protect from freezing and direct sunlight. Protect containers from damage.

Storage class
Corrosive storage.

7.3. Specific end use(s)
Specific end use(s)
The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters
Occupational exposure limits
SODIUM HYDROXIDE
Short-term exposure limit (15-minute): WEL  2 mg/m³
WEL = Workplace Exposure Limit

DNEL
No specific test data are available.

PNEC
No specific test data are available.

SODIUM HYDROXIDE (CAS: 1310-73-2)

DNEL
Workers - Inhalation; Long term local effects: 1 mg/m³
General population - Inhalation; Long term local effects: 1 mg/m³

8.2. Exposure controls
Appropriate engineering controls
Provide adequate general and local exhaust ventilation.

Eye/face protection
Wear tight-fitting, chemical splash goggles or face shield. Personal protective equipment for eye and face protection should comply with European Standard EN166.
SODIUM HYDROXIDE 1M (1N)

Hand protection
Wear protective gloves. To protect hands from chemicals, gloves should comply with European Standard EN374. The breakthrough time for any glove material may be different for different glove manufacturers. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ~ 0.11 mm

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures
Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. Contaminated clothing should be placed in a closed container for disposal or decontamination.

Respiratory protection
Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Particulate filter, type P2. Full face mask respirators with replaceable filter cartridges should comply with European Standard EN136. Check that the respirator fits tightly and the filter is changed regularly.

Environmental exposure controls
Store in a demarcated bunded area to prevent release to drains and/or watercourses.

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>Appearance</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No specific test data are available.</td>
</tr>
<tr>
<td>pH</td>
<td>pH (concentrated solution): 14</td>
</tr>
<tr>
<td>Flash point</td>
<td>Scientifically unjustified.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation factor</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No.</td>
</tr>
<tr>
<td>Upper/lower flammability or</td>
<td>Scientifically unjustified.</td>
</tr>
<tr>
<td>explosive limits</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.05 @ 20 °C</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Soluble in water.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not determined.</td>
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<tr>
<td>Auto-ignition temperature</td>
<td>Scientifically unjustified.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not considered to be explosive.</td>
</tr>
</tbody>
</table>
SODIUM HYDROXIDE 1M (1N)

Oxidising properties
The mixture itself has not been tested but none of the ingredient substances meet the criteria for classification as oxidising.

9.2. Other information
Other information Not determined.

SECTION 10: Stability and reactivity

10.1. Reactivity
Reactivity The following materials may react violently with the product: Strong acids. Powdered metal. Strong oxidising agents.

10.2. Chemical stability
Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions
Possibility of hazardous reactions In contact with some metals can generate hydrogen gas, which can form explosive mixtures with air. Reacts strongly with water. Reacts violently with strong acids.

10.4. Conditions to avoid
Conditions to avoid Avoid excessive heat for prolonged periods of time. Avoid freezing. Never add water directly to this product as it may cause a vigorous reaction or boiling.

10.5. Incompatible materials
Materials to avoid Avoid contact with the following materials: Strong acids. Strong alkalis. Alkaline earth metals. Strong oxidising agents.

10.6. Hazardous decomposition products
Hazardous decomposition products Hydrogen. Oxides of the following substances: Sodium.

SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity - oral
Notes (oral LD₅₀) No specific test data are available.

Acute toxicity - dermal
Notes (dermal LD₅₀) No specific test data are available.

Acute toxicity - inhalation
Notes (inhalation LC₅₀) No specific test data are available.

Skin corrosion/irritation
Skin corrosion/irritation Corrosive to skin.

Animal data
Dose: 0.5ml of 5% w/v solution, 2 hr, Rabbit Primary dermal irritation index: 4.33 after 1 hour to 3.1 after 7 days. Erythema/eschar score: 2.6 at 24 hours Oedema score: 1.5 at 24 hours Corrosive to skin.

Serious eye damage/irritation
Serious eye damage/irritation No specific test data are available.

Respiratory sensitisation
Respiratory sensitisation No specific test data are available.

Skin sensitisation
SODIUM HYDROXIDE 1M (1N)

Skin sensitisation
Patch test - Human: Industry - Dermal; Long term systemic effects 22 mg/kg/day Not sensitising.

Germ cell mutagenicity
Genotoxicity - in vitro Does not contain any substances known to be mutagenic.
Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity
Carcinogenicity Does not contain any substances known to be carcinogenic.

Reproductive toxicity
Reproductive toxicity - fertility Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure
STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure
STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard
Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation Vapours are corrosive. May cause damage to mucous membranes in nose, throat, lungs and bronchial system.


Skin contact Causes severe burns.

Eye contact Causes severe burns. Contact with concentrated chemical may very rapidly cause severe eye damage, possibly loss of sight. Corneal damage.

Route of entry Skin and/or eye contact Inhalation Oral

Target organs Skin Eyes

SODIUM HYDROXIDE

Toxicological effects Causes severe skin burns and eye damage.

Acute toxicity - oral
Notes (oral LD₅₀) LD₅₀ 325 mg/kg, Oral, Rabbit REACH dossier information.

Acute toxicity - dermal
Notes (dermal LD₅₀) Conclusive data but not sufficient for classification. REACH dossier information.

Acute toxicity - inhalation
Notes (inhalation LC₅₀) 750 µg/L, Inhalation, Rat REACH dossier information.

Skin corrosion/irritation Corrosive to skin.

Serious eye damage/irritation Corrosivity to eyes is assumed. REACH dossier information.
SODIUM HYDROXIDE 1M (1N)

Respiratory sensitisation
Based on available data the classification criteria are not met.

Skin sensitisation
Based on available data the classification criteria are not met.

Germ cell mutagenicity
This substance has no evidence of mutagenic properties.

Genotoxicity - in vitro
This substance has no evidence of mutagenic properties.

Genotoxicity - in vivo
This substance has no evidence of mutagenic properties.

Carcinogenicity
There is no evidence that the product can cause cancer.

Reproductive toxicity
Does not contain any substances known to be toxic to reproduction.

Specific target organ toxicity - single exposure
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
Not anticipated to present an aspiration hazard, based on chemical structure.

Inhalation
May cause damage to mucous membranes in nose, throat, lungs and bronchial system. Burns can occur.

Ingestion
This product is strongly corrosive. May cause chemical burns in mouth, oesophagus and stomach.

Skin contact
This product is corrosive. Causes severe burns.

Eye contact
Causes severe burns. Causes serious eye damage. Immediate first aid is imperative.

Acute and chronic health hazards
This product is corrosive.

Route of entry
Skin and/or eye contact Ingestion

Target organs
Skin Eyes Respiratory system, lungs Gastro-intestinal tract

Medical symptoms
Chemical burns.

SECTION 12: Ecological Information

Ecotoxicity
The product components are not classified as environmentally hazardous. However, large or frequent spills may have hazardous effects on the environment.

SODIUM HYDROXIDE

Ecotoxicity
The ecotoxicity of this substance has been assessed during REACH registration

12.1. Toxicity
**SODIUM HYDROXIDE 1M (1N)**

| Acute toxicity - fish          | No specific test data are available. |
| Acute toxicity - aquatic invertebrates | No specific test data are available. |
| Acute toxicity - aquatic plants | Scientifically unjustified. |
| Acute toxicity - microorganisms | Not determined. |
| Acute toxicity - terrestrial  | Not determined. |
| Short term toxicity - embryo and sac fry stages | Not available. |
| Chronic toxicity - aquatic invertebrates | Scientifically unjustified. |

### 12.2. Persistence and degradability

**Persistence and degradability**

| Phototransformation | No specific test data are available. |
| Biodegradation      | Scientifically unjustified. |
| Biological oxygen demand | No specific test data are available. |
| Chemical oxygen demand | No specific test data are available. |

**SODIUM HYDROXIDE**

| Acute toxicity - fish | L<sub>50</sub>, 96 hours: 45.4 mg/l, Onchorhynchus mykiss (Rainbow trout) |
| Acute toxicity - aquatic invertebrates | E<sub>50</sub>, 48 hours: 40.4 mg/l, |

### 12.3. Bioaccumulative potential

**Bioaccumulative potential**

Bioaccumulation is unlikely.

**Partition coefficient**

Not determined.

**SODIUM HYDROXIDE**

**Bioaccumulative potential**

Bioaccumulation is unlikely.

**Partition coefficient**

No specific test data are available.

### 12.4. Mobility in soil

**Mobility**

The product is soluble in water.

**Adsorption/desorption coefficient**

Scientifically unjustified.
SODIUM HYDROXIDE 1M (1N)

Henry's law constant  Not determined.
Surface tension  Not determined.

SODIUM HYDROXIDE

Mobility  The product is water-soluble and may spread in water systems.
Adsorption/desorption coefficient  Scientifically unjustified.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment  This product does not contain any substances classified as PBT or vPvB.

SODIUM HYDROXIDE

Results of PBT and vPvB assessment  This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects  None known.

SODIUM HYDROXIDE

Other adverse effects  None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information  The generation of waste should be minimised or avoided wherever possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents.

Disposal methods  Dispose of waste product or used containers in accordance with local regulations

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)  1824
UN No. (IMDG)  1824
UN No. (ICAO)  1824
UN No. (ADN)  1824

14.2. UN proper shipping name

Proper shipping name (ADR/RID)  SODIUM HYDROXIDE SOLUTION
Proper shipping name (IMDG)  SODIUM HYDROXIDE SOLUTION
Proper shipping name (ICAO)  SODIUM HYDROXIDE SOLUTION
Proper shipping name (ADN)  SODIUM HYDROXIDE SOLUTION

14.3. Transport hazard class(es)
SODIUM HYDROXIDE 1M (1N)

ADR/RID class 8
ADR/RID classification code C5
ADR/RID label 8
IMDG class 8
ICAO class/division 8
ADN class 8

Transport labels

14.4. Packing group
ADR/RID packing group II
IMDG packing group II
ADN packing group II
ICAO packing group II

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant No.

14.6. Special precautions for user
IMDG Code segregation group 18. Alkalis
EmS F-A, S-B
ADR transport category 2
Hazard Identification Number (ADR/RID) 80
Tunnel restriction code (E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code
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

National regulations
Health and Safety at Work etc. Act 1974 (as amended).
Control of Substances Hazardous to Health Regulations 2002 (as amended).

EU legislation
SODIUM HYDROXIDE 1M (1N)

Guidance
Workplace Exposure Limits EH40.

Authorisations (Title VII Regulation 1907/2006)
No specific authorisations are known for this product.

Restrictions (Title VIII Regulation 1907/2006)
No specific restrictions on use are known for this product.

15.2. Chemical safety assessment
No chemical safety assessment has been carried out.

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet
ATE: Acute Toxicity Estimate.
DNEL: Derived No Effect Level.
DMEL: Derived Minimal Effect Level.
PNEC: Predicted No Effect Concentration.
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IATA: International Air Transport Association.
IMDG: International Maritime Dangerous Goods.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.

Classification abbreviations and acronyms
Eye Dam. = Serious eye damage
Skin Corr. = Skin corrosion
Met. Corr. = Corrosive to metals

General information
Only trained personnel should use this material.

Key literature references and sources for data

Classification procedures according to Regulation (EC) 1272/2008

Revision date
16/11/2017

Revision
6

Supersedes date
16/11/2017

SDS number
10089

SDS status
Approved.

Hazard statements in full
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.