

## SECTION 1 – IDENTIFICATION

**Product Identifier:** 1.0M Sodium Hydroxide Solution  
Biotechnology Grade

**Catalogue Number:** 1115

**Other means of identification:** Caustic soda

**Recommended use of the chemical and restrictions on use:**  
For R&D use only. Not for pharmaceutical, household or other uses.

### Supplier Information:

Axil Scientific Pte Ltd  
2 Tukang Innovation Grove  
#06-01, JTC MedTech Hub  
Singapore 618305  
Tel: +65 6775 7318  
Email: [custcare@axilscientific.com](mailto:custcare@axilscientific.com)

Apical Scientific Sdn Bhd  
No. 17, Jalan BS7/1C  
Taman Perindustrian Bukit Serdang  
43300 Seri Kembangan, Selangor, Malaysia  
Tel: +603 8943 3252  
Email: [custcare@apicalscientific.com](mailto:custcare@apicalscientific.com)

### Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.  
+65 6775 7318 (Singapore)  
+603 8943 3252 (Malaysia)

## SECTION 2 – HAZARDS IDENTIFICATION

### GHS Classification:

Corrosive to metals, Category 1  
Skin irritation, Category 2  
Serious eye damage, Category 1

### GHS Hazard Pictogram(s):



**Signal Word:** Danger

### Hazards statements:

H290: May be corrosive to metals.  
H315: Causes skin irritation.  
H318: Causes serious eye damage.

### Precautionary statements:

*Prevention:*

P234: Keep only in original container.

P264: Wash thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

#### Response

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

P332+P313: If skin irritation occurs: Get medical advice/attention.

P362+P364: Take off contaminated clothing and wash before use.

P390: Absorb spillage to prevent material damage.

#### Storage

P406: Store in corrosive resistant stainless steel container with a resistant inner liner.

### SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

<b>Chemical Identity:</b>	Sodium Hydroxide
<b>Synonyms:</b>	Caustic soda Soda lye Aetznatron Ascarite Sodium hydrate Sodium hydroxide pellets
<b>Molecular Formula:</b>	NaOH
<b>Molecular Weight:</b>	40.0 g/mol

Component	Classification	Concentration
<b>Sodium Hydroxide</b>		
CAS-No. 1310-73-2 EC-No. 215-185-5	Met. Corr. 1; 1	1 % - 5 %

### SECTION 4 – FIRST-AID MEASURES

#### General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### Eye Contact

Immediately flush eyes with copious amounts of water for at least 15 minutes. Consult a physician.

#### Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Consult a physician.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen. Consult a physician.

#### Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**Most important symptoms and effects, both acute and delayed**

Spasm, inflammation and edema of the larynx. Spasm, inflammation and edema of the bronchi. Pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

**Indication of immediate medical attention and special treatment needed**

Data not available.

**SECTION 5 – FIRE-FIGHTING MEASURES**

**Extinguishing Media**

Use water spray, dry chemical powder, carbon dioxide or alcohol-resistant foam.

**Special Exposure Hazards**

Sodium oxides.

**Special Fire-fighting Procedures**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**

Prevent skin/eye contact. Avoid breathing vapours, mist or gas. Evacuate personnel to safe areas.

**Environmental Precautions**

Prevent further leakage or spillage if safe to do so. Do not allow material into sewers and drainage systems.

**Methods for Cleaning Up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**SECTION 7 – HANDLING AND STORAGE**

**Precautions for safe handling**

Prevent skin/eye contact. Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

**Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

**SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION**

**Occupational Exposure Limits**

Component	CAS-No.	Value	Control	Basis
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			parameters	
Sodium hydroxide	1310-73-2	PEL (short-term)	2 mg/m <sup>3</sup>	Singapore. Workplace Safety and Health Act – First Schedule Permissible Exposure Limits of Toxic Substances

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

#### Eye/ Face Protection

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin/ Hand Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory Protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

a)	<b>Appearance</b>	Clear colourless solution
b)	<b>Odour</b>	Odourless
c)	<b>Odour Threshold</b>	Not available
d)	<b>pH</b>	13.0 – 14.0 (Neat, 25 °C)
e)	<b>Melting/freezing point</b>	-12 – -10 °C
f)	<b>Initial boiling point and boiling range</b>	105 – 140 °C
g)	<b>Flash point</b>	Not available
h)	<b>Evaporation rate</b>	Not available
i)	<b>Flammability (solid, gas)</b>	Not available
j)	<b>Upper/lower flammability or explosive limits</b>	Not available
k)	<b>Vapour pressure</b>	< 24 hPa at 20 °C
l)	<b>Vapour density</b>	1.38 (Air = 1.0)
m)	<b>Relative density</b>	1.327 g/cm <sup>3</sup> at 25 °C
n)	<b>Water solubility</b>	Completely soluble
o)	<b>Partition coefficient: n-octanol/water</b>	Not available
p)	<b>Autoignition temperature</b>	Not available
q)	<b>Decomposition temperature</b>	Not available
r)	<b>Viscosity</b>	Not available

#### SECTION 10 – STABILITY AND REACTIVITY

##### Reactivity

Data not available.

##### Chemical stability

Stable.

##### Possibility of hazardous reactions

Data not available.

##### Conditions to avoid

Data not available.

**Incompatible material**

Strong acids, strong oxidizing agents, organic materials, chlorinated solvents, aluminum, phosphorus, tin/tin oxides, zinc.

**Hazardous decomposition products**

Data not available.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

**Acute toxicity**

Data not available.

**Skin corrosion/irritation**

Data not available.

**Serious eye damage/eye irritation**

Data not available.

**Respiratory or skin sensitization**

Data not available.

**Germ cell mutagenicity**

Data not available.

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

Data not available.

**Specific target organ toxicity – single exposure**

Data not available.

**Specific target organ toxicity – repeated exposure**

Data not available.

**Aspiration hazard**

Data not available.

**Additional Information**

RTECS: Data not available

**SECTION 12 – ECOLOGICAL INFORMATION**

**Toxicity**

Data not available.

**Persistence and degradability**

Data not available.

**Bioaccumulative potential**

Data not available.

**Mobility in soil**

Data not available.

**Other adverse effect**

Harmful to aquatic life.

**SECTION 13 – DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose off as unused product.

**SECTION 14 – TRANSPORT INFORMATION****UN Number**

ADR/RID: 1824

IMDG: 1824

IATA-DGR: 1824

**UN Proper Shipping Name:**

ADR/RID: Sodium hydroxide solution

IMDG: Sodium hydroxide solution

IATA-DGR: Sodium hydroxide solution

**Transport Hazard Class(es)**

ADR/RID: 8

IMDG: 8

IATA-DGR: 8

**Packing Group**

ADR/RID: II

IMDG: II

IATA-DGR: II

**Environmental Hazards**

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

**Special Precaution for Users**

Data not available

**SECTION 15 – REGULATORY INFORMATION****Safety, health and environmental regulations/legislation specific for the substance or mixture**

Data not available

**SECTION 16 – OTHER INFORMATION****Date of Issue:** JULY 11, 2008**Date of Revision:** FEBRUARY 23, 2022

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.*