

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

Reference No.: SDS31; Date of Issue.: 25/04/2024; Revision: 1



CAUSTIC SODA 0.5% =< CONC. <2%

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

-Product Name : CAUSTIC SODA 0.5% =< CONC. <2%
-Chemical Name : Sodium hydroxide solution
-Synonym(s) : Lye soda, Sodium hydrate, Caustic lye
-Product type : Mixture
-Unique Formula Identifier (UFI) : 0.7 – 1.0% 5600-V069-800F-4Q7C
1 – 2% W800-C0VP-J00Y-T1TE

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

-Identified Use(s) :
- Reagent
- pH Regulating agent
- Ion exchange resins regenerating agent
- Catalyst
- Etching agent
- Cleaning agent
- Uses Advised Against :
- None

1.3. Details of the supplier of the safety data sheet

-Company : MICRO-BIO (IRELAND) LTD.
-Address : Industrial Estate, Fermoy, Co Cork, Ireland
-Telephone : +3532531388
-Fax : +3532532458
-E-Mail (competent person) : dobrien@micro-bio.ie

1.4. Emergency telephone number

-Emergency telephone number : +3532531388 (Available 24/7)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Regulation (EC) No. 1272/2008 (CLP),

Classification according to Regulation (EC) No 1272/2008 [CLP]

Hazard Class	Category	Exposure route	Hazard Statement(s)
Skin irritation	Category 2		H315
Eye Irritation	Category 2		H319
Corrosive to: metal	Category 1		H290

2.2. Label elements

2.2.1. Name(s) on label

Hazardous component(s) for labelling : -

2.2.2. Signal Word(s)

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

WARNING

2.2.3. Hazard Symbol



2.2.4. Hazard Statement(s)

- H315 - Causes skin irritation.
- H319 - Causes serious eye irritation.
- H290 - May be corrosive to metals.

2.2.5. Precautionary Statement(s)

- | | | | |
|-------------------|---|---|--|
| Prevention | P264
P280 | - | Wash exposed skin thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | P333 + P313
P305 + P351 + P338

P337+313
P390 | - | If skin irritation occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Absorb spillage to prevent material damage. |

2.3. Other hazards

Not classified as PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable.

3.2 Mixtures

Description: aqueous solution.

Dangerous components:

Hazardous Ingredient(s)	CAS No.	EC No.	REACH Registration No.	EC Classification and Hazard Statement(s)	%W/W
Sodium hydroxide	1310-73-2	215-185-5	01-2119457892-27-0086	Skin Corr. 1A; H314 Eye Dam. 1; H318 Met. Corr. 1; H290	≥ 0.5 - < 2%

3.3 Additional Information

For full text of H Statements see section 16.
NaOH Specific Concentration Limits (SCLs)
Skin Corr. 1A; H314: C ≥ 5 %
Skin Corr. 1B; H314: 2 % ≤ C < 5 %
Skin Irrit. 2; H315: 0,5 % ≤ C < 2 %



SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

Eye Irrit. 2; H319: 0,5 % ≤ C < 2 %

SECTION 4: FIRST AID MEASURES

Speed is essential.

4.1. Description of first aid measures

4.1.1. IF INHALED:

- Move person to fresh air.
- Consult a doctor in case of complaint.

4.1.2. Eye Contact

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists, get medical advice/attention.-

4.1.3. Skin Contact

- Wash affected skin with plenty of water.
- Take off contaminated clothing and wash it before reuse.
- If skin irritation occurs, get medical advice/attention.

4.1.4. IF SWALLOWED:

- Wash out mouth with water and give 200-300 ml (half a pint) of water to drink.
- Do NOT induce vomiting.
- Seek medical advice.

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

4.2.1. Inhalation

- May cause irritation to the respiratory system.

4.2.2. Skin Contact

- Causes skin irritation.

4.2.3. Eye Contact

- Causes serious eye irritation.

4.2.4. Ingestion

- Irritation of the mouth and throat, and oesophagus.

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

Symptomatic treatment and supportive therapy as indicated.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Suitable extinguishing media

- Use fire-extinguishing methods suitable to surrounding conditions.

5.1.2. Unsuitable extinguishing media

- None.

5.2. Special hazards arising from the substance or mixture

- Non-flammable.
- Non-combustible.
- Hazardous decomposition products:
- Hydrogen may form upon contact with metals

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

5.3. Advice for fire-fighters

- Self-contained breathing apparatus to be worn if involved in fire.
- Use personal protective equipment as required.
- Wear chemical protection suit.
- Keep containers cool by spraying with water if exposed to fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. Advice for non-emergency personnel

- Stop leak if safe to do so.
- Keep away from Incompatible products.

6.1.2. Advice for emergency responders

- Evacuate the area and keep personnel upwind.
- Ventilate area.
- Wear suitable protective clothing.

6.2. Environmental precautions

- Avoid release to the environment.
- Do NOT wash away into sewer.
- If polluted water reaches drainage systems or water courses, immediately inform appropriate authorities.

6.3. Methods and material for containment and cleaning up

- Contain spillages.
- Adsorb spillages onto sand, earth or any suitable adsorbent material.
- Prevent entry into drains.
- Transfer to a container for disposal.

6.4. Reference to other sections

- Refer to Section 8 for protective measures when handling the spillage.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Use only in well-ventilated areas.
- Keep away from incompatible products.

7.2. Conditions for safe storage, including any incompatibilities

7.2.1. Storage

- Keep only in original container.
- Keep in a well ventilated place.
- Keep in properly labelled containers.
- Keep container closed.
- Keep in a banded area.
- Keep away from incompatible products.
- Regularly check the condition and temperature of the containers.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

- Minimum storage temperature: 0°C

The material can be stored at ambient or slightly elevated temperatures in mild steel tanks of welded construction. Where the liquor temperature is above 60°C, tanks must be stress relieved.

7.2.2. Packaging.

7.2.2.1. *Suitable material/Suitable containers:*

- Stainless steel

7.2.2.2. *Unsuitable material*

- No data.

7.3. **Specific end use(s)**

- Contact supplier for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters**

8.1.1. Exposure limit values

Sodium hydroxide

- Ireland: Code of Practice for the Safety Health & Welfare at Work (Chemical Agents) Regulations 2018 (SI No. 623 of 2015) Occupational Exposure Limit Value(15 minute reference period) = 2 mg/m³
- US. ACGIH Threshold Limit Values 2009
Ceiling Limit Value = 2 mg/m³

8.2. **Exposure controls**

8.2.1. Appropriate engineering controls

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

8.2.2. Individual protection measures

8.2.2.1. *Respiratory protection*

- Not normally required.

8.2.2.2. *Hand protection*

- Impervious gloves (EN 374).
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The following list may be used for guidance but is not exhaustive:
- Nitrile rubber- NBR: thickness \geq 0,35mm; Breakthrough time \geq 480min.
- Polyvinyl chloride- PVC: thickness \geq 0,5mm; Breakthrough time \geq 480min.
- Butyl rubber: thickness \geq 0,5mm; Breakthrough time \geq 480min.
- Dispose of contaminated gloves appropriately.
- Unsuitable material: Leather

8.2.2.3. *Eye Protection*

- Chemical resistant goggles or full-face shield must be worn.
- If splashes are likely to occur, wear: Goggles giving complete protection to eyes. Tightly fitting safety goggles and Full-Face shield

8.2.2.4. *Skin and Body protection*

- Wear suitable protective clothing and eye/face protection. Wear suitable protective clothing.
- If splashes are likely to occur, wear:
- Rubber or plastic boots
- Rubber apron.

8.2.2.5. *Hygiene Measures*

- Ensure that eyewash stations and safety showers are close to the workstation location.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

- Take off immediately all contaminated clothing.
 - Handle in accordance with good industrial hygiene and safety practice.
- 8.2.3. Environmental Exposure Controls
- Dispose of rinse water in accordance with local and national regulations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

9.1.1. General information

- Physical state** Liquid
- Colour** Colourless
- Odour** Odourless

9.1.2. Important health safety and environmental information

- pH** > 13
- pKa** No data
- Melting point/freezing point** No data
- Boiling point/boiling range (°C):** No data
- Flash Point** Not applicable - Not flammable
- Evaporation rate** No data
- Flammability (solid, gas)** Not applicable
- Flammability** Not flammable
- Explosive properties** Not explosive, See Section: 10.
- Vapour pressure** < 13.3 hPa, 20°C
- Vapour density** No data
- Relative density** 1.005 – 1.02
- Bulk density** No data
- Solubility(ies)** Completely soluble in water.
- Solubility (Other)** miscible with alcohol (Glycerol)
- Partition coefficient: n-octanol/water** No data
- Auto-ignition temperature** No data
- Decomposition Temperature** No data
- Viscosity** Not determined
- Oxidising properties** Not oxidising.

9.2. Other information

Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- May be corrosive to metals.

10.2. Chemical stability

- Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

- Reacts with metals liberating hydrogen.
- Exothermic reaction with: strong acids.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

10.4. Conditions to avoid

- Keep away from direct sunlight.
- To avoid thermal decomposition, do not overheat.
- Exposure to moisture
- Freezing
- If electric arc welding or cutting, particular attention must be paid to the way the electrical circuit is completed to eliminate the possibility of producing Hydrogen through electrolysis of the liquor.
- A potential exists for the formation of carbon monoxide gas in closed equipment during cleaning with caustic soda solutions by reaction with certain sugars including fructose, galactose, arabinose, lavalose, lactose, maltose and dry whey powder.

10.5. Incompatible materials

- metal, Oxidizing agents, Acids, Aluminium, other light metals and their alloys

10.6. Hazardous decomposition products

- Hydrogen

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

- Based upon the available data, the classification criteria are not met.

Skin corrosion/irritation

- Causes skin irritation.

Serious eye damage/irritation

- Causes serious eye irritation.

Respiratory/skin sensitization

- no observed effect

Germ cell mutagenicity

- Animal testing did not show any mutagenic effects. In vitro tests did not show mutagenic effects.

Carcinogenicity

- No data.

Reproductive toxicity

- Effect on fertility, foetotoxic effect, no observed effect

STOT - single exposure

- Based upon the available data, the classification criteria are not met.

STOT - repeated exposure

- Based upon the available data, the classification criteria are not met.

Aspiration hazard

- Based upon the available data, the classification criteria are not met.

11.2. Information on other hazards

Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Large discharges may contribute to the alkalisation of water and may be fatal to fish and other aquatic life. Can cause severe damage to aquatic plants.

- Fish, various species, LC50, 96 h, 35 – 189 mg/l (Sodium hydroxide)



SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

- Crustaceans, Ceriodaphnia sp., EC50, 48 h, 40.4 mg/l (Sodium hydroxide)

12.2. Persistence and degradability

12.2.1. Abiotic Degradation

- Air: neutralization by natural alkalinity
- Water: ionization/neutralization
Conditions: pH
- Soil: ionization/neutralization

12.3. Bioaccumulative potential

- Not relevant for this material.

12.4. Mobility

- Water: Considerable solubility and mobility
- Soil/sediments: Mobile, soluble, ionization/neutralization
- Air: Chemical degradation

12.5. Results of PBT and vPvB assessment

Not classified as PBT or vPvB.

12.6. Endocrine disrupting properties

None.

12.7. Other adverse effects

- No data.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product

- Dilute with a large volume of water.
- Solutions with high pH-value must be neutralized before discharge.
- Neutralize with: acid
- In accordance with: In accordance with local and national regulations.

Contaminated packaging

- Where possible recycling is preferred to disposal or incineration.
- Clean container with water.
- Dispose of as unused product.
- In accordance with local and national regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number or ID number

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

ADR / RID / ADN / IMDG / IATA-DGR

UN 1824

SODIUM HYDROXIDE SOLUTION

8

III

No.

Not applicable

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH).

14.7. Maritime transport in bulk according to IMO instruments Not applicable

14.8. Additional Information

ADR/RID HIN/UN No.	80 / 1824
IMDG EmS	F-A S-B

SECTION 15: REGULATORY INFORMATION

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

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended.
- Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, as amended.
- Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended.
- Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended.
- Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste.
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Notification status

Inventory Information	Status
Toxic Substance Control Act list (TSCA)	- In compliance with inventory
Australian Inventory of Chemical Substances (AICS)	- In compliance with inventory
Canadian Domestic Substances List (DSL)	- In compliance with inventory
Korean Existing Chemicals List (ECL)	- In compliance with inventory
EU list of existing chemical substances (EINECS)	- In compliance with inventory
Japanese Existing and New Chemical Substances (MITI List)	- In compliance with inventory
Inventory of Existing Chemical Substances (China) (IECS)	- In compliance with inventory
Philippine Inventory of Chemicals and Chemical Substances	- In compliance with inventory
New Zealand Inventory of Chemicals (NZIOC)	- In compliance with inventory

SECTION 16: OTHER INFORMATION

16.1. Full text of H-Statements referred to under section 3

- | | | |
|------|---|--|
| H290 | - | May be corrosive to metals. |
| H314 | - | Causes severe skin burns and eye damage. |
| H318 | - | Causes serious eye damage. |

16.2. Other information

- Distribute new edition to clients

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.