

SAFETY DATA SHEET

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

Reference No.: SDS3; Date of Issue.: 25/04/2024; Revision: 10



CAUSTIC SODA 5% =< CONC. <51%

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

1.1. Product identifier

| | | | |
|----------------------------------|---|--|---------------------|
| -Product Name | : | CAUSTIC SODA 5% =< CONC. <51% | |
| -Chemical Name | : | Sodium hydroxide solution | |
| -Synonym(s) | : | Lye soda, Sodium hydrate, Caustic lye | |
| -Product type | : | Mixture | |
| -Unique Formula Identifier (UFI) | : | 5-6% | WF00-D08G-500X-4QYJ |
| | | 7-8% | AH00-V0XV-G00F-S2JM |
| | | 10-13% | JM00-D0N8-S00X-FE4P |
| | | 14-17% | AQ00-W0AP-300E-3RQR |
| | | 18-21% | 7S00-E012-D00X-S39T |
| | | 24-27% | EV00-W0QF-Q00E-EEVV |
| | | 29-34% | MY00-E0DV-000W-3SFX |
| | | 46-51% | 2110-X038-A00E-R420 |

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 corrosion | Category 1A | | H314 |
| Eye Damage | Category 1 | | H318 |
| Corrosive to: metal | Category 1 | | H290 |

SAFETY DATA SHEET

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

2.2. Label elements

2.2.1. Name(s) on label

Hazardous component(s) for labelling : Sodium hydroxide (>=5-<51%)

2.2.2. Signal Word(s)

DANGER

2.2.3. Hazard Symbol



2.2.4. Hazard Statement(s)

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

2.2.5. Precautionary Statement(s)

| | | | |
|-------------------|--|---|---|
| Prevention | P260 P280 | - | Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection. |
| Response | P303 + P361 + P353 P305 + P351 + P338 P301 + P330 + P331 P310 | - | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. |

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) | %WW |
|-------------------------|-----------|-----------|------------------------|---|-------------|
| Sodium hydroxide | 1310-73-2 | 215-185-5 | 01-2119457892-27-0086 | Skin Corr. 1A; H314 Eye Dam. 1; H318 Met. Corr. 1; H290 | ≥ 5 - < 51% |

SAFETY DATA SHEET

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

3.3 Additional Information

For full text of H Statements see section 16.
NaOH Specific Concentration Limits (SCLs)
Skin Corr. 1A; H314: $C \geq 5 \%$
Skin Corr. 1B; H314: $2 \% \leq C < 5 \%$
Skin Irrit. 2; H315: $0,5 \% \leq C < 2 \%$
Eye Irrit. 2; H319: $0,5 \% \leq C < 2 \%$

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.
- Apply artificial respiration if necessary. Administer oxygen if necessary.
- Keep warm and at rest.
- Immediately call a POISON CENTER/doctor.

4.1.2. Eye Contact

- If substance has got into the eyes, immediately wash out with plenty of water for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Immediately call a POISON CENTER/doctor.
- Arrange hospital admission.

4.1.3. Skin Contact

- Take off immediately all contaminated clothing.
- Immediately flush skin with large amounts of water.
- Keep warm and in a quiet place.
- Call a physician (or poison control centre immediately).
- Wash contaminated clothing before reuse.

4.1.4. IF SWALLOWED:

- Call a physician (or poison control centre immediately).
- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Apply artificial respiration if necessary. Administer oxygen if necessary.

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

4.2.1. Inhalation

- Corrosive to the respiratory tract.
- Symptoms: Breathing difficulties, Cough, chemical pneumonitis, pulmonary oedema
- Repeated and/or prolonged contact may cause: Sore throat, nose bleeds, chronic bronchitis.

4.2.2. Skin Contact

- Causes severe burns.
- Symptoms: Redness, Swelling Swelling of tissue, Burns.

4.2.3. Eye Contact

- Causes severe burns.
- Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
- Symptoms: Redness, Lachrymation, Swelling of tissue, Burns.

4.2.4. Ingestion

- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Symptoms: Nausea, Abdominal pain, Bloodstained vomiting, Diarrhoea, Suffocation, Cough, Severe shortness of breath.

SAFETY DATA SHEET

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

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

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.

SAFETY DATA SHEET

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

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Use in closed systems.
- 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.
- Minimum storage temperature: 25°C for 50% solution; 5°C for 30% Solution

The material can be stored at ambient or slightly elevated temperatures (these are needed in the case of concentrated solutions) in mild steel tanks of welded construction. Where the liquor temperature is above 40°C for concentrations of 30 % or more or above 60°C for lower concentrations, 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

- Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely.
- Filter type: P2

8.2.2.2. Hand protection

SAFETY DATA SHEET

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

- 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 $\geq 0,35\text{mm}$; Breakthrough time $\geq 480\text{min}$.
 - Polyvinyl chloride- PVC: thickness $\geq 0,5\text{mm}$; Breakthrough time $\geq 480\text{min}$.
 - Butyl rubber: thickness $\geq 0,5\text{mm}$; Breakthrough time $\geq 480\text{min}$.
 - 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.
 - 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

- | | |
|--|----------------|
| <input type="checkbox"/> Appearance | Viscous liquid |
| <input type="checkbox"/> Colour | Colourless |
| <input type="checkbox"/> Odour | Odourless |

9.1.2. Important health safety and environmental information

- | | |
|--|----------------------------------|
| <input type="checkbox"/> pH | > 13 |
| <input type="checkbox"/> pKa | No data |
| <input type="checkbox"/> Melting point/freezing point | 0°C (30%); +12°C (50%) |
| <input type="checkbox"/> Boiling point/boiling range (°C): | 118 – 145°C |
| <input type="checkbox"/> Flash Point | Not applicable - Not flammable |
| <input type="checkbox"/> Evaporation rate | No data |
| <input type="checkbox"/> Flammability (solid, gas) | Not applicable |
| <input type="checkbox"/> Flammability | Not flammable |
| <input type="checkbox"/> Explosive properties | Not explosive, See Section: 10. |
| <input type="checkbox"/> Vapour pressure | < 13.3 hPa, 20°C |
| <input type="checkbox"/> Vapour density | No data |
| <input type="checkbox"/> Relative density | 1.33 (30%); 1.53 (50%) |
| <input type="checkbox"/> Bulk density | No data |
| <input type="checkbox"/> Solubility(ies) | Completely soluble in water. |
| <input type="checkbox"/> Solubility (Other) | miscible with alcohol (Glycerol) |
| <input type="checkbox"/> Partition coefficient: n-octanol/water | No data |
| <input type="checkbox"/> Auto-ignition temperature | No data |
| <input type="checkbox"/> Decomposition Temperature | No data |

SAFETY DATA SHEET

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

- | | |
|--|----------------------|
| <input type="checkbox"/> Viscosity | 12 – 120 mPa.s, 20°C |
| <input type="checkbox"/> Oxidising properties | Not oxidising. |

9.2. Other information

Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

- Potential for exothermic hazard
- May be corrosive to metals.

10.2. Chemical stability

- Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

- Exothermic reaction with: Water (slight for dilutions from 40% down)
- Reacts with metals liberating hydrogen.
- Exothermic reaction with: strong acids.

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, lovalose, 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

Acute oral toxicity

- No data. Will immediately cause corrosion of and damage to gastrointestinal tract.

Acute inhalation toxicity

- No data. Mist is severe irritant to the respiratory tract.

Acute dermal toxicity

- No data. Corrosive.

Skin corrosion/irritation

- Corrosive.

SAFETY DATA SHEET

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

Serious eye damage/irritation

- Corrosive.

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 alkalinisation 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)
- 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.

SAFETY DATA SHEET

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

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

| | |
|--|--|
| | ADR / RID / ADN / IMDG / IATA-DGR |
| 14.1. UN number or ID number | UN 1824 |
| 14.2. UN proper shipping name | SODIUM HYDROXIDE SOLUTION |
| 14.3. Transport hazard class(es) | 8 |
| 14.4. Packing group | II |
| 14.5. Environmental hazards | No. |
| 14.6. Special precautions for user | Not applicable |
| 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.
-

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 |



SAFETY DATA SHEET

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

| | |
|---|--------------------------------|
| 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

| SECTION | Revisions to Previous issue |
|---------|---------------------------------|
| 1 | Unique Formula Identifier (UFI) |
| 2 | Classification |
| 3 | Classification |
| ► | Indicates altered section |

Supersedes: SDS3 Version 9

- 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.



SAFETY DATA SHEET

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