



SAFETY DATA SHEET

1. Identification:

Product identifier: **SODIUM HYDROXIDE, MULTIPLE CONCENTRATIONS, MEMBRANE**
Other means of identification: Caustic Soda, Lye, Soda Lye, Sodium Hydrate
Recommended use: All proper and legal purposes
Maximum Use Level for Potable Water: **Sodium Hydroxide 25, 32, 50%:** 100 mg/l
Recommended Restrictions: None known
Manufacturer / Importer / Supplier / Distributor Information: **Manufacturer**
Company Name: Carbonfree Chemicals SPE I LLC
Address: 11503 Bulverde Road
San Antonio, Texas, 78217
United States of America
Plant Telephone Number: 210-476-5906
Emergency Telephone Number: **CHEMTREC - Day or Night**
Within USA and Canada:
800-424-9300 or +1-703-527-3887 (collect calls accepted)

2. Hazards(s) Identification:

Physical Hazards: Not classified.
Health Hazards: Skin Corrosion / Irritation Category 1A
Serious eye damage / eye irritation Category 1
Environmental hazards: Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3
OSHA defined hazards: Not classified.

Label elements:



Signal word:

Danger

Hazard statement:

Causes severe skin burns and eye damage. Causes serious eye damage. Harmful to aquatic life with long lasting effects.

Precautionary Statement:
Prevention

Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment. Wear eye protection/face protection. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If swallowed Rinse mouth. **Do NOT induce vomiting.** If on skin (or hair), immediately take off all contaminated clothing. Rinse skin with water/shower. If inhaled, remove person to fresh air and keep comfortable for breathing. 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/doctor. Wash contaminated clothing before reuse.

Storage:

Restricted access.

Disposal:

Dispose of contents / container in accordance with applicable local, state/provincial, national, international regulations.

Hazards Not Otherwise Classified (HNOC):

None known.

Supplemental Information:

None.



3. Composition / Information on Ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
SODIUM HYDROXIDE (NAOH) in aqueous solution	Caustic Soda, Lye, Soda Lye, Sodium Hydrate	1310-73-2	25.0 – 50.0
Other components below reportable levels			50.0 – 75.0

4. First-Aid Measures

Inhalation:	Move to fresh air. Seek medical attention if symptoms develop or persist.
Skin contact:	Immediately remove all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion:	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed:	Burning pain and severe corrosive skin damage causes serious eye damage. Symptoms may include stinging, redness, and tearing, swelling and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed:	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes that do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information:	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-Fighting Measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental Release Measures:

Personal precautions, protective equipment and emergency procedures:	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection see section 8 of the SDS.
Methods and materials for containment and clean up:	Large Spills: Stop the flow of material if without risk. Dike the spilled material where possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water.



Small Spills, wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination, see section 13 of the SDS.

Never return spills to original containers or re-use. For waste disposal see section 13 of the SDS.

Environmental precautions:

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and

Storage:

Precautions for safe handling:

Provide adequate ventilation. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good Industrial hygiene practices.

Conditions for Safe Storage, Including any Incompatibilities:

Store under restricted access. Store in original tightly closed container. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
SODIUM HYDROXIDE	PEL	2 mg/m3
NaOH (CAS 1310-73-2)		

US. ACGIH Threshold Limit Values

Components	Type	Value
SODIUM HYDROXIDE	Ceiling	2 mg/m3
NaOH (CAS 1310-73-2)		

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
SODIUM HYDROXIDE	Ceiling	2 mg/m3
NaOH (CAS 1310-73-2)		

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear appropriate chemical resistant clothing

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.



General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical State:	Liquid.
Form:	Liquid.
Color:	Clear, colorless.
Odor:	None.
Odor Threshold:	NA.
pH:	~14
Melting / Freezing point (50% w/w solution):	54 F
Boiling Point (50% solution):	290 F
Flash Point:	Not applicable.
Evaporation Rate:	Not applicable.
Flammability:	Not flammable.
Upper Flammable / Explosive limit:	Not applicable.
Lower Flammable / Explosive limit:	Not applicable.
Vapor Pressure:	1.5 mm Hg at 68 F
Relative Vapor Density:	Not applicable.
Specific Gravity:	1.52
Liquid Density:	94.8 lb/FT ³ , 12.6 lb/Gallon
Solubility:	Exothermic complete solubility in water.
Viscosity, dynamic:	79 mPa.s at 68 F

10. Stability and Reactivity:

Reactivity:	Violent exothermic reaction with water and acids. Absorbs atmospheric CO ₂ . Corrosive to some metals. Reaction products may include Hydrogen (highly flammable). Reactive with certain sugars and organic compounds. On heating, may release corrosive gases or vapors. The product is stable and non-reactive under normal conditions of storage and transport.
Chemical Stability:	Stable under normal conditions. Hygroscopic.
Possibility of Hazardous Reactions:	Hazardous polymerization does not occur.
Conditions to Avoid:	Contact with incompatible materials as above.
Incompatible Materials:	Strong acids, sugars, glycols, halogenated organics, most metals.
Hazardous Decomposition Products:	Sodium Oxide; heating produces corrosive vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion:	Causes digestive tract burns.
Inhalation:	Prolonged inhalation of fumes / vapors may be harmful. May cause irritation to the respiratory system.
Skin Contact:	Causes severe skin burns. Harmful in contact with skin.
Eye Contact:	Causes serious eye damage.
Symptoms Related to the Physical, Chemical and Toxicological Characteristics:	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Information on Toxicological Effects:	Permanent eye damage including blindness could result.
Acute toxicity:	Severe corrosive damage to any contacted tissue.



Skin Corrosion / Irritation: Causes severe skin burns.
Serious Eye Damage / Eye Irritation: Causes severe eye damage, irritation.
Respiratory or Skin Sensitization: Not Available.
Respiratory Sensitization: Not expected to cause skin sensitization.
Skin Sensitization: Not expected to cause skin sensitization.
Cell Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not Listed.
Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.
Specific Target Organ Toxicity – Single Exposure: Not Classified.
Specific Target Organ Toxicity – Repeated Exposure: Not Classified.
Aspiration Hazard: Severe aspiration hazard.
Chronic Effects: Prolonged fume / vapor inhalation may be harmful.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects

Components	Species	Test Results
SODIUW HYDROXIDE (NaOH) (CAS 1310-73-2)		
Aquatic		
Crustacea	EC50	Water flea (Ceriodaphnia dubia)
		34.59-47.13 mg/l, 48 hours
Fish	EC50	Western mosquitofish (Gambusia affinis)
		125 mg/l, 96 hours
* Estimates for product may be based on additional component data not shown.		
Persistence and degradability	No data is available on the degradability of this product.	
Bio accumulative potential	No data available.	
Mobility in soil	No data available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations: Dispose in accordance with all applicable regulations.

Hazardous Waste Code: The waste code should be assigned in discussion between the user, the producer, and the waste disposal company.

Waste from Residues / Unused Products: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner per disposal instructions.

Contaminated Packaging: Some empty containers may retain product residue. Follow label warnings even after container is emptied. Empty containers should be taken to an approved waste disposal site for recycling or disposal.

14. Transport Information:

DOT:
UN Number: UN1824
UN Proper Shipping Name: Sodium Hydroxide Solution
Transport Hazard Class(es):



Class: 8
Subsidiary Risk: -
Packing Group: II
Special Precautions for User: Read safety instructions, SDS, and emergency procedures before handling.
ERG Code: 154
 DOT information on Packaging may differ from that listed.
DOT



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

SODIUM HYDROXIDE (CAS 1310-73-2) Listed.

SARA 304 Emergency release notification Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
 Not listed.

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

SODIUMHYDROXIDE (NaOH) (CAS 1310-73-2)

US. Massachusetts RTK -Substance List

SODIUM HYDROXIDE (NaOH) (CAS 1310-73-2)

US. New Jersey Worker and Community Right-to-Know Act

SODIUM HYDROXIDE (NaOH) (CAS 1310-73-2)



US. Pennsylvania Worker and Community Right-to-Know Law

SODIUM HYDROXIDE (NaOH) (CAS 1310-73-2)

US. Rhode Island RTK

SODIUM HYDROXIDE (NaOH) (CAS 1310-73-2)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
	Australian Inventory of Chemical Substances (AICS)	Yes
Australia	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No Yes
Canada	Inventory of Existing Chemical Substances in China (IECSC)	Yes
China	European Inventory of Existing Commercial Chemical Substances (EINECS)	No Yes
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Europe	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Japan	Existing Chemicals List (ECL)	Yes
Korea	New Zealand Inventory	
New Zealand	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	
Philippines	Toxic Substances Control Act (TSCA) Inventory	
United States & Puerto Rico		

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information, Including Date of Preparation or Last Revision:

Issue Date: 6 March 19
Revision Date: 6 March 19
Version: Four
HMIS® Ratings: Health: 3
 Flammability: 0
 Physical Hazard: 1
NFPA Ratings: Health: 3
 Fire Hazard: 0
 Reactivity: 1

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