SAFETY DATA SHEET

Sodium Hydroxide 50% Solution

SDS # : 1310-73-2--50
Revision date: 2024-12-06
Format: NA
Version 1.07

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name Sodium Hydroxide 50% Solution

Other means of identification

Product Code(s) 1310-73-2--50

Synonyms Caustic Soda Solution; Lye Solution; Sodium Hydrate Solution, White Caustic Solution

Recommended use of the chemical and restrictions on use

Recommended Use: pH adjustment

Restrictions on Use: See section 16 for more information

Manufacturer Address

Genesis Specialty Alkali, LLC
1735 Market Street
Philadelphia, PA 19103
Tel: +1 877 / 362-2248 or +1 215 / 845-4500
www.alkali.genesisenergy.com

Emergency telephone number

1 307 / 872 2452 (Plant - Green River, WY)
1 (303) 595-9048 (Medical - U.S. - Call Collect)

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Corrosive to Metals	Category 1

GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

Danger

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

Precautionary Statements - Prevention
P264 - Wash face, hands and any exposed skin thoroughly after handling
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
Precautionary Statements - Response
P310 - Immediately call a POISON CENTER or doctor/ physician
P390 - Absorb spillage to prevent material damage
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
P363 - Wash contaminated clothing before reuse
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

Precautionary Statements - Storage
P405 - Store locked up
P406 - Store in corrosive resistant/ stainless steel container with a resistant inner liner

Precautionary Statements - Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
No hazards not otherwise classified were identified.

Other Information
Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula NaOH

Chemical name	CAS-No	Weight %
Sodium Hydroxide	1310-73-2	50
Water	7732-18-5	50

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

General Advice Flush with plenty of water immediately. Continue flushing during transport to hospital or medical center.

Eye Contact In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Seek immediate medical attention/advice.

Skin Contact Immediately flush with plenty of water while removing contaminated clothing and/or shoes, and thoroughly wash with soap and water. Seek immediate medical attention/advice.

Inhalation Remove person to fresh air. If signs/symptoms continue, get medical attention.

Ingestion Rinse mouth with water and afterwards drink plenty of water or milk. Do not induce vomiting or give anything by mouth to an unconscious person. Call a physician immediately.

Most important symptoms and effects, both acute and delayed None known.

Indication of immediate medical attention and special treatment needed, if necessary Sodium hydroxide at this concentration is corrosive. Prolonged dilution with water is required. Neutralization of eye burns is absolutely contraindicated; for skin, 2% acetic acid has been recommended, but washing with water is effective. Ingestion requires milk or water dilution, consideration of esophagoscopy and management for possible esophageal stricture.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific Hazards Arising from the Chemical Not flammable

Explosion data
Sensitivity to Mechanical Impact Not sensitive.
Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions In case of spill, avoid contact. Isolate area and keep out animals and unprotected persons. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions See Section 12 for additional Ecological Information.

Methods for Containment Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Clean contaminated surface thoroughly. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling

Always wash equipment and containers before use. Dangerous chemical reactions can occur due to improper cleaning. Always add caustic soda to water. Adding water to caustic soda can cause a dangerous reaction. Ensure that water being used for dilution is lukewarm. Never dilute caustic with hot or cold water. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid contact by using personal protective equipment. Refer to Section 8.

Storage

Keep containers tightly closed in a cool, well-ventilated place. Keep away from incompatible products (acids).

Incompatible products

Acids, flammable liquids, organic halogen compounds, nitro compounds, and amphoteric metals, such as aluminum, magnesium, and zinc.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Ingredients with workplace control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Sodium Hydroxide 1310-73-2	Ceiling: 2 mg/m^3	TWA: 2 mg/m^3	IDLH: 10 mg/m^3 Ceiling: 2 mg/m^3	Mexico: Ceiling 2 mg/m^3
Chemical name	**British Columbia**	**Quebec**	**Ontario TWAEV**	**Alberta**
Sodium Hydroxide 1310-73-2	Ceiling: 2 mg/m^3	Ceiling: 2 mg/m^3	CEV: 2 mg/m^3	Ceiling: 2 mg/m^3

Appropriate engineering controls

Engineering measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/Face Protection

Use chemical splash-type mono-goggles and a full-face shield made of polycarbonate, acetate, polycarbonate/acetate, PETG or thermoplastic.

Skin and Body Protection

Rubber or vinyl apron. Rubber or plastic boots.

Hand Protection

Rubber or vinyl gloves with gauntlets. Wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

Respiratory Protection

Wear full face-piece respirators approved by MSHA/NIOSH if mists are expected.

Hygiene measures

Avoid contact with skin, eyes, and clothing. Avoid breathing vapors, mist or gas. Do not eat, drink, or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

General information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear to cloudy white, odorless liquid
Physical State	Liquid
Color	No information available
Odor	odorless
Odor threshold	No information available
pH	13.7
Melting point/freezing point	Not applicable
Boiling Point/Range	145 °C / 293 °F
Flash point	Not applicable
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	6.33 mm Hg @ 40 °C
Vapor density	No information available
Density	No information available
Specific gravity	1.53 @ 15.5 °C
Water solubility	completely soluble
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	Non-oxidizing
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	Not applicable
Chemical Stability	Stable under normal conditions.
Possibility of Hazardous Reactions	Reacts with many compounds.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat, Incompatible products
Incompatible materials	Acids, flammable liquids, organic halogen compounds, nitro compounds, and amphoteric metals, such as aluminum, magnesium, and zinc.
Hazardous Decomposition Products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Product Information

Serious eye damage/eye irritation	Corneal lesions and irreversible damage if contact with the eyes.
Skin corrosion/irritation	Corrosive to skin.

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium Hydroxide (1310-73-2)	400 mg/kg (rabbit) (37% solution)	= 1350 mg/kg (Rabbit)	Corrosive

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity Sodium hydroxide may produce inflammation of the eyes, skin, and mucous membranes. Esophageal carcinoma at the site of a chronic lye stricture has been reported. [Gosselin , Smith & Hodge 1984].
Mutagenicity No information available
Carcinogenicity Not recognized as carcinogenic by Research Agencies (IARC, NTP, OSHA, ACGIH).
Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.
Aspiration hazard No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Sodium Hydroxide 1310-73-2		96 h LC50: = 45.4 mg/L (*Oncorhynchus mykiss*)	

Persistence and degradability There is no degradation of sodium hydroxide in waters, only loss by absorption or through chemical neutralization.

Bioaccumulation No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). It must undergo special treatment, e.g. at suitable disposal site, to comply with local regulations. Can be disposed as wastewater, when in compliance with local regulations.

Contaminated Packaging Dispose of in accordance with local regulations.

Chemical name	California Hazardous Waste Status
Sodium Hydroxide 1310-73-2	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT

UN/ID no UN1824
Proper Shipping Name Sodium hydroxide solution
Hazard class 8
Packing Group II
Reportable Quantity (RQ) Sodium hydroxide: RQ = 1000 lbs.
Special Provisions B2, IB2, N34, T7, TP2
Emergency Response Guide Number 154

TDG

UN/ID no	UN1824
Proper Shipping Name	Sodium hydroxide solution
Hazard class	8
Packing Group	II

ICAO/IATA

UN/ID no	UN1824
Proper Shipping Name	Sodium hydroxide solution
Hazard class	8
Packing Group	II
Special Provisions	A3
Limited quantity	0.5 L

IMDG/IMO

UN/ID no	UN1824
Proper Shipping Name	Sodium hydroxide solution
Hazard class	8
Packing Group	II
EmS No.	F-A, S-B

ADR/RID

UN/ID no	UN1824
Proper Shipping Name	Sodium hydroxide solution
Hazard class	8
Packing Group	II
Classification code	C5
Tunnel restriction code	(E)
ADR/RID-Labels	8

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic health hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium Hydroxide 1310-73-2	1000 lb.			X

CERCLA

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium Hydroxide 1310-73-2	1000 lb.		RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

WARNING: *This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov .*

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium Hydroxide 1310-73-2	X	X	X

International Inventories

Component	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Sodium Hydroxide 1310-73-2 (50)	X	X	X	X	X	X	X	X
Water 7732-18-5 (50)	X	X	X		X	X	X	X

Chemical name	Carcinogen Status	Mexico
Sodium Hydroxide		Mexico: Ceiling 2 mg/m^3

WHMIS Statement

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class D2B - Toxic materials
E - Corrosive material

16. OTHER INFORMATION

NFPA	**Health Hazards** 3	**Flammability** 0	**Instability** 0	**Special Hazards** -
HMIS	**Health Hazards** 3	**Flammability** 0	**Physical hazard** 0	**Personal Protection** J

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Product Certifications

This product is certified to NSF/ANSI/CAN Standard 60 for use in drinking water treatment at the specified maximum use limit. The MUL (maximum use level) for caustic soda is 200 mg/L under NSF/ANSI/CAN Standard 60.

Revision date: 2024-12-06
Revision note: NSF logo and statement

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Prepared By:

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End of Safety Data Sheet