

Safety Data Sheet

according to OSHA HCS, NOM 018-STPS-2015, HPR Schedule 1

Date Printed: 09/14/2023

Version 11

Revision Date: 09/06/2023

1 Identification of the Substance/Mixture and of the Company/Undertaking

- **Product Identifier:** Liquid Caustic Soda 50% Membrane Grade
- **Synonyms:** Sodium Hydroxide 50%
- **Product Application:**
Strong chemical base in the manufacture of pulp and paper, textiles, drinking water, soaps and detergents.
- **Manufacturer/Supplier:**
Formosa Plastics Corporation, Americas
201 Formosa Drive
Point Comfort, TX 77978 USA
+1 (361) 987-7000
E-Mail: MSDS@fpcusa.com
- **Business Division:** Chlor-Alkali
- **Emergency Telephone Number:**
In case of a chemical emergency, contact CHEMTREC (24 hrs) at:
+1 (800) 424-9300 (United States, Canada, Puerto Rico, Virgin Islands)
+1 (703) 527-3887 (International & Maritime)

2 Hazards Identification

- **Classification of the Substance or Mixture:**
Skin Corrosion 1A H314 Causes severe skin burns and eye damage.
Eye Damage 1 H318 Causes serious eye damage.
- **Hazards Not Otherwise Classified:** May be harmful if swallowed.
- **Hazard Pictograms:**



GHS05

- **Signal Word:** DANGER
- **Hazard Statements:**
H318 Causes serious eye damage.
H314 Causes severe skin burns and eye damage.
- **Precautionary Statements:**
P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.

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P501 Dispose of contents/container in accordance with local regulations.

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· **Additional Precautionary Statements:** Wash contaminated clothing before reuse.

· **NFPA Ratings (scale 0 - 4):**



· **Additional Information:**

If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

3 Composition/Information on Ingredients

· **Chemical Characterization: Mixtures**

· **CAS No. Description**

1310-73-2 sodium hydroxide 50%

⚠ Skin Corrosion 1A, H314; ⚠ Acute Toxicity - Oral 4, H302

· **Additional Information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

· **General information:**

Rescue personnel must wear appropriate protective equipment during removal of victims from contaminated areas.

· **After Inhalation:**

Remove victim to fresh air.
Administer oxygen if breathing is difficult.
Administer artificial respiration if breathing has stopped.
Onset of symptoms may be delayed up to 48 hours.
Get immediate medical attention.

· **After Skin Contact:**

Remove contaminated clothing and shoes. Wash affected area with soap and water.
Use caution to avoid spreading contamination while washing.
Delayed skin damage is possible if product is not completely washed off.
Get immediate medical attention.

· **After Eye Contact:**

In case of accidental contact, immediately flush eyes with water.
Hold eyelids open to ensure adequate flushing.
Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical attention.

· **After Swallowing:**

Rinse mouth.
Administer 1-2 glasses of water to dilute ingested material.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.

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Get immediate medical attention.

- **Most Important Symptoms and Effects:** No further relevant information available.
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5 Firefighting Measures

- **Suitable Extinguishing Agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray.
 - **Unsuitable Extinguishing Agents:** None.
 - **Special Firefighting Hazards:** No special firefighting hazards expected.
 - **特殊灭火方法 (Advice for Firefighters):**
 - **Protective Equipment:**
In the event of a fire, wear a NIOSH (USA) or CEN (EU) approved self-contained breathing apparatus (SCBA) and full protective clothing.
 - **Additional Information:** Evacuate all non-essential personnel from the danger area.
-

6 Accidental Release Measures

- **Personal Precautions, Protective Equipment and Emergency Procedures:**
In case of a spill or other accidental release of this material, contact your supervisor, safety administrator, or emergency response team immediately.
Restrict access to keep out unauthorized or unprotected personnel.
Stay upwind of spilled material.
Wear appropriate personal protective equipment during all clean-up activities. See Section 8 for more information.
Avoid inhalation and direct contact.
All clean-up personnel must be properly trained.
- **Environmental Precautions:**
Keep spilled material out of sewage/drainage systems and waterways.
This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center +1 (800) 424-8802 is required. See Section 15 for more information.
- **Methods for Containment and Clean-Up:**
Secure the source of the leak if conditions are safe.
Use neutralizing agent.
Collect using an appropriate absorbent material such as clay or sand.
Place waste in an appropriate container for disposal.
Use care during clean-up to avoid exposure to the material and injury from broken containers.
- **Reference to Other Sections:**
See Section 7 for information on safe handling.
See Section 8 for information on personal protective equipment.
See Section 13 for disposal information.

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7 Handling and Storage

- **Precautions for Safe Handling:**

When diluting, always stir the product into water, not water to product.
Do not mix with water without dilution and agitation to prevent potentially violent reaction.
Avoid inhalation and direct contact.
Wear appropriate personal protective equipment.
Do not mix with acids, ammonia, alcohol, ethers or hydrocarbons.

- **Protection Against Fires and Explosions:** Contact with metals may form hydrogen gas.

- **Conditions for Safe Storage, Including Any Incompatibilities:**

Store in closed, properly labeled containers.
Protect containers from heat, physical damage, ignition sources and incompatible materials.
Have emergency equipment for fires and spills readily available.
Absorbs carbon dioxide. Keep container closed.
There is no specific limit on shelf-life if material is stored in a closed container.

- **Additional Information:**

If you do not understand the hazards or safety precautions described in this data sheet, contact your supervisor or safety administrator before handling this product.

8 Exposure Controls/Personal Protection

- **Occupational Exposure Limits:**

1310-73-2 sodium hydroxide

EL (Canada) Ceiling Limit Value: 2 mg/m³

EV (Canada) Ceiling Limit Value: 2 mg/m³

VLE (Mexico) Ceiling Limit Value: 2 mg/m³

PEL (USA) Eight-Hour Value: 2 mg/m³

REL (USA) Ceiling Limit Value: 2 mg/m³

TLV (USA) Ceiling Limit Value: 2 mg/m³

- **Exposure Controls:** Ensure emergency eyewash and shower facilities are available.

- **Personal Protective Equipment:**

- **General Protective and Hygienic Measures:**

Wash thoroughly after handling.
Follow all safety precautions, posted signs and warnings.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

- **Respiratory Protection:**

An industrial hygiene risk assessment is required to determine appropriate respiratory protection.
An air-purifying respirator may be appropriate under limited exposure conditions.
Perform a respirator fit/seal check after donning.
Protection provided by air-purifying respirators is limited.
Wear a self-contained breathing apparatus (SCBA) if there is a potential for uncontrolled release, exposure levels are not known, or in other circumstances where air-purifying respirators may not provide adequate protection.

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- **Hand Protection:**



Chemical resistant gloves.

Work gloves may be worn over chemical resistant gloves.
 Wear a second pair of chemical resistant gloves for added protection.
 Tape gloves to coveralls or suit, if worn.
 Use caution when removing gloves to avoid exposure to hazardous chemicals.

- **Eye/Face Protection:**



Safety glasses with side shields.

Splash goggles/mono-goggles recommended during tasks with high potential for exposure.

- **Body Protection:**

Lab coat recommended for small scale operations.
 Tasks with a high probability for splashing or skin contact may require:
 Chemical resistant coveralls or apron.
 Heavy duty chemical resistant boots.

- **Additional Information:**

If unusual exposures are expected, an industrial hygiene review of work practices, engineering controls and personal protective equipment is recommended.

9 Physical/Chemical Properties

- **Information on Basic Physical and Chemical Properties**

- **Appearance:**

Physical State: Liquid

Color: Colorless

- **Odor:** Odorless

- **Odor Threshold:** Not determined.

- **pH at 20 °C (68 °F):** 13.7

- **Melting Point/Freezing Point:** 5-12 °C (41-53.6 °F) (Freezing Point)

- **Boiling Point:** 105-147.8 °C (221-298 °F)

- **Flash Point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Autoignition Temperature:** Not determined.

- **Decomposition Temperature:** Not determined.

- **Auto-Ignition Temperature:** Not determined.

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- **Explosion Limits:**
 - Lower Explosive Limit (LEL):** Not determined.
 - Upper Explosive Limit (UEL):** Not determined.
 - **Vapor Pressure:** Not determined.
 - **Density at 20 °C (68 °F):** 1.52 g/cm³ (12.68 lbs/gal)
 - **Vapor Density:** Not determined.
 - **Evaporation Rate:** Not determined.
 - **Solubility:**
 - Water:** Soluble.
 - **Partition Coefficient (n-octanol/water):** Not determined.
 - **Viscosity:** Not determined.
 - **Other Information:** No further relevant information available.
-

10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
 - **Chemical Stability:** Stable if used and stored according to the specifications listed below.
 - **Conditions to Avoid:**
 - Keep away from heat, sparks and open flames.
 - Keep away from incompatible materials.
 - Absorbs carbon dioxide. Keep container closed.
 - **Possibility of Hazardous Reactions/Incompatible Materials:**
 - Keep away from strong oxidizers.
 - Keep away from halogenated compounds.
 - Do not mix with acids, ammonia, alcohol, ethers or hydrocarbons.
 - Contact with metals may form hydrogen gas.
 - **Hazardous Decomposition Products:** No data available.
-

*11 Toxicological Information

- **Acute Toxicity:** May be harmful if swallowed.
- **Relevant LD/LC50 Values:**
 - 1310-73-2 sodium hydroxide**
 - Oral LD50 2,000 mg/kg (rat)
- **Skin Irritation:** Causes severe skin burns and eye damage.
- **Eye Irritation:** Causes serious eye damage.
- **Respiratory Irritation:** Corrosive to the respiratory tract.
- **Respiratory or Skin Sensitization:** No data available.

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- **Subacute to Chronic Toxicity:**
 - **Endocrine Disrupting Properties:**
None of the ingredients is listed.
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12 Ecological Information

- **Aquatic Toxicity:** No data available.
 - **Persistence and Degradability:** No data available.
 - **Bioaccumulative Potential:** No data available.
 - **Mobility in Soil:** No data available.
 - **Endocrine Disrupting Properties:**
The product does not contain substances with endocrine disrupting properties.
-

13 Disposal Considerations

- **Disposal Instructions:**
Keep spilled material out of sewage/drainage systems and waterways.
Maximize product recovery for reuse or recycling.
Waste materials may be hazardous due to the pH/corrosivity.
Dispose of waste in accordance with applicable laws and regulations.
 - **Contaminated Packaging:**
It is the responsibility of the product user to determine at the time of disposal whether a material containing or derived from this product should be classified as hazardous waste.
 - **Additional Information:**
It is the responsibility of the product user to determine at the time of disposal whether a material containing or derived from this product should be classified as hazardous waste.
-

14 Transport Information

- **UN Number:**
- **DOT, ADR, IMDG, IATA** UN1824

- **UN Proper Shipping Name:**
- **DOT:** Sodium hydroxide solution
- **ADR:** 1824 SODIUM HYDROXIDE SOLUTION
- **IMDG, IATA** SODIUM HYDROXIDE SOLUTION

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· **Transport Hazard Class(es):**

· **DOT:**



· **Class:** 8 Corrosive substances

· **Label:** 8

· **ADR, IMDG, IATA**



· **Class:** 8 Corrosive substances

· **Label:** 8

· **Packing Group:**

· **DOT, ADR, IMDG, IATA** II

· **Environmental Hazards:** Not applicable.

· **Marine Pollutant:** No

· **Special Precautions:** Warning: Corrosive substances

· **Danger Code (Kemler):** 80

· **EMS Number:** F-A,S-B

· **Segregation Groups:** (SGG18) Alkalis

· **Stowage Category** A

· **Segregation Code:** SG35 Stow "separated from" SGG1-acids

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.

· **Additional Information:** Shippers must consult transportation regulations for packaging instructions, quantity limitations and other regulatory information applicable to the desired mode of transport.

· **DOT:**

· **Quantity Limitations:** On passenger aircraft/rail: 1 L
On cargo aircraft only: 30 L

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- **Remarks:** This product contains a U.S. EPA Reportable Quantity (RQ) substance. If amounts exceeding the Reportable Quantity are released, notification of the National Response Center +1 (800) 424-8802 is required. See Section 15 for more information.
 - Shippers must consult transportation regulations for packaging instructions, quantity limitations and other regulatory information applicable to the desired mode of transport.
 - **ADR:**
 - **Excepted Quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
 - **Tunnel Restriction Code:** E
 - **IMDG:**
 - **Limited Quantities (LQ):** 1L
 - **Excepted Quantities (EQ):** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
 - **UN "Model Regulation":** UN 1824 SODIUM HYDROXIDE SOLUTION, 8, II
-

*15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **U.S. Superfund Amendments & Reauthorization Act (SARA) 355 (Extremely Hazardous Substances):**
None of the ingredients is listed.
- **U.S. Superfund Amendments & Reauthorization Act (SARA) 313 (Specific Toxic Chemical Listings):**
None of the ingredients is listed.
- **U.S. Environmental Protection Agency Reportable Quantity:**
1310-73-2 sodium hydroxide: 1,000 lbs.
- **U.S. Toxic Substances Control Act (TSCA):** ACTIVE
- **Hazardous Air Pollutants**
None of the ingredients is listed.
- **California Proposition 65:**
- **California Proposition 65 Carcinogens:**
Materials used in the manufacturing process may result in contamination with trace quantities (<0.0001%) of various metals listed under Proposition 65. Contact Formosa Plastics Corporation, U.S.A. for more information.
None of the ingredients is listed.
- **New Jersey Right-to-Know List:**
1310-73-2 sodium hydroxide
- **New Jersey Special Hazardous Substance List:**
1310-73-2 sodium hydroxide: CO, R1

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- **Pennsylvania Right-to-Know List:**

1310-73-2 sodium hydroxide

- **Pennsylvania Special Hazardous Substance List:**

1310-73-2 sodium hydroxide: E

- **Canadian Substance Listings:**

- **Canadian Domestic Substances List (DSL):**

All ingredients are listed.

- **Canadian Non-Domestic Substances List (NDSL)**

None of the ingredients is listed.

- **Canadian Ingredient Disclosure List (limit 0.1%)**

None of the ingredients is listed.

- **Canadian Ingredient Disclosure List (limit 1%):**

1310-73-2 sodium hydroxide

- **GHS Label Elements:**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard Pictograms:**



GHS05

- **Signal Word:** DANGER

- **Hazard Statements:**

H318 Causes serious eye damage.

H314 Causes severe skin burns and eye damage.

- **Other Hazards:** May be harmful if swallowed.

- **Precautionary Statements:**

P260 Do not breathe dusts or mists.

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

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309+P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local regulations.

- **Additional Precautionary Statements:** See Section 2.

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- **Chemical Safety Assessment:** A Chemical Safety Assessment has not been carried out.
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16 Other Information

This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Formosa Plastics Corporation, U.S.A. at the time it was prepared. Formosa Plastics Corporation, U.S.A. does not assume 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, Formosa Plastics Corporation, U.S.A. and its subsidiaries cannot guarantee that these are the only hazards that exist. Formosa Plastics Corporation, U.S.A. assumes no legal responsibility for loss, damage or expense arising out of, or in any way connected with, the handling, storage, use or disposal of this product.

- **Department Issuing Safety Data Sheet:** Corporate Environment, Health & Safety

- **Abbreviations & Acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Corrosion 1A: Skin corrosion/irritation – Category 1A

Eye Damage 1: Serious eye damage/eye irritation – Category 1

- **Sources & References:** * - Indicates that data has been updated from the previous version.