ATRICHEM

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SAFETY DATA SHEET

SODIUM HYDROXIDE (NaOH)
CAUSTIC SODA

1. PRODUCT AND COMPANY INFORMATION	
Trade Name:	Caustic soda
Synonyms:	Sodium hydroxide, Lye soda, Stone soap, E-524, Sodium hydroxide, Sodium hydrate
IUPAC Name:	Sodium hydroxide
Formula:	NaOH
Hazard Classification:	Corrosive, class 8.
UN	1824
CAS:	1310-73-2
Recommended use of the product:	Manufacture of soaps, rayon, paper, explosives, paints and petroleum products. Cotton textile processing, laundry and bleaching, oxide coating, electroplating and electrolytic extraction. It is commonly found in drain and oven cleaners. It is also used as a paint remover and by cabinet makers to remove old paint from wooden furniture.
Manufacturer and/or distributor details:	
Name:	**TRICHEM DE COLOMBIA S.A.S**
Address:	Carrera 9 No. 113-52 Of. 1601 Edificio Torres Unidas 2
Website:	www.triconenergy.com
Phone:	60+1 5807154
Unit responsible for information:	Business Unit
Hours:	8 a.m. – 5 p.m.
Emergency number:	123 -112-119
2. HAZARD IDENTIFICATION AND CLASSIFICATION	
Substance classification According to the Globally Harmonized System	Skin corrosion (Category 1B) - Serious eye damage (Category 1) Danger to the aquatic environment - acute hazard (Category 3)
WARNING WORD: DANGER DANGER INDICATION(S): **CAUTION:** P260 Do not breathe fumes, gases, mists, vapors or spray.	H290 Puede ser corrosivo para los metales. H314 Provoca graves quemaduras en la piel y lesiones oculares graves. H402 Nocivo para los organismos acuáticos.

P264 Wash thoroughly after handling.
P273 Do not release into the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331

IF SWALLOWED: Rinse mouth.
DO NOT induce vomiting.
P305 + P351 + P338

IN CASE OF EYE CONTACT: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do.
Continue rinsing.
P303 + P361 + P353 –

IN CASE OF CONTACT WITH SKIN (or hair):
Remove contaminated clothing immediately.
Rinse skin with water or shower. P304 + P340 -
IF INHALED: Remove person to fresh air and keep in a position where breathing is facilitated. P308 + P310

IN CASE OF MANIFEST OR SUSPECTED EXPOSURE: Call a POISON CENTER or doctor immediately Skin contact:
Corrosive.
May cause severe burns.
Eye contact: Corrosive and may cause permanent and irreversible damage.
Inhalation: Toxic; may cause severe throat and lung problems. Ingestion: Toxic. May cause irreversible damage.
Chronic effects:
Overexposure may cause muscle weakness and fatigue.

Hazard pictogram

3. COMPOSITION, INFORMATION ON COMPONENTS.

SODIUM HYDROXIDE	CAS No.: 1310-73-2	% WEIGHT: 50.0
WATER	CAS No.: ----------	WEIGHT: Depending on concentration

4. FIRST AID MEASURES

- Call emergency medical services.
- Ensure that medical personnel are aware of the materials involved, and take precautions to protect themselves.
- Move victim to uncontaminated air if it can be done safely.
- Apply artificial respiration if the victim is not breathing.
- Do not perform mouth-to-mouth resuscitation if victim ingested or inhaled the substance; wash face and mouth before giving artificial respiration. Use a pocket mask equipped with a one-way valve or other suitable medical breathing device.
- Give oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and footwear.

- In case of contact with the substance, immediately flush skin or eyes with running water for at least 20 minutes.
- For minor skin contact, avoid spreading material on unaffected skin.
- Keep victim calm and warm.
- Effects of exposure (inhalation, ingestion or skin contact) may be delayed.

5. FIRE SAFETY MEASURES

Small Fire

- Dry chemical powders, CO2 or water spray.
- Large Fire
- Use dry chemical powder, CO2, water spray or alcohol-resistant foam.
- If it can be done safely, move undamaged containers away from the area around the fire.
- Dike to collect leaks resulting from fire control for later disposal. Fire Involving Tanks or Wagons or Trailers and their Loads
- Fight fire from maximum distance or use master stream devices or monitor nozzles.
- Do not introduce water into containers.
- Cool containers with copious amounts of water until well after the fire has been extinguished.
- Withdraw immediately if a growing sound comes from the vent safety mechanisms, or if the tank begins to discolor.
- ALWAYS stay away from tanks involved in fire.

SPILL OR LEAKAGE

- ELIMINATE all ignition sources (no smoking, flares, sparks or flames) near the area.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do so without risk.
- Prevent entry into waterways, sewers, basements or confined areas.
- Absorb with dry earth, sand or other non-combustible absorbent material and transfer to containers.
- DO NOT INTRODUCE WATER INTO CONTAINERS.

6. MEASURES IN CASE OF ACCIDENTAL SPILL

For highlighted materials:

see **Table 1**[1] - Initial Isolation and Protective Action Distances.

- For other materials, increase the immediate precautionary action distance, as necessary downwind.
- Environmental precautions: Prevent product from entering watercourses and sewage system. Restrict access to the affected area. Spills on the ground should be contained by dikes of inert material (sand, earth, vermiculite, foamed polyurethane or any other suitable device).
- Collect the spilled material in appropriate containers and dispose of it in a suitable facility. Once the spill has been collected, neutralize the affected area with a dilute acid and wash with plenty of water.

7. HANDLING AND STORAGE

- Handling: Always use personal protection even if the exposure or activity with the product is short.
- Maintain strict hygiene standards, do not smoke or eat at the work site. Know where the emergency care equipment is located.
- Read the label instructions before using the product. Label containers appropriately.
- Storage: Keep the product in a dry, cool and well ventilated place, away from incompatible substances.

[1] **Table 1** Table 1 lists materials that react with water and produce large quantities of toxic vapors. Some of these materials have 2 entries in Table 1. They are identified as (when spilled on land) because they are PTI materials, and (when spilled in water) because they additionally produce toxic fumes when spilled in water. Choose the greatest protective action distance if: • It is unclear whether the spill is on water or land, • The spill occurs on both water and land.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Use positive pressure self-contained breathing apparatus (SCBA).

- Wear chemical protective clothing that is specifically recommended by the manufacturer when there is NO RISK OF FIRE.
- Structural fire protective clothing provides thermal protection but only limited chemical protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

State: Solid in the form of granules or flakes.
Color: white crystalline
Molecular weight: 40 Odour: odourless pH: of a 0.05% wt/wt solution >12; of a 0.5% solution: about 13; 5% solution >14 Melting point: 319 - 322 °C
Boiling Point: 1,390 °C at 1,013 hPa
Flash point: Not applicable Specific Gravity: 2.13 g/cm3 at 25 °C
Heat of combustion: Not combustible
Heat of vaporization: 175 kJ/mol at 1388 °C
Viscosity: 4.0 cP at 350°C

10. STABILITY AND REACTIVITY

Chemical stability Hygroscopic
Possibility of hazardous reactions Risk of explosion/exothermic reaction with:
Acetone, Nitriles, phosphides, halogens, halogen halides, chlorinated solvents, Ethylene oxide, Hydrazine hydrate, hydroxylamine, anhydrides, Peroxides, acrolein, Acid chlorides, Acids, Sulfuric acid, silver salt, hydrogen peroxide/oxygenated water, organic nitrocompounds, Water.
Metals, Light metals
May form: Hydrogen Ammonium compounds, organic flammables, phenols Release of hazardous gases or vapors with: persulfates, sodium borohydride, phosphorus oxides.
Conditions to avoid: Exposure to moisture.
Incompatible materials:
Aluminum, brass, Metals, metal alloys, Zinc, Tin.
Hazardous decomposition products in case of fire

11. TOXICOLOGICAL INFORMATION

TOXIC; inhalation, ingestion or skin contact with material may cause severe injury or death.

- Contact with molten substance may cause severe skin and eye burns.
- Avoid any skin contact.
- The effects of contact or inhalation may be delayed.
- Fire may produce irritating, corrosive and/or toxic gases.
- Leaks resulting from fire control or dilution with water may be corrosive and/or toxic and cause environmental contamination.

12 ENVIRONMENTAL INFORMATION

Toxicity
Ecotoxicity: Toxicity to fish
LC50 Gambusia affinis (mosquitofish): 125 mg/l; 96 h
Toxicity to daphnia and other aquatic invertebrates
EC50 Ceriodaphnia (water flea): 40.4 mg/l; 48 h
Toxicity to bacteria
EC50 Photobacterium phosphoreum: 22 mg/l; 15 min

Persistence and degradability Methods for the determination of biological degradability are not applicable for inorganic substances.
Bioaccumulative potential No information available.
Mobility in soil.
No information available
Other adverse effects.
SODIUM HYDROXIDE Additional ecological information.
Harmful effect due to pH deviation. Despite dilution still forms caustic mixtures with water.
Neutralization in sewage treatment plants possible. Discharge into the environment should be avoided.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods:
The final disposal of the chemical should take into account: its impact on air quality; potential migration into soil or water; effects on plant and animal life. Waste should be disposed of in accordance with local and national regulations. Recycle unused quantity or return to manufacturer or supplier. Do not mix with other wastes. Leave chemical in its original container and handle soiled containers like the product itself.
After neutralization, either at the spill site or at a waste management facility, the resulting sludge can be disposed of in a safety landfill.
Wastewater from contaminant suppression, cleaning of protective clothing/equipment, or contaminated sites should be contained and concentrations of the substance or its breakdown products measured. Concentrations should be below current environmental discharge or disposal criteria.

14. TRANSPORTATION INFORMATION

Road transport (ADR/RID)
UN Number: UN 1824
United Nations proper shipping name: Sodium hydroxide solid
Class: 8 14.4
Packaging group: II
Environmentally hazardous - Special precautions for users
Special precautions for users: yes
Transport pictogram: Transport labeling according to Decree 1609 of 2002 Col.

15. REGULATORY INFORMATION

Substance-specific safety, health and environmental regulations and legislation.
National legislation: decree 1079/2015 Section 8 Automotive land transport of dangerous goods by road.
Ministry of environment, housing and territorial development: decree 4741 of December 30, 2005. On the prevention and management of hazardous waste.
Ntc 1692 Third Update (Colombian Technical Standards)
Storage class 8B

16. ADDITIONAL INFORMATION

NFPA 704 Classification
Health hazard = 3
Flammability = 0
Reactivity = 1

The data presented in this sheet applies only to the specific material designated herein. The information contained in this sheet is presented as an act of good faith service to our customers, according to the best information obtained by Trichem S.A.S. from its various suppliers, but the information may be incomplete. It is the users' responsibility to determine the suitability or appropriateness of the product in relation to its various end uses prior to use.