

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: SODIUM HYDROXIDE SOLUTION

CAS Number: 1310-73-2

1. IDENTIFICATION:

Product Code : 91734, 96058, 93581, 91739, 97176, 96055, 97156,97155

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2. HAZARDS IDENTIFICATION:**Hazard classification****Physical hazards**

Corrosive to Metals : Category 1

Health hazards

Skin corrosion : Sub-Category 1 A

Serious eye damage : Category 1

Labels elements :**Hazard symbol** :

Signal word : Danger

Hazard statement : May be corrosive to metals.
Causes severe skin burns and eye damage.

Precautionary statement

Prevention : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed. Ground/ bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools. Take precautionary measures against static discharge.

Response : IF exposed or concerned: Get medical advice/ attention.
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 INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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- Storage** : Store in a dry & well-ventilated place. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
- Disposal** : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Other hazards which do not result in GHS classification** : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
 Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
 Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

3. COMPOSITION/ INFORMATION ON INGREDIENTS:

Ingredient	CAS Number	Concentration	Classification	Hazardous
Sodium Hydroxide	1310-73-2	30-50%	Met. Corr. 1; Skin Corr. 1A; Eye Dam. 1; H290, H314, H318 Concentration limits: >= 5 %: Skin Corr. 1A, H314; 2 - < 5 %: Skin Corr. 1B, H314; 0,5 - < 2 %: Skin Irrit. 2, H315; 0,5 - < 2 %: Eye Irrit. 2, H319; >= 0,4 %: Met. Corr. 1, H290	Yes

4. FIRST AID MEASURES:

- General information** : Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.
- 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.
- Inhalation** : Move to fresh air. Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen.
Get medical attention if symptoms persist.
- Skin contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Eye contact** : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.
- Most important symptoms/effects, acute** : The most important known symptoms and effects are described in the labelling.

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and delayed

Indication of immediate
medical attention and
special treatment needed : No data available

5. FIRE FIGHTING MEASURES:

General information : May be corrosive to metals.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards arising
from the chemical : Sodium oxides
Not combustible

Special protective equipment and precautions for firefighters

Special firefighting procedures : Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Special protective equipment for fire-fighters : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. ACCIDENTAL RELEASE MEASURES:

Personal precautions,
protective equipment and
emergency procedures : ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
Avoid breathing mists or vapors. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for
containment and cleaning
up : Eliminate all ignition sources if safe to do so. Use only non-sparking tools. Take precautionary measures against static discharges. Stop leak if possible without any risk.
Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

Notification Procedures : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.

Environmental precautions : Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. HANDLING AND STORAGE:

Precautions for safe
handling : Use only non-sparking tools. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with eyes, skin, and clothing. Do not breathe the mist or vapor. Use only with adequate ventilation. Wash hands thoroughly after handling.

Conditions for safe storage,
including any
incompatibilities : Keep away from food, drink and animal feeding stuffs. Keep container tightly closed in a dry, well-ventilated place.

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8. EXPOSURE CONTROLS PERSONAL PROTECTION:**Control parameters****Appropriate engineering**

controls : No data available

Individual protection measures, such as personal protective equipment**General information** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.**Eye/face protection** : Wear safety glasses with side shields (or goggles).**Hand protection** : Chemical resistant gloves.**Other** : Wear suitable protective clothing.**Respiratory protection** : In case of inadequate ventilation use suitable respirator. Chemical respirator with organic vapor cartridge. Recommended Filter type: Filter type P2**Hygiene measures** : 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. Provide eyewash station and safety shower. Avoid contact with eyes, skin, and clothing.**9. PHYSICAL AND CHEMICAL PROPERTIES:****Appearance** : Clear, colorless liquid**Odor** : odorless**Solubility** : Miscible in water.**Formula** : NaOH**Molecular Weight** : 40 g/mol**Density** : 1.33 g/cm³ at 20°C**pH** : No data available**% Volatiles by volume @ 21C (70F)** : No data available**Boiling Point** : No data available**Melting Point** : No data available**Flash Point** : No data available**Vapor Density (Air=1)** : No data available**Vapor Pressure (mm Hg)** : No data available**Evaporation Rate (BuAc=1)** : No data available

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10. STABILITY AND REACTIVITY:

Reactivity	:	No data available
Chemical stability	:	No data available
Possibility of hazardous reactions	:	Risk of ignition or formation of inflammable gases or vapours with: Metals, Light metals Possible formation of: Hydrogen Violent reactions possible with: ammonium compounds, Cyanides, organic nitro compounds, organic combustible substances, phenols, powdered alkaline earth metals, Acids, Nitriles, Magnesium.
Conditions to avoid	:	No data available
Incompatible materials	:	Aluminum, various plastics, Brass, Metals, metal alloys, Zinc, Tin, Light metals, glass, quartzes/silicate ceramics, animal/vegetable tissues
Hazardous decomposition products	:	In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION:

Information on toxicological effects

COMPONENTS- SODIUM HYDROXIDE

Acute toxicity (list all possible routes of exposure)

If ingested	:	Severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Symptoms: burns of mucous membranes, Cough, Shortness of breath, Possible damages, damage of respiratory tract
Dermal Product	:	No data available.
Inhalation Product	:	No data available.
Repeated dose toxicity Product	:	No data available.
Skin corrosion/irritation Product	:	Causes burns
Serious eye damage/eye irritation Product	:	Causes serious eye damage
Respiratory or skin sensitization Product	:	In vitro study- Result: negative
Carcinogenicity Product	:	No data available.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans	:	No data available.
US. National Toxicology Program (NTP) Report on Carcinogens	:	No data available.
US. OSHA Specifically Regulated Substances (29	:	No data available.

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CFR 1910.1001-1050**Germ cell mutagenicity****In vitro Product** : No data available.**Reproductive toxicity Product** : No data available.**Specific target organ toxicity - single exposure Product** : No data available.**Specific target organ toxicity - repeated exposure Product** : Acute oral toxicity - If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach. Acute inhalation toxicity - burns of mucous membranes, Cough, Shortness of breath, Possible damages:, damage of respiratory tract**Aspiration hazard Product** : No data available.**Other effects** : No data available.**12. ECOLOGICAL INFORMATION:****Ecotoxicity****COMPONENTS- SODIUM HYDROXIDE****Acute hazards to the aquatic environment****Fish Product** : LC50 - Gambusia affinis (Mosquito fish) - 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**Chronic hazards to the aquatic environment****Fish Product** : No data available.**Aquatic invertebrates Product** : No data available.**Toxicity to Aquatic Plants Product:** : No data available.**Persistence and degradability****Biodegradation Product** : The methods for determining the biological degradability are not applicable to inorganic substances.**BOD/COD ratio Product** : No data available.**Bioaccumulative potential****Bioconcentration factor (BCF) Product** : No data available on bioaccumulation.**Partition coefficient n-octanol / water (log Kow)** : No data available.

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Product**Mobility in soil** : No data available.**Other adverse effects** : Harmful effect due to pH shift. Death of fish possible. Does not cause biological oxygen deficit. Neutralisation possible in waste water treatment plants. Discharge into the environment must be avoided.**13. DISPOSAL CONSIDERATION:****Disposal instructions** : Discharge, treatment, or disposal may be subject to national, state, or local laws. Disposal recommendations are based on uncontaminated material.**Contaminated packaging** : Since emptied containers retain product residue, follow label warnings even after container is emptied.**14. TRANSPORT INFORMATION:**

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR/RID	UN 1824	Sodium Hydroxide solution	8	II	No
IMDG	UN 1824	Sodium Hydroxide solution	8	II	No
IATA	UN 1824	Sodium Hydroxide solution	8	II	No

15. REGULATORY INFORMATION:

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

No Data Available.

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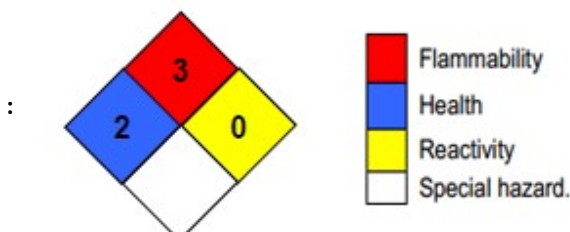
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16. OTHER INFORMATION:

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

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