



**GRASIM INDUSTRIES LIMITED
(CHEMICAL DIVISION)**

SAFETY DATA SHEET

CAUSTIC SODA LYE

SODIUM HYDROXIDE, SOLUTION

Ref: SDS/GRCD/ VLYT/CSL
Revision Date: Rev-0/June 2019

1. IDENTIFICATION OF SUBSTANCE

Trade Marks and Synonyms (if any)	Caustic Soda Lye, Sodium Hydroxide solution
Chemical Names and Synonyms	Sodium Hydroxide solution 45-50% , Caustic Soda solution , Lye solution, Sodium Hydrate solution , White caustic solution
Molecular weight	40.0
Manufacturer Name & Address	Grasim Industries Limited Chemical Division Plot No-1, GIDC, Vilayat Industrial Estate Taluka Vagra, Dist.- Bharuch 392012 (Gujarat), India www.grasim.com
Information department	Marketing Department, Grasim Industries Limited, Chemical Division
Emergency Telephone number	Telephone:+91- 8347008059, 8347004619

2. INFORMATION OF MAJOR INGREDIENTS

Chemical Name	Sodium hydroxide, solution
CAS No	1310-73-2
Formula	NaOH
Percentage	45 - 50

3.	HAZARD IDENTIFICATION
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3.1 Classification of the substance or mixture

Classification:-

Corrosive to metals	Category 1
Skin Corrosion/irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure) Target Organs - Respiratory system.	Category 3

3.2 Label Element

Signal Word DANGER

Hazard Pictogram



GHS05



GHS07

Hazard Statements H290- May be corrosive to metal
 H312- Harmful in contact with Skin
 H314-Cause severe skin burns and eye damage
 H335- May cause respiratory irritation.

Precautionary Statements

- Prevention P260 - Do not breathe dust, vapours
 P264 - Wash exposed skin thoroughly after handling
 P273 - Avoid release to the environment
 P280 - Wear eye protection, face protection, protective clothing, protective gloves
- Response P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P303+P361+P353 - IF ON SKIN (or hair): Remove/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
 P310 - Immediately call a POISON CENTER/doctor/...
 P363 - Wash contaminated clothing before reuse

Storage	P405 - Store locked up P406 - Store in corrosive resistant container with a resistant inner liner.
Disposal	P501 - Dispose of contents/container to Comply with applicable regulations

3.3 Other Hazards

Reactions with the following materials may generate heat: Strong acids. Water

4. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odour	Clear, colorless and odorless liquid
pH	Approx. 14
Specific Gravity	1.4 – 1.6 at 25 °C
Melting Point	12 °C
Boiling Point	140 °C
Flash Point	Not applicable
Auto ignition	Not applicable
Flammable Limit	Not applicable
Vapour Pressure (mm Hg)	Not applicable
Solubility in Water	Infinite
Solubility in Organic Solvents	Soluble in alcohol, Methanol and Glycerol
Oxidizing /Explosive Properties	No

5. STABILITY AND REACTIVITY

Stability	As supplied it is stable at normal temperature & pressure. Found to be slightly reactive
Conditions to avoid	Avoid contact with water. Direct contact with water may cause exothermic reaction. Carbon monoxide gas may form upon contact with reducing sugars, food and beverage products in enclosed spaces.
Material to avoid	Water, Acids, Halogenated compounds, prolonged contact with aluminium, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys, Nitro methane & Nitro compounds.
Reactivity	
Air	Reactive
Water	Not applicable
Acids	Reacts violently with acids
Alkalis	Reacts with ammonium salts liberating ammonia gas
Hazardous Decomposition Products	Oxides of carbon and nitrogen, smoke & other toxic fumes

6 TOXICITY DATA**Short term effects when:-**

In contact with skin	Severe Irritation, burns
In contact with eyes	Severe Irritation, burns, eye damage , blindness
Inhalation	Severe Irritation, burns, pulmonary edema
Ingestion	Severe Irritation, burns , nausea , vomiting

Long term effects when:-

In contact with skin	Dermatitis
In contact with eyes	Visual disturbances
Inhalation	May cause lung disorders. Lesions of the nasal septum, pulmonary edema, pneumonitis and emphysema.
Ingestion	Swallowing can result in nausea, vomiting, diarrhea, abdominal pain, swelling of the larynx and subsequent suffocation, perforation of the gastrointestinal tract, cardiovascular collapse and coma.
Acute Toxicity	LD ₅₀ (50% solution Oral – Rat) 220 mg/ kg SKIN (rabbit) severe irritation 500 mg / 24 H EYES (rabbit) severe irritation 1 mg/30 sec rinse
Chronic Toxicity	Chronic effects are due to long – term irritation. Dermatitis on the skin or recurrent corneal ulceration and visual disturbances. In rare cases reports have noted long-term inhalation causes bronchial inflammatory reaction or obstructive airway dysfunction
Carcinogenic Toxicity	No Data available
Mutagenic Toxicity	No
Reproductive Toxicity	No information is available

7 FIRST AID MEASURES

Skin Contact	Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention immediately. Continue to rinse for at least 15 minutes.
Eye Contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.
Inhalation	Remove the victim from exposure. Support respiration, gives oxygen if necessary. Get medical attention if any discomfort continues
Ingestion	Give water or milk followed by dilute vinegar or fruit juice. Never give anything by mouth to an unconscious person. Do not induce vomiting. Do not induce vomiting. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention immediately.

8. FIRE FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Regular dry chemical, carbon dioxide, fine water spray, regular foam

Unsuitable extinguishing media: High volume water jet.

Special hazards arising from the substance or mixture Not combustible, but contact with moisture or water may generate sufficient heat to ignite combustible materials. Forms flammable and explosive hydrogen through Corrosion of metals. Generates dense black smoke and may form toxic fumes of carbon monoxide (CO), carbon dioxide (CO₂) and sodium oxide (Na₂O).

Special protective actions for firefighters: Do not breathe fumes. Respirator with independent air-supply and airtight garment is required. Fight fire in early stages if safe to do so. Containers close to fire should be removed immediately or cooled with water. Do not allow contaminated extinguishing water to enter the soil, groundwater or surface waters.

9. EXPOSURE CONTROLS AND PROTECTION

Control parameters

Exposure limits 2 mg / m³ OSHA TWA
2 mg / m³ OSHA ceiling
2 mg / m³ ACGIH ceiling

Exposure Controls

Appropriate engineering controls Provide sufficient ventilation to keep airborne levels below the exposure limits

Personal protective equipment Maintain eye wash fountain and quick-drench facilities in work area. Final choice of appropriate protection will vary according to methods of handling, engineering controls and risk assessments undertaken

Respiratory protection Wear gas mask with filter type B if conc. in air > exposure limit. Wear appropriate mask

Skin and body protection Appropriate protective clothing to protect against possible skin contact. Corrosion-proof clothing.

Eye protection Chemical goggles or face shield. Face shield.

Hand protection Wear protective gloves. Nitrile, butyl rubber, polyvinyl chloride (PVC), or neoprene gloves with long sleeves.

10 HANDLING AND STORAGE

Handling Store in a cool, dry and well-ventilated place. Keep containers closed. Keep away from heat, sparks and flames. Use only with adequate ventilation.
Avoid contact with eyes, skin or clothing.

Storage	Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Do not store in Aluminium container or use Aluminium fittings or transfer lines, as flammable hydrogen gas may be generated. Keep separated from incompatible substances. The filled container is kept on wooden pallets.
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11 SPILLAGE/ACCIDENTAL RELEASE

Spillage	Do not touch spilled material. Prevent it entering sewers. Dry manual lifting of the spilled material is suggested without making dust Wash the surface with plenty of water and soap.
Personal Precautions	Avoid generation of dust. Avoid eyes & skin contact. Avoid inhalation. Avoid ingestion. Wear appropriate personal protective equipment's.
Environmental Precautions	Prevent contamination of soil and water.

12 WASTE DISPOSAL

Waste Disposal	Seal all waste in airtight plastic bags for eventual disposal as per the guidelines of National/Regional Regulations. Packing materials gets contaminated. Before disposal wash thoroughly with water and then dispose of by appropriate methods in accordance with National/ Regional requirement.
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13 ENVIRONMENTAL INFORMATION

Bio - Accumulation	No bio-accumulation
Biodegradability	This material is inorganic and not subject to biodegradation.
Persistence	This material will exist in the dissociated state
Toxicity	This material has exhibited slight toxicity to terrestrial organisms and moderate toxicity to aquatic flora & fauna.
Mobility	If released in water the product is highly soluble and contaminates the water resources.

14 REGULATORY INFORMATION

14.1 Safety, Health And Environmental Regulations / Legislation Specific For The Substance:-

Substance is found on the following regulatory lists;;

- European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)"
- OSHA Regulatory Status:-This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)
- TSCA (TOXIC SUBSTANCE CONTROL ACT) -TSCA INVENTORY STATUS (40 CFR 710):- All components are listed or exempt
- WHMIS (Workplace Hazardous Materials Information System):- This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations

14.2 Chemical Safety Assessment

No data available

14.2.1 Hazards:-

CLP classification according to Annex VI of CLP (Regulation (EC) No 1272/2008)

- May be corrosive to metals
- Causes serious eye damage

14.2.2 Risks

- Risk of serious damage to eyes & burn

15. TRANSPORT INFORMATION*UN Number*

UN 1824

Label**Land Transport (ADR/RID)**

UN Number

UN 1824

UN proper shipping Name

SODIUM HYDROXIDE SOLUTION

Hazard class:

8

Hazard label:

8

Packaging group

II

Environmental Hazard

None

Inland Waterway Transport (ADNR)

UN Number

UN 1824

UN proper shipping Name

SODIUM HYDROXIDE SOLUTION

Hazard class:

8

Hazard label:

8

Packaging group

II

Environmental Hazard

None

Sea Transport (IMDG)

UN Number

UN 1824

UN proper shipping Name

SODIUM HYDROXIDE SOLUTION

Hazard class:

8

Hazard label:

8

Packaging group	II
Environmental Hazard	None
Marine Pollutant	None
EmS No.	F-A, S-B
Limited Quantities	1 liter
Expected Quantities	E2

Air transport (ICAO/IATA)

UN Number	UN 1824
UN proper shipping Name	SODIUM HYDROXIDE SOLUTION
Hazard class:	8
Hazard label:	8
Packaging group	II
Environmental Hazard	None

16 OTHER INFORMATION**Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

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