



Lee & Man Chemical

**Safety data sheet for chemical product**

**Sodium Hydroxide**

NaOH

# Safety data sheet for chemical product

## Sodium Hydroxide

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product name:**

sodium hydroxide; caustic soda

**Company name:**

Jiangsu Lee & Man Chemical Company Limited / Jiangxi Lee & Man Chemical Company Limited

**Address:**

No. 6-2, Xinggang Road, Changshu Economic and Technological Development Zone, Jiangsu Province  
Dock Industrial City, Jiujiang City, Jiangxi Province

**Post code:**

215536 / 332207

**Business phone:**

0512-52259888 / 0792-8996998

**Enterprise emergency number:**

0512-52259888 / 0532-83889090

**Fax number:**

0512-52259889 / 0792-8996988

**Email address:**

niyoubing@leemanchemical.com

haifeng\_sun@leemanchemical.com

**Recommended use:**

Widely used as a neutralizing agent for the manufacture of various sodium salts, soaps, pulp, dyes, finishing cotton fabrics, silk, viscose fibers, regeneration of rubber products, metal cleaning, electroplating, bleaching, aluminum production, petroleum refining, coal tar Product purification, food processing (food additive grade), wood processing and machinery industry, etc.

**Restricted use:**

No relevant information was found.

### SECTION 2: Hazards identification

**Emergency Overview:**

Causes severe skin burns and eye damage.

**GHS Hazard Category:**

Skin corrosion/irritation, Category 1A;

Serious eye damage/eye irritation, Category 1;

Hazardous to the aquatic environment – acute hazard, category 3.

**Label elements:**

**Pictograms:**



**Warning word:** Danger

**Hazard Statements:**

Causes severe skin burns and eye damage, harmful to aquatic life.

**Precautionary Statements:**

- Precaution

- Avoid breathing dust and fumes. Avoid contact with eyes, skin or clothing. Wash body contact areas thoroughly after handling. Contaminated work clothes should also be washed thoroughly.
- Wear protective gloves, protective clothing, protective glasses, and protective face shields.
- Prohibited discharge into the environment.

- Incident response

- IF INHALED: Remove victim to fresh air and rest in a position comfortable for breathing. Get medical attention immediately.
- Skin (or hair) contact: Immediately remove all contaminated clothing, rinse skin with water, shower. Contaminated clothing must be washed before reuse.
- Eye contact: Rinse carefully with water for several minutes, if contact lenses are present and easily removed, remove contact lenses and continue rinsing. seek medical attention.
- Ingestion: Rinse mouth, do not induce vomiting.

- Safe storage

- Locked for safekeeping.

- Disposal

- Dispose of this product, its contents and containers in accordance with national and local regulations (regulations).

**Physical and Chemical Hazards:**

Non-flammable, no special explosive characteristics. The substance is a strong base. Reacts violently with acid and is corrosive. In moist air, corrodes metals, generating flammable/explosive gas hydrogen. Reacts with ammonium salts to produce ammonia, causing fire hazard. Attacks certain plastics, rubbers or coatings. Rapidly absorbs carbon dioxide and water in the air and may release heat when in contact with moisture or water.

**Health Hazards:**

Routes of entry: eyes, skin contact, inhalation, ingestion

This product is strongly irritating and corrosive. Dust irritates the eyes and respiratory tract, corrodes the nasal septum; direct contact with the skin and eyes can cause burns; mistaken consumption can cause burns in the digestive tract, mucosal erosion, hemorrhage and shock.

**Environmental hazards:**

Harmful to aquatic life.

**SECTION 3: Composition/information on ingredients**

<b>Substance:</b> ✓	<b>Mixture:</b> ×
<b>Main ingredient:</b> sodium hydroxide	<b>Concentration:</b> 30%; 32%; 48%; 50%
<b>CAS-No.:</b> 1310-73-2	<b>Formula:</b> CH <sub>2</sub> Cl <sub>2</sub>
<b>Molecular weight:</b> 40.00	<b>Structural formula:</b> Na—OH

**SECTION 4: First aid measures**

**Inhalation:**

Quickly leave the scene to fresh air, keep the airway open, if breathing is difficult, and give oxygen. If breathing or heartbeat stops, perform CPR immediately. Seek medical attention.

**Skin Contact:**

Immediately remove contaminated clothing and rinse with plenty of running water for at least 15 minutes. Seek medical attention.

**Eye contact:**

Immediately lift eyes and face, rinse thoroughly with running water or normal saline for at least 5 to 10 minutes. Seek medical attention.

**Ingestion:**

If swallowed by mistake, rinse mouth with water, and do not induce vomiting. Give milk or egg whites. Seek medical attention.

## SECTION 5: Firefighting measures

### **Fire-fighting precautions and protective measures:**

Firefighters must wear full-body acid-alkali-resistant fire-fighting clothing and air breathing apparatus to extinguish the fire. Move the container from the fire area to an open area as much as possible. Keep fire containers cool by spraying water until the fire is over.

### **Extinguishing agent:**

This product is not flammable. Choose the appropriate extinguishing agent according to the cause of the fire. However, it is necessary to prevent the items from splashing with water and causing burns.

### **Hazardous characteristics:**

Corrosive to aluminum, zinc and tin when wet, and releases flammable and explosive hydrogen. In contact with water and water vapor, a large amount of heat is released, forming a corrosive solution. It is highly corrosive.

## SECTION 6: Accidental release measures

### **Worker protective measures, protective equipment and emergency procedures:**

Isolate spilled contaminated areas and restrict access. It is recommended that emergency responders wear dust masks (full face masks), acid-alkali-proof work clothes, and rubber acid-alkali-resistant gloves. Do not touch ruptured containers and spills without wearing appropriate protective clothing. Cut off sources of leaks as much as possible. Cover spills with plastic sheeting to reduce scattering. Do not allow water to enter the packaging container.

### **Environmental protection measures:**

No information available.

### **Containment and removal of spilled chemicals:**

Use a clean shovel to collect spills in dry, clean containers with loose lids. Move container away from spill area.

### **Precautions to Prevent Secondary Hazards:**

Collected material should be recycled or transported to a waste disposal site for disposal.

## SECTION 7: Handling and storage

### **Handling:**

Closed operation. Operators must undergo special training and strictly abide by operating procedures. It is recommended that the operator wear a hood-type electric air-supply filter dust respirator, wear rubber acid and alkali resistant clothing, and wear rubber acid and

alkali resistant gloves. Keep away from flammable and combustible materials. Avoid generating dust. Avoid contact with acids. When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Equipped with leakage emergency treatment equipment. Empty containers may be harmful residues. When diluting or preparing solutions, the base should be added to the water to avoid boiling and splashing.

**Storage:**

Store in a cool, dry and well-ventilated warehouse. Keep away from fire and heat sources. The storage temperature should not exceed 35°C, and the relative humidity should not exceed 80%. The packaging must be sealed and must not get wet. It should be stored separately from combustibles, acids, etc., and should not be stored together. Storage areas should be provided with suitable materials to contain spills.

## SECTION 8: Exposure controls/personal protection

**Occupational Hygiene Exposure Limits:**

China (MAC)	2 mg/m <sup>3</sup>
U.S (ACGIH)	TLV-C: 2 mg/m <sup>3</sup>

**Biological Exposure Limits:**

No standard established.

**Monitoring method:**

Determination method of toxic substances in air: flame atomic absorption spectrometry.

Biomonitoring test methods: No standard established.

**Engineering Controls:**

Confined operation. Safety showers and eye wash facilities are provided.

**Respiratory protection:**

Filter dust respirator must be worn when possible exposure to its dust. Wear air respirator if necessary.

**Hand Protection:**

Wear rubber acid and alkali resistant gloves.

**Eye Protection:**

Wear chemical safety goggles.

**Skin and body protection:**

Wear rubber acid and alkali resistant clothing.

**Other protection:**

Smoking, eating and drinking are prohibited at the work site, and hands should be washed before meals. After work, take a shower and change clothes. Pay attention to personal hygiene.

## SECTION 9: Physical and chemical properties

**Appearance and properties:** 32% alkali is a colorless and transparent high-purity liquid, and 50% alkali is a colorless, transparent viscous liquid. The pure product is colorless transparent crystal. Highly hygroscopic.

**pH value:** 12.7 (1% solution)

**Melting point (°C):** 318.4

**Boiling point (°C):** 1390

**Flash point (°C):** meaningless

**Upper explosion limit [%]:** meaningless

**Lower explosion limit [%]:** meaningless

**Saturated vapor pressure (kPa):** 0.13 (739°C)

**Relative vapor density (air=1):** No relevant information found

**Relative density (water=1):** 2.13; 1.3 (30%, 20° C); 1.4 (32%, 20° C); 1.5 (50%, 20° C)

**Solubility:** easily soluble in water, ethanol, glycerol, insoluble in acetone, ether

**Octanol/water partition coefficient:** -3.88

**Auto-ignition temperature (° C):** meaningless

**Critical temperature (° C):** meaningless **Critical pressure (MPa):** 25

## SECTION 10: Stability and reactivity

**Stability:**

Stable

**Hazardous reactions:**

React with incompatible substances such as acids

**Conditions to avoid:**

Moist air

**Hazardous (decomposition) products:**

Sodium oxide

**Incompatible materials:**

Strong acids, flammable or combustible substances, carbon dioxide, peroxides, water

## SECTION 11: Toxicological information

**Acute toxicity:**

LD50: mouse intraperitoneal 40 mg/kg; LDLo 1.57 mg/kg (human oral).

**Skin irritation or corrosion:**

Rabbit percutaneous: 50 mg/24 hours, severe irritation.

**Eye irritation or corrosion:**

Rabbit via eye: 1% severe irritation.

**Respiratory or skin sensitization:**

No information available.

**Germ cell mutagenicity:**

Not available.

**Carcinogenicity:**

No information available.

**Reproductive toxicity:**

No information available.

**Specific Target Organ Toxicity - Single Exposure:**

No information available.

**Specific target organ toxicity - repeated exposure:**

No information available.

**Aspiration Hazard:**

No information available.

## SECTION 12: Ecological information

**Ecotoxicity:**

LC50: 180ppm (24h) (carp); TLm: 125 ppm (96h) (mosquito fish); 99 mg/L/(48h) (blue gill sunfish); EC50: 40.38mg/L/(48h) ) (Daphnia).

**Persistence and Degradability:**

No information available.

**Bioaccumulative potential:**

No data available.

**Mobility in soil:**

No data available.

## SECTION 13: Disposal considerations

**Waste Chemicals:**

After neutralization, dilution, discharge into wastewater system.

**Contaminated Packaging:**

Return container to manufacturer or dispose of in accordance with national and local regulations.

**Disposal Precautions:**

Please refer to relevant national and local regulations before disposal. Reuse of damaged containers is prohibited. Return the emptied containers to the manufacturer or bury them in specified places.

## SECTION 14: Transport information

**United Nations Dangerous Goods Number (UN Number):**1823; 1824 (solution)

**UN shipping name:** Sodium Hydroxide; Sodium Hydroxide Solution

**United Nations hazard class:** Class 8

**Packing class:** Class II packaging

**Packaging logo:**



**Marine Pollutants:** No

**Packing method:**

solids can be put into 0.5mm thick steel drums and sealed tightly, and the net weight of each drum shall not exceed 100kg; plastic bags or two-layer kraft paper bags with full opening or middle opening steel drums; threaded glass bottles, iron lids Glass bottles, plastic bottles or metal barrels (cans) outside ordinary wooden boxes; screw-top glass bottles, plastic bottles or tin-plated sheet steel barrels (cans) outside full-bottomed lattice boxes, fiberboard boxes or plywood boxes; tin-plated sheet steel barrels (cans), metal drums (cans), plastic bottles or metal hoses outside corrugated cartons, tank trucks, shipping.

**Transportation precautions:**

Before transportation, check whether the packaging container is complete and sealed. During transportation, make sure that the container does not leak, collapse, fall or be damaged. It is strictly forbidden to mix and transport with flammable or combustible materials, acids, oxidants, food and food additives. The transport vehicle shall be equipped with leakage emergency treatment equipment during transportation. During transportation, it should be protected from sunlight, rain and high temperature.

## SECTION 15: Regulatory information

The following laws, regulations and standards provide corresponding provisions on the safe use, storage, transportation, handling, classification and marking of chemicals:

Production Safety Law of the People's Republic of China;

Law of the People's Republic of China on the Prevention and Control of Occupational Diseases

Classification and Catalogue of Occupational Diseases: Not listed;

The Environmental Protection Law of the People's Republic of China;

Occupational exposure limits for hazardous agents in the workplace;

Regulations on the Safety Management of Hazardous Chemicals: Catalogue of Hazardous Chemicals:

Included. Inventory of explosive hazardous chemicals: not listed. List of hazardous chemicals under key supervision: not listed. GB18218-2018 "Identification of Major Hazardous Sources of Hazardous Chemicals" (Table 1): not listed;

Labor Protection Regulations for Workplaces Using Toxic Substances List of Highly Toxic Substances: Not listed;

Regulations on the Administration of Precursor Chemicals Classification and Variety List of Precursor Chemicals: Not listed.

## SECTION 16: Other information

### References:

- (1) The latest practical manual for chemical dangerous goods;
- (2) Complete book on safety technology of hazardous chemicals;

### Disclaimer:

The information in this SDS applies only to the specified product, unless otherwise specified, all substances in this product have unknown hazards and should be used with care. While certain hazards are described in this SDS, we do not guarantee that these are the only hazards. This SDS provides information on the safety of product use only for those users of this product who have received appropriate professional training. The relevant data is only used as a guide for safe handling, use, processing, storage, disposal and leakage, etc., and cannot be used as an indicator of guarantee and quality.