

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Sodium hydroxide**

Product Number : S8045
Brand : Sigma-Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
Fax : +1 800-325-5052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : NaOH
Molecular Weight : 40.00 g/mol

CAS-No.	EC-No.	Index-No.	Concentration [%]
Sodium hydroxide			
1310-73-2	215-185-5	011-002-00-6	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Severe eye irritant

HMIS Classification

Health Hazard: 3

Flammability: 0

Physical hazards: 1

NFPA Rating

Health Hazard: 3

Fire : 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation

May be harmful if inhaled. May cause respiratory tract irritation.

Skin

May be harmful if absorbed through skin. May cause skin irritation.

Eyes

Causes serious eye irritation.

Ingestion

May be harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point not applicable

Ignition temperature no data available

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

The product itself does not burn.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

Storage

Keep container tightly closed in a dry and well-ventilated place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Sodium hydroxide	1310-73-2	CEIL	2 mg/m ³	1994-09-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for

					Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
		CEIL	2 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	2 mg/m3	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air Contaminants.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form pellets

Colour white

Safety data

pH 13.0 - 14

Melting point 318 °C (604 °F)

Boiling point 1,390 °C (2,534 °F)

Flash point not applicable

Ignition temperature no data available

Lower explosion limit no data available

Upper explosion limit	no data available
Vapour pressure	< 24.00 hPa (< 18.00 mmHg) at 20 °C (68 °F) 4.00 hPa (3.00 mmHg) at 37 °C (99 °F)
Density	2.1300 g/cm ³
Water solubility	no data available

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents, Strong acids, Organic materials

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions.

Sodium/sodium oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

no data available

Irritation and corrosion

Skin - rabbit - Severe skin irritation - 24 h

Eyes - rabbit - Severe eye irritation - 24 h

Sensitization

no data available

Chronic exposure

no data available

Signs and Symptoms of Exposure

spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	Causes serious eye irritation.
Ingestion	May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

no data available

Ecotoxicity effects

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 125 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates. Immobilization EC50 - Daphnia - 40.38 mg/l - 48 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-No.: 1823 Class: 8 Packing group: II
Proper shipping name: Sodium hydroxide, solid

IMDG

UN-No.: 1823 Class: 8 Packing group: II EMS-No: F-A, S-B
Proper shipping name: SODIUM HYDROXIDE, SOLID
Marine pollutant: No

IATA

UN-No.: 1823 Class: 8 Packing group: II
Proper shipping name: Sodium hydroxide, solid

15. REGULATORY INFORMATION

OSHA Hazards

Severe eye irritant

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

Massachusetts Right To Know Components

Sodium hydroxide

CAS-No.	Revision Date
1310-73-2	1989-12-01

Pennsylvania Right To Know Components

Sodium hydroxide

CAS-No.	Revision Date
1310-73-2	1989-12-01

New Jersey Right To Know Components

Sodium hydroxide

CAS-No.	Revision Date
1310-73-2	1989-12-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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