

# Safety Data Sheet

## Sodium Hydroxide

**CAROLINA**<sup>®</sup>  
www.carolina.com

### Section 1 Product Description

**Product Name:** Sodium Hydroxide  
**Recommended Use:** Science education applications  
**Synonyms:** Soda Lye, Caustic Soda, Sodium Hydrate  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Causes severe skin burns and eye damage. Harmful to aquatic life.

**GHS Classification:**

Skin Corrosion/Irritation Category 1A, Serious Eye Damage/Eye Irritation Category 1, Hazardous to the aquatic environment - Acute Category 3

### Section 3 Composition / Information on Ingredients

| <u>Chemical Name</u> | <u>CAS #</u> | <u>%</u> |
|----------------------|--------------|----------|
| Sodium Hydroxide     | 1310-73-2    | 100      |

### Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**Eyes:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Skin Contact:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.  
**Ingestion:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

### Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO<sub>2</sub> or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Reacts with water or steam to produce toxic and corrosive fumes. Fire or excessive heat may produce hazardous decomposition products.  
**Hazardous Combustion Products:** None Known, Sodium Oxides

### Section 6 Spill or Leak Procedures

# Safety Data Sheet

## Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be severely irritating or toxic. Follow personal protective equipment recommendations found in Section 8 of this SDS. Personal protective equipment needs must be evaluated based on information provided on this sheet and the special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred, and the expertise of employees in the area responding to the spill. Never exceed any occupational exposure limits. Persons not wearing appropriate protective equipment should be excluded from area of spill until clean-up has been completed.

## Environmental Precautions:

Avoid breathing material. Avoid contact with skin and eyes.  
Reduce airborne dust and prevent scattering by moistening with water. Ventilate the area by opening door and/or turning on fans and blowers. Avoid runoff into storm sewers and ditches that lead to waterways. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.

## Section 7

## Handling and Storage

**Handling:** Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.  
**Storage:** Store locked up. Keep container tightly closed in a cool, well-ventilated place.  
**Storage Code:** White - Corrosive. Separate acids from bases; separate oxidizer acids from organic acids.

## Section 8

## Protection Information

| <u>Chemical Name</u> | <u>ACGIH</u> | <u>OSHA PEL</u> |              |               |
|----------------------|--------------|-----------------|--------------|---------------|
|                      | <u>(TWA)</u> | <u>(STEL)</u>   | <u>(TWA)</u> | <u>(STEL)</u> |
| Sodium Hydroxide     | N/A          | N/A             | 2 mg/m3 TWA  | N/A           |

### Control Parameters

#### Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

#### Personal Protective Equipment (PPE): Respiratory Protection:

Lab coat, apron, eye wash, safety shower.  
Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection. Wear chemical splash goggles when handling this product. Additionally, wear a face shield when the possibility of splashing of liquid exists. Have an eye wash station available.

#### Respirator Type(s):

#### Eye Protection:

#### Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

#### Gloves:

Natural latex,, Nitrile, Nitrile - Extra Thick (8 mm), Neoprene

## Section 9

## Physical Data

**Formula:** NaOH  
**Molecular Weight:** 39.99  
**Appearance:** White Solid  
**Odor:** No data available  
**Odor Threshold:** No data available  
**pH:** 14 (5% solution)  
**Melting Point:** 318 C  
**Boiling Point:** 1390 C  
**Flash Point:** No data available  
**Flammable Limits in Air:** No data available

**Vapor Pressure:** 0 hPa at 20°C  
**Evaporation Rate (BuAc=1):** Non-volatile  
**Vapor Density (Air=1):** No data available  
**Specific Gravity:** 2.130 @ 25°C  
**Solubility in Water:** Soluble  
**Log Pow (calculated):** No data available  
**Autoignition Temperature:** No data available  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** No data available

## Section 10

## Reactivity Data

**Reactivity:** Mildly reactive - See below  
**Chemical Stability:** Stable under normal conditions.  
**Conditions to Avoid:** Exposure to moisture Reaction with water is exothermic.

# Safety Data Sheet

**Incompatible Materials:** Strong reducing agents, Acids, Hydroquinone, Organic halides, Phosphorus, Alcohols, Metals, Aldehydes  
**Hazardous Decomposition Products:** Sodium Oxides, None Known  
**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Ingestion, skin and eye contact.  
**Symptoms (Acute):** No data available  
**Delayed Effects:** No data available

| Acute Toxicity:                           | CAS Number | Oral LD50      | Dermal LD50    | Inhalation LC50 |
|-------------------------------------------|------------|----------------|----------------|-----------------|
| <b>Chemical Name</b><br>No data available | 1310-73-2  | Not determined | Not determined | Not determined  |

| Carcinogenicity:                         | CAS Number | IARC       | NTP        | OSHA       |
|------------------------------------------|------------|------------|------------|------------|
| <b>Chemical Name</b><br>Sodium Hydroxide | 1310-73-2  | Not listed | Not listed | Not listed |

**Chronic Effects:**  
**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.  
**Target Organ Effects:**  
**Acute:** No data available  
**Chronic:** No data available

## Section 12 Ecological Data

**Overview:** Moderate ecological hazard. This product may be dangerous to plants and/or wildlife.  
**Mobility:** This material is expected to have very high mobility in soil. It does not absorb to most soil types.  
**Persistence:** Dissolved into water  
**Bioaccumulation:** Bioconcentration is not expected to occur.  
**Degradability:** Does not biodegrade readily.  
**Other Adverse Effects:** No data

| Chemical Name    | CAS Number | Eco Toxicity                               |
|------------------|------------|--------------------------------------------|
| Sodium Hydroxide | 1310-73-2  | Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L |

## Section 13 Disposal Information

**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
**Waste Disposal Code(s):** If discarded, this product is considered a RCRA corrosive waste, D002.

## Section 14 Transport Information

| Ground - DOT Proper Shipping Name:                      | Air - IATA Proper Shipping Name:                        |
|---------------------------------------------------------|---------------------------------------------------------|
| UN1823<br>Sodium Hydroxide, Solid<br>Class 8<br>P.G. II | UN1823<br>Sodium Hydroxide, Solid<br>Class 8<br>P.G. II |

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

# Safety Data Sheet

| Chemical Name    | CAS Number | § 313 Name | § 304 RQ   | CERCLA RQ               | § 302 TPQ | CAA 112(2) TQ |
|------------------|------------|------------|------------|-------------------------|-----------|---------------|
| Sodium Hydroxide | 1310-73-2  | No         | 1000 lb RQ | 1000lb (454kg) final RQ | No        | No            |

## Section 16

## Additional Information

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Replaces: 08/18/2015

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

|        |                                                                       |      |                                               |
|--------|-----------------------------------------------------------------------|------|-----------------------------------------------|
| ACGIH  | American Conference of Governmental Industrial Hygienists             | NTP  | National Toxicology Program                   |
| CAS    | Chemical Abstract Service Number                                      | OSHA | Occupational Safety and Health Administration |
| CERCLA | Comprehensive Environmental Response, Compensation, and Liability Act | PEL  | Permissible Exposure Limit                    |
| DOT    | U.S. Department of Transportation                                     | ppm  | Parts per million                             |
| IARC   | International Agency for Research on Cancer                           | RCRA | Resource Conservation and Recovery Act        |
| N/A    | Not Available                                                         | SARA | Superfund Amendments and Reauthorization Act  |
|        |                                                                       | TLV  | Threshold Limit Value                         |
|        |                                                                       | TSCA | Toxic Substances Control Act                  |
|        |                                                                       | IDLH | Immediately dangerous to life and health      |