



Health	2
Fire	0
Reactivity	0
Personal Protection	

# Material Safety Data Sheet

## Sodium Hydroxide, 0.1N MSDS

### Section 1: Chemical Product and Company Identification

**Product Name:** Sodium Hydroxide, 0.1N

**Catalog Codes:** SLS1990

**CAS#:** Mixture.

**RTECS:** Not applicable.

**TSCA:** TSCA 8(b) inventory: Water; Sodium hydroxide

**CI#:** Not applicable.

**Synonym:** Sodium Hydroxide, 0.1N

**Chemical Name:** Not applicable.

**Chemical Formula:** Not applicable.

**Contact Information:**

**Sciencelab.com, Inc.**

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Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: [ScienceLab.com](http://ScienceLab.com)

**CHEMTREC (24HR Emergency Telephone), call:**

1-800-424-9300

**International CHEMTREC, call:** 1-703-527-3887

**For non-emergency assistance, call:** 1-281-441-4400

### Section 2: Composition and Information on Ingredients

**Composition:**

Name	CAS #	% by Weight
Water	7732-18-5	99.6
Sodium hydroxide	1310-73-2	0.4

**Toxicological Data on Ingredients:**

### Section 3: Hazards Identification

**Potential Acute Health Effects:**

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, . Slightly hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

**Potential Chronic Health Effects:**

CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Sodium hydroxide]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

## Section 4: First Aid Measures

### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately. Finish by rinsing thoroughly with running water to avoid a possible infection.

### Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

### Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

### Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

### Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Serious Ingestion:** Not available.

## Section 5: Fire and Explosion Data

**Flammability of the Product:** Non-flammable.

**Auto-Ignition Temperature:** Not applicable.

**Flash Points:** Not applicable.

**Flammable Limits:** Not applicable.

**Products of Combustion:** Not available.

**Fire Hazards in Presence of Various Substances:** metals

**Explosion Hazards in Presence of Various Substances:**

Slightly explosive in presence of metals. Non-explosive in presence of open flames and sparks, of shocks.

**Fire Fighting Media and Instructions:** Not applicable.

**Special Remarks on Fire Hazards:**

sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, allyl alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2 dichlorethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane. Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontaneously in air. sodium hydroxide and cinnamaldehyde + heat may cause ignition. Reaction with certain metals releases flammable and explosive hydrogen gas. (sodium hydroxide)

**Special Remarks on Explosion Hazards:**

Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aqueous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxide + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at

230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion. (Sodium hydroxide)

## Section 6: Accidental Release Measures

### Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

### Large Spill:

Corrosive liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

## Section 7: Handling and Storage

### Precautions:

Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Do not mix with acids.

**Storage:** Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

## Section 8: Exposure Controls/Personal Protection

### Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

### Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

### Exposure Limits:

Sodium hydroxide STEL: 2 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States] TWA: 2 CEIL: 2 (mg/m<sup>3</sup>) from OSHA (PEL) [United States] CEIL: 2 (mg/m<sup>3</sup>) from NIOSH Consult local authorities for acceptable exposure limits.

## Section 9: Physical and Chemical Properties

**Physical state and appearance:** Liquid.

**Odor:** Not available.

**Taste:** Not available.

**Molecular Weight:** Not applicable.

**Color:** Clear Colorless.

**pH (1% soln/water):** basic

**Boiling Point:** The lowest known value is 100°C (212°F) (Water).

**Melting Point:** Not available.

**Critical Temperature:** Not available.

**Specific Gravity:** The only known value is 1 (Water = 1) (Water).

**Vapor Pressure:** The highest known value is 2.3 kPa (@ 20°C) (Water).

**Vapor Density:** The highest known value is 0.62 (Air = 1) (Water).

**Volatility:** Not available.

**Odor Threshold:** Not available.

**Water/Oil Dist. Coeff.:** Not available.

**Ionicity (in Water):** Not available.

**Dispersion Properties:** See solubility in water.

**Solubility:** Easily soluble in cold water, hot water.

## Section 10: Stability and Reactivity Data

**Stability:** The product is stable.

**Instability Temperature:** Not available.

**Conditions of Instability:** Incompatible materials

**Incompatibility with various substances:** Slightly reactive to reactive with metals, acids.

**Corrosivity:** Non-corrosive in presence of glass.

### Special Remarks on Reactivity:

Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Generates considerable heat when a sodium hydroxide solution is mixed with an acid Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahydrofuran is very exothermic, a mild explosion being noted on one occasion. Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), carbamates (e.g. carbamate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e. aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. beryllium, lead acetate, nickel carbonyl, tetraethyl lead), nitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, hydroquinone, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acylonitrile, phosphorus pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen. (Sodium hydroxide)

**Special Remarks on Corrosivity:** Very caustic to aluminum and other metals in presence of moisture. (Sodium hydroxide)

**Polymerization:** Will not occur.

## Section 11: Toxicological Information

**Routes of Entry:** Absorbed through skin. Eye contact.

### Toxicity to Animals:

LD50: Not available. LC50: Not available.

### Chronic Effects on Humans:

**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Sodium hydroxide]. Contains material which may cause damage to the following organs: mucous membranes, upper respiratory tract, skin, eyes.

**Other Toxic Effects on Humans:**

Hazardous in case of skin contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung sensitizer, lung corrosive).

**Special Remarks on Toxicity to Animals:** Not available.

**Special Remarks on Chronic Effects on Humans:** May affect genetic material. Investigation as a mutagen (cytogenetic analysis) (Sodium hydroxide)

**Special Remarks on other Toxic Effects on Humans:**

Acute Potential Health Effects: Skin: Causes skin irritation with possible mild burns. Eyes: Causes eye irritation with possible mild burns. Inhalation: May cause irritation of the respiratory tract and mucous membranes. Ingestion: May cause gastrointestinal tract irritation with nausea, vomiting, diarrhea, and possible mild burns of the mouth, throat and stomach. Chronic Potential Health Effects: Skin: Prolonged contact can dehydrate and remove oils from skin.

### Section 12: Ecological Information

**Ecotoxicity:** Not available.

**BOD5 and COD:** Not available.

**Products of Biodegradation:**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation:** The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation:** Not available.

### Section 13: Disposal Considerations

**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

### Section 14: Transport Information

**DOT Classification:** Not a DOT controlled material (United States).

**Identification:** Not Applicable

**Special Provisions for Transport:** Not available.

### Section 15: Other Regulatory Information

**Federal and State Regulations:**

Illinois toxic substances disclosure to employee act: Sodium hydroxide Illinois chemical safety act: Sodium hydroxide New York release reporting list: Sodium hydroxide Rhode Island RTK hazardous substances: Sodium hydroxide Pennsylvania RTK: Sodium hydroxide Minnesota: Sodium hydroxide Massachusetts RTK: Sodium hydroxide New Jersey: Sodium hydroxide Louisiana spill reporting: Sodium hydroxide TSCA 8(b) inventory: Water; Sodium hydroxide CERCLA: Hazardous substances.: Sodium hydroxide: 1000 lbs. (453.6 kg);

**Other Regulations:** OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

**Other Classifications:**

**WHMIS (Canada):** CLASS E: Corrosive liquid.

**DSCL (EEC):**

R36/37/38- Irritating to eyes, respiratory system and skin. S24/25- Avoid contact with skin and eyes. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

**HMIS (U.S.A.):**

**Health Hazard:** 2

**Fire Hazard:** 0

**Reactivity:** 0

**Personal Protection:**

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

**Section 16: Other Information**

**References:** Not available.

**Other Special Considerations:** Not available.

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