

**Section 1 - Chemical Product and Company Identification**

**MSDS Name:** Sodium Hydroxide 2.000N  
**Catalog Numbers:** M-093, M093, MCC-030348, NC9466104  
**Synonyms:** None known.  
**Company Identification:** Fisher Scientific  
One Reagent Lane  
Fair Lawn, NJ 07410  
**For information in the US, call:** 201-796-7100  
**Emergency Number US:** 201-796-7100  
**CHEMTREC Phone Number, US:** 800-424-9300

**Section 2 - Composition, Information on Ingredients**

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**CAS#:** 1310-73-2  
**Chemical Name:** Sodium hydroxide  
**%:** 8.0  
**EINECS#:** 215-185-5  
**Hazard Symbols:** C  
**Risk Phrases:** 35  
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**CAS#:** 7732-18-5  
**Chemical Name:** Water  
**%:** 92.0  
**EINECS#:** 231-791-2  
**Hazard Symbols:**  
**Risk Phrases:**  
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Text for R-phrases: see Section 16

**Hazard Symbols:** C



**Risk Phrases:** 34

**Section 3 - Hazards Identification**

**EMERGENCY OVERVIEW**

Danger! Corrosive. Causes eye and skin burns. Eye contact may result in permanent eye damage. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Target Organs: No data found.

**Potential Health Effects**

**Eye:** Causes eye burns. May cause lacrimation (tearing), blurred vision, and photophobia. May cause chemical conjunctivitis and corneal damage.  
**Skin:** Causes skin burns. Contact with the skin may have a delayed effect with aching beginning after several hours followed by burns. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

- Ingestion:** May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract. Causes severe pain, nausea, vomiting, diarrhea, and shock. May cause systemic effects.
- Inhalation:** Irritation may lead to chemical pneumonitis and pulmonary edema. Causes severe irritation of upper respiratory tract with coughing, burns, breathing difficulty, and possible coma. May cause systemic effects.
- Chronic:** Prolonged or repeated skin contact may cause dermatitis. Effects may be delayed.

#### Section 4 - First Aid Measures

- Eyes:** Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
- Skin:** Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure.
- Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
- Inhalation:** Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

**Notes to Physician:**

#### Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Use water with caution and in flooding amounts. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Non-combustible, substance itself does not burn but may decompose upon heating to produce irritating, corrosive and/or toxic fumes.
- Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire. Cool containers with flooding quantities of water until well after fire is out.
- Autoignition:** Not applicable.
- Temperature:**
- Flash Point:** Not applicable.
- Explosion:** Not available
- Limits: Lower:**
- Explosion:** Not available
- Limits: Upper:**
- NFPA Rating:** health: 3; flammability: 0; instability: 1;

#### Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

#### Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Use only in a well-ventilated area. Do not breathe dust, mist, or vapor. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Discard contaminated shoes.

**Storage:** Keep container closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from strong acids. Keep away from metals. Keep away from flammable liquids. Keep away from organic halogens.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Sodium hydroxide TWA	2 mg/m3 Ceiling	10 mg/m3 IDLH	2 mg/m3
Water listed	none listed	none listed	none listed

OSHA Vacated PELs: Sodium hydroxide: None listed Water: None listed

**Personal Protective Equipment**

- Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
- Skin:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

### Section 9 - Physical and Chemical Properties

- Physical State:** Liquid
- Color:** colorless
- Odor:** practically odorless
- pH:** 13-14
- Vapor Pressure:** Not available
- Vapor Density:** >1.0
- Evaporation Rate:** Not available
- Viscosity:** Not available
- Boiling Point:** > 100 deg C (> 212.00°F)
- Freezing/Melting Point:** > 0 deg C (> 32.00°F)
- Decomposition Temperature:** Not available
- Solubility in water:** Slightly soluble
- Specific Gravity/Density:** >1.0
- Molecular Formula:** Solution
- Molecular Weight:** 0

### Section 10 - Stability and Reactivity

- Chemical Stability:** Stable.
- Conditions to Avoid:** Excess heat.
- Incompatibilities:** Acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic

**with Other Materials** acid, phosphoric acid), 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, formaldehyde), carbamates (e.g. carbanolate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (e.g. dibromoethane, hexachlorobenzene, methyl chloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (e.g. acetone, acetophenone, MEK, MIBK), metals (alkali and alkaline, e.g. cesium, potassium, sodium), metals as powders (e.g. hafnium, rane nickel), metals and 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, nitroglycerine, picric acid, trinitrotoluene), organophosphates, phosphothioates (e.g. methylparathion, parathion, phorate, thionazin), epoxides (e.g. butyl glycidyl ether), explosives (e.g. ammonium nitrate, hydrazoic acid, sodium azide), polymerizable compounds (e.g. butadiene, methyl acrylate, styrene,

**Hazardous Decomposition Products** Toxic fumes of sodium oxide, sodium peroxide fumes.

**Hazardous Polymerization** Has not been reported.

### Section 11 - Toxicological Information

**RTECS#:** CAS# 1310-73-2: WB4900000  
CAS# 7732-18-5: ZC0110000

**LD50/LC50:** RTECS:  
**CAS# 1310-73-2:** Draize test, rabbit, eye: 400 ug Mild;  
Draize test, rabbit, eye: 1% Severe;  
Draize test, rabbit, eye: 50 ug/24H Severe;  
Draize test, rabbit, eye: 1 mg/24H Severe;  
Draize test, rabbit, skin: 500 mg/24H Severe;

RTECS:  
**CAS# 7732-18-5:** Oral, rat: LD50 = >90 mL/kg;

**Carcinogenicity:** Sodium hydroxide - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.  
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Other:** See actual entry in RTECS for complete information.

### Section 12 - Ecological Information

**Ecotoxicity:** Fish: Carp: 180ppm (LC100); 24H

**Other:** For more information, see "HANDBOOK OF ENVIRONMENTAL FATE AND EXPOSURE DATA."

### Section 13 - Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

### Section 14 - Transport Information

US DOT

Shipping Name: SODIUM HYDROXIDE, SOLUTION

Hazard Class: 8

UN Number: UN1824

Packing Group: II

Canada TDG

Shipping Name: SODIUM HYDROXIDE, SOLUTION

Hazard Class: 8

UN Number: UN1824

Packing Group: II

USA RQ: CAS# 1310-73-2: 1000 lb final RQ; 454 kg final RQ

## Section 15 - Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: C

Risk Phrases:

R 34 Causes burns.

Safety Phrases:

S 23 Do not inhale gas/fumes/vapour/spray.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 28A After contact with skin, wash immediately with plenty of water.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

WGK (Water Danger/Protection)

CAS# 1310-73-2: 1

CAS# 7732-18-5: Not available

Canada

CAS# 1310-73-2 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

Canadian WHMIS Classifications: E

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

CAS# 1310-73-2 is listed on Canada's Ingredient Disclosure List

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.

### US Federal

TSCA

CAS# 1310-73-2 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

## Section 16 - Other Information

**MSDS Creation Date:** 12/12/1997

**Revision #6 Date** 1/25/2006

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

