# SAFETY DATA SHEET

**Creation Date** 21-May-2012 **Revision Date** 29-May-2025 **Revision Number** 6

## 1. Identification

**Product Name** **Sodium Hydroxide Solution 10 N**

**Cat No. :** **SS255-1; SS255-4; SS255-20; XXSS255PD200LI; XXSS255ET200LI; NC3714347; NC2253237**

**Synonyms** Caustic soda

**Recommended Use** Laboratory chemicals.
**Uses advised against** Food, drug, pesticide or biocidal product use.

**Details of the supplier of the safety data sheet**

**Company**
**Importer/Distributor**
Fisher Scientific
112 Colonnade Road,
Ottawa, ON K2E 7L6,
Canada
Tel: 1-800-234-7437

**Manufacturer**
Fisher Scientific Company
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

**Classification**

**WHMIS 2015 Classification** Classified as hazardous under the Hazardous Products Regulations (SOR/2015-17)

| | |
|---|---|
| **Corrosive to metals** | Category 1 |
| **Skin Corrosion/Irritation** | Category 1 A |
| **Serious Eye Damage/Eye Irritation** | Category 1 |
| **Specific target organ toxicity (single exposure)** | Category 3 |
| Target Organs - Respiratory system. | |

**Label Elements**

**Signal Word**
Danger

**Hazard Statements**
May be corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation

**Precautionary Statements**
**Prevention**
Keep only in original container
Do not breathe dust/fumes/gas/mist/vapours/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
**Response**
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER/doctor
Wash contaminated clothing before reuse
Absorb spillage to prevent material damage
**Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in corrosive resistant polypropylene container with a resistant inliner
Store in a dry place
**Disposal**
Dispose of contents/container to an approved waste disposal plant

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Water | 7732-18-5 | <70 |
| Sodium hydroxide | 1310-73-2 | >30 |

## 4. First-aid measures

**General Advice** Take off contaminated clothing and shoes immediately.

**Eye Contact** Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

**Skin Contact** Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

**Inhalation** Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.

**Ingestion** Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

**Most important symptoms/effects** Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue

and danger of perforation

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

**Unsuitable Extinguishing Media** No information available

**Flash Point** Not applicable
**Method -** No information available

**Autoignition Temperature** No information available
**Explosion Limits**
**Upper** No data available
**Lower** No data available
**Sensitivity to Mechanical Impact** No information available
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**
Thermal decomposition can lead to release of irritating gases and vapors. Corrosive material.

**Hazardous Combustion Products**
Sodium oxides.
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 3 | 0 | 1 | N/A |

## 6. Accidental release measures

**Personal Precautions** Avoid contact with skin and eyes. Use personal protective equipment as required. Evacuate personnel to safe areas. Do not touch or walk through spilled material.

Refer to protective measures listed in Sections 7 and 8

**Environmental Precautions** Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wash thoroughly after handling.

**Storage.** Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosives area. Keep only in the original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Acids. Organic materials. Metals. Aluminium. copper. .

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | Alberta | British Columbia | Ontario TWAEV | Quebec | ACGIH TLV | OSHA PEL | NIOSH |
|---|---|---|---|---|---|---|---|
| Sodium hydroxide | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | CEV: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³ | Ceiling: 2 mg/m³<br>TWA: 2 mg/m³ | IDLH: 10 mg/m³<br>Ceiling: 2 mg/m³ |

**Legend**

*ACGIH - American Conference of Governmental Industrial Hygienists*
*OSHA - Occupational Safety and Health Administration*
*NIOSH: NIOSH - National Institute for Occupational Safety and Health*

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

**Personal protective equipment**

**Eye Protection** Goggles
**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | Glove comments |
|---|---|---|---|
| Neoprene | > 480 minutes | 0.45 mm | As tested under EN374-3 |
| Butyl rubber | > 480 minutes | 0.35 mm | Determination of Resistance to Permeation by Chemicals |

Inspect gloves before use. observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information) gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. gloves with care avoiding skin contamination.

**Respiratory Protection**
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly
**Recommended Filter type:** Particulates filter conforming to EN 143

When RPE is used a face piece Fit Test should be conducted

**Environmental exposure controls**
Prevent product from entering drains.

**Hygiene Measures**
When using do not eat, drink or smoke. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Clear |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | > 12.0 Alkaline |
| **Melting Point/Range** | -10 °C / 14 °F |
| **Boiling Point/Range** | >100 °C / > 212 °F |
| **Flash Point** | Not applicable |
| **Evaporation Rate** | No information available |
| **Flammability (solid,gas)** | Not applicable |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | 14 mmHg |
| **Vapor Density** | > 1.0 |
| **Specific Gravity** | 1.32 |
| **Solubility** | Soluble in water |

| | |
|---|---|
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | No information available |
| **Decomposition Temperature** | No information available |
| **Viscosity** | No information available |

## 10. Stability and reactivity

**Reactive Hazard** Yes

**Stability** Stable under recommended storage conditions.

**Conditions to Avoid** Exposure to air. Incompatible products.

**Incompatible Materials** Acids, Organic materials, Metals, Aluminium, copper,

**Hazardous Decomposition Products** Sodium oxides

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** Corrosive to metals.

## 11. Toxicological information

**Acute Toxicity**

| | |
|---|---|
| **Product Information** | No acute toxicity information is available for this product |
| **Oral LD50** | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| **Dermal LD50** | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| **Vapor LC50** | Based on ATE data, the classification criteria are not met. ATE > 20 mg/l. |

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Water | - | - | - |
| Sodium hydroxide | 140 - 340 mg/kg ( Rat ) | 1350 mg/kg ( Rabbit ) | Not listed |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Causes burns by all exposure routes

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium hydroxide | 1310-73-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

| | |
|---|---|
| **STOT - single exposure** | Respiratory system |
| **STOT - repeated exposure** | None known |

**Aspiration hazard** No information available

**Symptoms / effects,both acute and** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated.

**delayed** Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. Large amounts will affect pH and harm aquatic organisms.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Sodium hydroxide | Not listed | LC50 = 45.4 mg/L, 96h static (Oncorhynchus mykiss) | Not listed | Not listed |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

## 13. Disposal considerations

**Waste Disposal Methods** Should not be released into the environment.

## 14. Transport information

**DOT**

**UN-No** UN1824
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION
**Hazard Class** 8
**Packing Group** II

**TDG**

**UN-No** UN1824
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION
**Hazard Class** 8
**Packing Group** II

**IATA**

**UN-No** UN1824
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION
**Hazard Class** 8
**Packing Group** II

**IMDG/IMO**

**UN-No** UN1824
**Proper Shipping Name** SODIUM HYDROXIDE SOLUTION
**Hazard Class** 8
**Packing Group** II

## 15. Regulatory information

**International Inventories**

| Component | CAS-No | DSL | NDSL | TSCA | TSCA Inventory notification - Active-Inactive | EINECS | ELINCS | NLP |
|---|---|---|---|---|---|---|---|---|
| Water | 7732-18-5 | X | - | X | ACTIVE | 231-791-2 | - | - |
| Sodium hydroxide | 1310-73-2 | X | - | X | ACTIVE | 215-185-5 | - | - |

| Component | CAS-No | IECSC | KECL | ENCS | ISHL | TCSI | AICS | NZIoC | PICCS |
|---|---|---|---|---|---|---|---|---|---|
| Water | 7732-18-5 | X | KE-35400 | X | - | X | X | X | X |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sodium hydroxide | 1310-73-2 | X | KE-31487 | X | X | X | X | X | X |

**Legend:**
X - Listed '-' - Not Listed
**KECL** - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
**IECSC** - Chinese Inventory of Existing Chemical Substances
**KECL** - Korean Existing and Evaluated Chemical Substances
**ENCS** - Japanese Existing and New Chemical Substances
**AICS** - Australian Inventory of Chemical Substances
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

### Canada

SDS in compliance with provisions of information as set out in Canadian Standard - Part 4, Schedule 1 and 2 of the Hazardous Products Regulations (HPR) and meets the requirements of the HPR (Paragraph 13(1)(a) of the Hazardous Products Act (HPA)).

### Other International Regulations

### Authorisation/Restrictions according to EU REACH

| Component | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|---|---|---|---|
| Sodium hydroxide | - | Use restricted. See entry 75. (see link for restriction details) | - |

**REACH links**
*https://echa.europa.eu/substances-restricted-under-reach*

### Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component | CAS-No | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|---|---|---|---|---|---|
| Water | 7732-18-5 | Listed | Not applicable | Not applicable | Not applicable |
| Sodium hydroxide | 1310-73-2 | Listed | Not applicable | Not applicable | Not applicable |

| Component | CAS-No | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|---|---|---|---|---|---|
| Water | 7732-18-5 | Not applicable | Not applicable | Not applicable | Not applicable |
| Sodium hydroxide | 1310-73-2 | Not applicable | Not applicable | Not applicable | Annex I - Y35 |

## 16. Other information

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**Revision Summary** This document has been updated to comply with the requirements of WHMIS 2015 to align with the Globally Harmonised System (GHS) for the Classification and Labelling of Chemicals.

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

## End of SDS