

# SAFETY DATA SHEET

## 1 PRODUCT AND COMPANY IDENTIFICATION

**GHS Product identifier:** Sodium Hydroxide, 50% Solution

**Other means of identification**

**Product No.:** 0330, 0339, 0897, 3719, 3725, 3727, 3729, 3730, 3735, 5673, 7705, 7706

**Recommended use:** For Laboratory, Research or Manufacturing Use.

**Limitations on use:** Not determined.

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

Avantor Performance Materials, LLC  
100 Matsonford Rd, Suite 200  
Radnor, PA 19087

**Telephone:**

Customer Service: 855-282-6867

**Contact Person:** Product Information Compliance

**E-mail:** info@avantormaterials.com

**Emergency telephone:** CHEMTREC: 800-101-2201 (24/7)

## 2 HAZARDS IDENTIFICATION

**GHS classification:**

**Physical Hazards:**

Corrosive to metal Category 1

**Health Hazards:**

Skin Corrosion/Irritation Category 1A

Serious Eye Damage/Eye Irritation Category 1

**GHS label elements:**

**Symbol(s):**



**Signal Words:** Danger

**Hazard Statement(s):** May be corrosive to metals.  
Causes severe skin burns and eye damage.

**Precautionary Statements**

**Prevention:** Keep only in original packaging. Wash thoroughly after handling. Do not breathe dust/fume/gas/mist/vapors/spray. Wear protective gloves/protective clothing/eye protection/face protection.

**Response:** Absorb spillage to prevent material damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

**Storage:** Store in a corrosion-resistant container with a resistant inner liner. Store locked up.

**Disposal:** Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in classification':**

**Primary hazards:** Corrosive to metal

**Specific hazards:** No data available.

### 3 COMPOSITION / INFORMATION ON INGREDIENTS

**Substance or Preparation:**

**General information:**

| Chemical name    | Concentration | CAS-No.   | EC No.    |
|------------------|---------------|-----------|-----------|
| Sodium hydroxide | 49.5 - 52.0%  | 1310-73-2 |           |
| Water            | 48.0 - 50.5%  | 7732-18-5 | 231-791-2 |

### 4 FIRST AID MEASURES

**General:** Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

**Inhalation:** Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Call a physician or poison control center immediately.

**Eye contact:** Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

**Skin Contact:** Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

**Ingestion** Call a physician or poison control center immediately. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute delayed:** Corrosive to skin and eyes. Respiratory tract irritation.

**Indication of immediate medical attention and special treatment needed, if necessary:** Treat symptomatically. Symptoms may be delayed.

## 5 FIRE-FIGHTING MEASURES

|   |  |
|---|--|
| <b>Extinguishing media:</b>                         | The product is non-combustible. Use fire-extinguishing media appropriate for surrounding materials.  |
| <b>Unsuitable extinguishing media:</b>              | None known.  |
| <b>Specific hazard arising from the chemical:</b>   | Product is highly caustic. Wear appropriate protective gear if spilled during firefighting. Contact with metals may evolve flammable hydrogen gas.               |
| <b>Special fire fighting procedures:</b>            | Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.  |
| <b>Special protective action for fire fighters:</b> | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |

## 6 ACCIDENTAL RELEASE MEASURES

|   |   |
|---|---|
| <b>Personal precautions, protective equipment and emergency procedures:</b> | Put on protective equipment before entering danger area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. |
| <b>Environmental Precautions:</b>   | Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.   |
| <b>Methods and material for containment and cleaning up:</b>                | Neutralize spill area and washings with dilute acetic acid. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Collect in a non-combustible container for prompt disposal. Dike far ahead of larger spill for later recovery and disposal.                          |
| <b>Notification Procedures:</b>   | Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.  |

## 7 HANDLING AND STORAGE

|   |  |
|---|--|
| <b>Precautions for safe handling:</b>                               | Use personal protective equipment as required. Avoid breathing mists or vapors. Avoid contact with eyes, skin, and clothing. Do not taste or swallow. Wash hands thoroughly after handling. Do not eat, drink or smoke when using the product. See Section 8 of the SDS for Personal Protective Equipment. |
| <b>Condition for safe storage, including any incompatibilities:</b> | Do not store in metal containers. Keep container tightly closed. Store in a well-ventilated place. Store in a dry place. Protect from freezing. Store above 16°C (61°F).   |

## 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

|   |   |
|---|---|
| <b>Appropriated engineering control measures:</b> | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
|---|---|

### Occupational Exposure Limits:

| Chemical name    | Type | Exposure Limit Values | Source  |
|------------------|------|-----------------------|---|
| Sodium hydroxide | STEL | 2 mg/m3               | Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order) (2006) |

### Personal protective equipment (ppe)

|                                |  |
|--------------------------------|--|
| <b>Respiratory Protection:</b> | In case of inadequate ventilation use suitable respirator.   |
| <b>Eye Protection:</b>         | Wear safety glasses with side shields (or goggles) and a face shield.  |
| <b>Hand Protection:</b>        | Chemical resistant gloves  |
| <b>Skin Protection:</b>        | Wear suitable protective clothing.   |
| <b>Hygiene measures:</b>       | Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

## 9 PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

|   |                    |
|---|--------------------|
| <b>Physical state:</b>                          | Liquid             |
| <b>Form:</b>                                    | Liquid             |
| <b>Color:</b>                                   | Colorless          |
| <b>Odor:</b>                                    | Odorless           |
| <b>Odor Threshold:</b>                          | No data available. |
| <b>pH:</b>                                      | 14 (20 °C)         |
| <b>Freezing point:</b>                          | 12 °C              |
| <b>Boiling Point:</b>                           | 140 °C             |
| <b>Flash Point:</b>                             | Not applicable     |
| <b>Evaporation Rate:</b>                        | No data available. |
| <b>Flammability (solid, gas):</b>               | No data available. |
| <b>Flammability Limit - Upper (%)—:</b>         | No data available. |
| <b>Flammability Limit - Lower (%)—:</b>         | No data available. |
| <b>Vapor pressure:</b>                          | No data available. |
| <b>Vapor density (air=1):</b>                   | No data available. |
| <b>Relative density:</b>                        | 1.53 (20 °C)       |
| <b>Solubility(ies)</b>                          |                    |
| <b>Solubility in Water:</b>                     | Miscible           |
| <b>Solubility (other):</b>                      | No data available. |
| <b>Partition coefficient (n-octanol/water):</b> | No data available. |
| <b>Autoignition Temperature:</b>                | No data available. |
| <b>Decomposition Temperature:</b>               | No data available. |
| <b>Viscosity:</b>                               | No data available. |
| <b>Explosive properties:</b>                    | No data available. |
| <b>Oxidizing properties:</b>                    | No data available. |

## 10 STABILITY AND REACTIVITY

|                                |  |
|--------------------------------|--|
| <b>Incompatible Materials:</b> | Oxidizing agents. Acids. Maleic Anhydride Halogens. Nitromethane. Contact with metals may evolve flammable hydrogen gas. |
|--------------------------------|--|

|  |  |
|--|--|
| <b>Chemical Stability:</b>                 | Material is stable under normal conditions.                              |
| <b>Possibility of hazardous reactions:</b> | Hazardous polymerization does not occur.                                 |
| <b>Conditions to avoid:</b>                | Avoid contact with oxidizing agents. Reacts violently with strong acids. |
| <b>Hazardous Decomposition Products:</b>   | Sodium oxides.   |

## 11 TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

|                      |   |
|----------------------|---|
| <b>Inhalation:</b>   | May cause damage to mucous membranes in nose, throat, lungs and bronchial system. |
| <b>Ingestion:</b>    | May cause burns of the gastrointestinal tract if swallowed.                       |
| <b>Skin Contact:</b> | Causes severe skin burns.   |
| <b>Eye contact:</b>  | Causes serious eye damage.  |

### Information on toxicological effects

#### Acute toxicity

|                            |  |
|----------------------------|--|
| <b>Oral Product:</b>       | No data available.   |
| <b>Dermal Product:</b>     | No data available.   |
| <b>Inhalation Product:</b> | Not classified for acute toxicity based on available data. |

|  |                    |
|--|--------------------|
| <b>Repeated dose toxicity Product:</b> | No data available. |
|--|--------------------|

|  |                           |
|--|---------------------------|
| <b>Skin Corrosion/Irritation: Product:</b> | Causes severe skin burns. |
|--|---------------------------|

|  |                            |
|--|----------------------------|
| <b>Serious Eye Damage/Eye Irritation: Product:</b> | Causes serious eye damage. |
|--|----------------------------|

|  |  |
|--|--|
| <b>Respiratory or Skin Sensitization: Product:</b> | Not a skin nor a respiratory sensitizer. |
|--|--|

#### Germ Cell Mutagenicity

|                          |                                    |
|--------------------------|------------------------------------|
| <b>In vitro Product:</b> | No mutagenic components identified |
|--------------------------|------------------------------------|

|                         |                                    |
|-------------------------|------------------------------------|
| <b>In vivo Product:</b> | No mutagenic components identified |
|-------------------------|------------------------------------|

|                                 |  |
|---------------------------------|--|
| <b>Carcinogenicity Product:</b> | This substance has no evidence of carcinogenic properties. |
|---------------------------------|--|

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| <b>Reproductive toxicity Product:</b> | No components toxic to reproduction |
|---------------------------------------|-------------------------------------|

### Specific Target Organ Toxicity - Single Exposure

**Product:** None known.

### Specific Target Organ Toxicity - Repeated Exposure

**Product:** None known.

### Aspiration Hazard

**Product:** Not classified

**Metabolism:** No data available.

**Other effects:** None known.

## 12 ECOLOGICAL INFORMATION

**General information:** Not applicable

### Ecotoxicity

#### Acute toxicity

##### Fish

**Product:** No data available.

##### Specified substance(s):

Sodium hydroxide

LOAEL (Sander lucioperca, 24 h):  $\geq 35$  mg/l  
LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 125 mg/l  
LC 50 (Lepomis macrochirus, 48 h): 99 mg/l  
LC 50 (Fish, 96 h):  $> 100$  mg/l

Water

##### Aquatic Invertebrates

**Product:** No data available.

##### Specified substance(s):

Sodium hydroxide

LC 50 (Ophryotrocha diadema, 48 h): 33 - 100 mg/l  
LOAEL (Daphnia magna): 40 - 240 mg/l  
LC 50 (Cockle, 48 h): 330 - 1,000 mg/l  
EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 34.59 - 47.13 mg/l  
EC 50 (Ceriodaphnia sp., 48 h): 40.4 mg/l  
Not applicable

Water

### Chronic Toxicity

##### Fish

**Product:** No data available.

##### Aquatic Invertebrates

**Product:** No data available.

### Toxicity to Aquatic Plants

**Product:** No data available.

### Persistence and Degradability

#### Biodegradation

**Product:** Expected to be readily biodegradable.

#### BOD/COD Ratio

**Product:** No data available.

### Bioaccumulative potential

**Product:** No data available on bioaccumulation.

**Mobility in soil:** The product is water soluble and may spread in water systems.

**Results of PBT and vPvB assessment:** Not available.

**Other adverse effects:** Harmful to aquatic organisms. The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

### 13 Disposal considerations

**Disposal methods:** Discharge, treatment, or disposal may be subject to national, state, or local laws.

### 14 TRANSPORT INFORMATION

#### IMDG - International Maritime Dangerous Goods Code

|                             |                           |
|-----------------------------|---------------------------|
| UN Number:                  | UN 1824                   |
| UN Proper Shipping Name:    | SODIUM HYDROXIDE SOLUTION |
| Transport Hazard Class(es): | 8                         |
| Subsidiary risk label(s):   | —                         |
| Packing Group:              | II                        |
| Label(s):                   | 8                         |
| Marine Pollutant:           | Not a Marine Pollutant    |
| EmS No.:                    | F-A; S-B                  |

#### IATA

|                             |                           |
|-----------------------------|---------------------------|
| UN Number:                  | UN 1824                   |
| Proper Shipping Name:       | Sodium hydroxide solution |
| Transport Hazard Class(es): | 8                         |
| Subsidiary risk label(s):   | —                         |
| Packing Group:              | II                        |
| Label(s):                   | 8                         |
| Marine Pollutant            | Not a Marine Pollutant    |

### 15 REGULATORY INFORMATION

#### Applicable regulations:

Workplace Safety and Health Act  
Act on the Control of Transboundary Movements of Hazardous Wastes and their Disposal  
Environmental Public Health Act  
Environmental Public Health (Toxic Industrial Waste) Regulations  
Singapore. Hazardous Substances Control List (Environmental Protection and Management Act, Second Schedule, Part 1, Control of Hazardous Substances)  
Environmental Pollution Control (Hazardous Substances) Regulations  
Singapore. PELs. (Workplace Safety and Health (Permissible Exposure Levels of Toxic Substances) Order)

### 16 OTHER INFORMATION

#### Inventory Status

|  |  |
|--|--|
| Australia AICS:                          | On or in compliance with the inventory |
| Canada DSL Inventory List:               | On or in compliance with the inventory |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Japan (ENCS) List:                       | On or in compliance with the inventory |
| Japan ISHL Listing:                      | Not in compliance with the inventory.  |
| Korea Existing Chemicals Inv. (KECI):    | On or in compliance with the inventory |
| Mexico INSQ:                             | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals:      | On or in compliance with the inventory |
| Philippines PICCS:                       | On or in compliance with the inventory |
| Taiwan Chemical Substance Inventory:     | On or in compliance with the inventory |
| US TSCA Inventory:                       | On or in compliance with the inventory |
| EINECS, ELINCS or NLP:                   | On or in compliance with the inventory |

**Revision Information:** Not relevant.

**Issue Date:** 05-20-2021

**SDS No.:**

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