

# SAFETY DATA SHEET

## 1. Identification

**Product identifier:** SODIUM HYDROXIDE SOLUTIONS

**Other means of identification**

**Product No.:** 4689

**Recommended use and restriction on use**

**Recommended use:** Not available.

**Restrictions on use:** Not known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company Name:** Avantor Performance Materials, Inc.  
**Address:** 3477 Corporate Parkway, Suite 200  
Center Valley, PA 18034

**Telephone:** Customer Service: 855-282-6867

**Fax:**  
**Contact Person:** Environmental Health & Safety  
**e-mail:** info@avantormaterials.com

**Emergency telephone number:**

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

## 2. Hazard(s) identification

**Hazard classification**

**Health hazards**

Skin corrosion/irritation	Category 1A
Serious eye damage/eye irritation	Category 1

**Label elements**

**Hazard symbol:**



**Signal word:** Danger

**Hazard statement:** Causes severe skin burns and eye damage.

**Precautionary statement**

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

**Response:** IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF INHALED:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Storage:** 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 GHS classification:** None.

### 3. Composition/information on ingredients

#### Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
SODIUM HYDROXIDE		1310-73-2	1 - 10%

\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

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

**Ingestion:** Rinse mouth. Get medical attention if symptoms occur. Do NOT induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Inhalation:** Move to fresh air. Get medical attention if symptoms persist. Apply artificial respiration if victim is not breathing. If breathing is difficult, give oxygen.

**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.

**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. In case of irritation from airborne exposure, move to fresh air.

#### Most important symptoms/effects, acute and delayed

**Symptoms:** Causes severe skin and eye burns.

#### Indication of immediate medical attention and special treatment needed

**Treatment:** Treat symptomatically. Symptoms may be delayed.

### 5. Fire-fighting measures

**General fire hazards:** In case of fire and/or explosion do not breathe fumes.

### Suitable (and unsuitable) extinguishing media

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** None known.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed. Product is highly caustic. Product is acidic. Wear appropriate protective gear if spilled during fire fighting.

### Special protective equipment and precautions for firefighters

**Special fire fighting procedures:** Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

**Special protective equipment for fire-fighters:** 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

**Personal precautions, protective equipment and emergency procedures:** Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

**Methods and material for containment and cleaning up:** 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. Clean surface thoroughly to remove residual contamination. Dike far ahead of larger spill for later recovery and disposal.

**Notification Procedures:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Inform authorities if large amounts are involved.

**Environmental precautions:** 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.

## 7. Handling and storage

**Precautions for safe handling:** Wear protective gloves/protective clothing/eye protection/face protection. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Use caution when adding this material to water. See Section 8 of the MSDS for Personal Protective Equipment. Avoid contact with skin. Avoid contact with eyes.

**Conditions for safe storage, including any incompatibilities:** Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place. Store locked up. Store away from incompatible materials.

## 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
SODIUM HYDROXIDE	Ceiling	2 mg/m <sup>3</sup>	US. ACGIH Threshold Limit Values (2011)
	Ceil_Time	2 mg/m <sup>3</sup>	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	PEL	2 mg/m <sup>3</sup>	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	Ceiling	2 mg/m <sup>3</sup>	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

**Appropriate engineering controls** No data available.

### Individual protection measures, such as personal protective equipment

**General information:** 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. An eye wash and safety shower must be available in the immediate work area.

**Eye/face protection:** Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

#### Skin protection

**Hand protection:** Chemical resistant gloves

**Other:** Wear suitable protective clothing.

**Respiratory protection:** If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

**Hygiene measures:** Provide eyewash station and safety shower. Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

## 9. Physical and chemical properties

### Appearance

**Physical state:** Liquid

**Form:** Liquid

**Color:** Colorless

**Odor:** Odorless

**Odor threshold:** No data available.

**pH:** 14

**Melting point/freezing point:** No data available.

**Initial boiling point and boiling range:** < 105 °C

**Flash Point:** Not applicable

<b>Evaporation rate:</b>	As water
<b>Flammability (solid, gas):</b>	No data available.
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Flammability limit - upper (%):</b>	No data available.
<b>Flammability limit - lower (%):</b>	No data available.
<b>Explosive limit - upper (%):</b>	No data available.
<b>Explosive limit - lower (%):</b>	No data available.
<b>Vapor pressure:</b>	As water
<b>Vapor density:</b>	No data available.
<b>Relative density:</b>	No data available.
<b>Solubility(ies)</b>	
<b>Solubility in water:</b>	Soluble
<b>Solubility (other):</b>	No data available.
<b>Partition coefficient (n-octanol/water):</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Decomposition temperature:</b>	No data available.
<b>Viscosity:</b>	No data available.

## 10. Stability and reactivity

<b>Reactivity:</b>	No dangerous reaction known under conditions of normal use.
<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>	Contact with incompatible materials. Heat, sparks, flames. Water, moisture. Avoid contact with oxidizing agents.
<b>Incompatible materials:</b>	Strong acids. Strong oxidizing agents. Organic compounds. Aluminum. Nitromethane. Metals. Halogens. Ethylene Oxide Sodium hydroxide.
<b>Hazardous decomposition products:</b>	Sodium oxides

## 11. Toxicological information

### Information on likely routes of exposure

<b>Ingestion:</b>	May be harmful if swallowed.
<b>Inhalation:</b>	May be harmful if inhaled.
<b>Skin contact:</b>	Causes severe skin burns.
<b>Eye contact:</b>	Causes serious eye damage.

### Information on toxicological effects

#### Acute toxicity (list all possible routes of exposure)

<b>Oral</b>	
<b>Product:</b>	ATEmix (Rat): 3,250 mg/kg
<b>Dermal</b>	
<b>Product:</b>	ATEmix (Rabbit): 33,750 mg/kg

#### Inhalation

**Product:** No data available.

**Repeated dose toxicity  
Product:** No data available.

**Skin corrosion/irritation  
Product:** Causes severe skin burns.

**Serious eye damage/eye irritation  
Product:** Causes serious eye damage.

**Respiratory or skin sensitization  
Product:** Not a skin sensitizer.

**Carcinogenicity  
Product:** This substance has no evidence of carcinogenic properties.

**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**  
No carcinogenic components identified

**US. National Toxicology Program (NTP) Report on Carcinogens:**  
No carcinogenic components identified

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):**  
No carcinogenic components identified

**Germ cell mutagenicity**

**In vitro  
Product:** No mutagenic components identified

**In vivo  
Product:** No mutagenic components identified

**Reproductive toxicity  
Product:** 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

**Other effects:** None known.

**12. Ecological information**

**Ecotoxicity:**

**Acute hazards to the aquatic environment:**

**Fish  
Product:** LC 50 (Western mosquitofish (*Gambusia affinis*), 96 h): Estimated 3,125 mg/l

**Aquatic invertebrates  
Product:** EC 50 (Water flea (*Ceriodaphnia dubia*), 48 h): Estimated 865 mg/l

**Chronic hazards to the aquatic environment:**

**Fish**  
**Product:** No data available.

**Aquatic invertebrates**  
**Product:** No data available.

**Toxicity to Aquatic Plants**  
**Product:** No data available.

**Persistence and degradability**

**Biodegradation**  
**Product:** There are no data on the degradability of this product.

**BOD/COD ratio**  
**Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration factor (BCF)**  
**Product:** No data available on bioaccumulation.

**Partition coefficient n-octanol / water (log Kow)**  
**Product:** No data available.

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

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

**13. Disposal considerations**

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

**Contaminated packaging:** Since emptied containers retain product residue, follow label warnings even after container is emptied.

**14. Transport information**

**DOT**

UN number: UN 1824  
UN proper shipping name: Sodium hydroxide solution  
Transport hazard class(es)  
Class(es): 8  
Label(s): 8  
Packing group: II  
Marine Pollutant: No

**IMDG**

UN number: UN 1824  
UN proper shipping name: SODIUM HYDROXIDE SOLUTION  
Transport hazard class(es)  
Class(es): 8  
Label(s): 8  
EmS No.: F-A, S-B  
Packing group: II  
Marine Pollutant: No

**IATA**

UN number: UN 1824  
 Proper Shipping Name: Sodium hydroxide solution  
 Transport hazard class(es):  
   Class(es): 8  
   Label(s): 8  
 Marine Pollutant: No  
 Packing group: II

**15. Regulatory information**

**US federal regulations**

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  
 US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

None present or none present in regulated quantities.

**CERCLA Hazardous Substance List (40 CFR 302.4):**

SODIUM HYDROXIDE Reportable quantity: 1000 lbs.

**Superfund amendments and reauthorization act of 1986 (SARA)**

**Hazard categories**

Acute (Immediate)  Chronic (Delayed)  Fire  Reactive  Pressure Generating

**SARA 302 Extremely hazardous substance**

None present or none present in regulated quantities.

**SARA 304 Emergency release notification**

Chemical identity	RQ
SODIUM HYDROXIDE	1000 lbs.

**SARA 311/312 Hazardous chemical**

Chemical identity	Threshold Planning Quantity
SODIUM HYDROXIDE	500 lbs

**SARA 313 (TRI reporting)**

None present or none present in regulated quantities.

**Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)**

SODIUM HYDROXIDE Reportable quantity: 1000 lbs.

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):**

None present or none present in regulated quantities.

**US state regulations**

**US. California Proposition 65**

No ingredient regulated by CA Prop 65 present.

**US. New Jersey Worker and Community Right-to-Know Act**

SODIUM HYDROXIDE Listed

**US. Massachusetts RTK - Substance List**

SODIUM HYDROXIDE Listed

**US. Pennsylvania RTK - Hazardous Substances**

SODIUM HYDROXIDE Listed

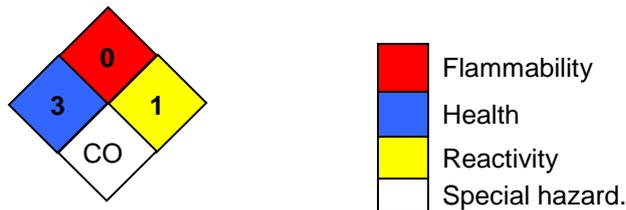
**US. Rhode Island RTK**  
SODIUM HYDROXIDE      Listed

**Inventory Status:**

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

**16. Other information, including date of preparation or last revision**

**NFPA Hazard ID**



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe  
COR: Corrosive

**Issue date:** 08-15-2014  
**Revision date:** No data available.  
**Version #:** 1.0  
**Further information:** No data available.

**Disclaimer:**

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