

**Material Safety Data Sheet**  
acc. to OSHA and ANSI

Printing date 03/26/2007

Reviewed on 02/1

**1 Identification of substance:**

**Product details:**

**Product name:** Sodium hydroxide, 50% w/w Aqueous Solution

**Stock number:** 33382

**Manufacturer/Supplier:**

Alfa Aesar, A Johnson Matthey Company  
Johnson Matthey Catalog Company, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Emergency Phone: (978) 521-6300  
CHEMTREC: (800) 424-9300  
Web Site: www.alfa.com

**Information Department:** Health, Safety and Environmental Department

**Emergency information:**

During normal hours the Health, Safety and Environmental Department.  
After normal hours call Chemtrec at (800) 424-9300.

**2 Composition/Data on components:**

**Chemical characterization:**

**Description: (CAS#)**

Sodium hydroxide (CAS# 1310-73-2): 50%

Water (CAS# 7732-18-5): Balance

**Identification number(s):**

**EINECS Number:** 215-185-5

**EU Number:** 011-002-00-6

**3 Hazards identification**

**Hazard description:**



C Corrosive

**Information pertaining to particular dangers for man and environment**  
R 35 Causes severe burns.

**Classification system**

**NFPA Ratings (scale 0-4)**



Health = 4  
Fire = 0  
Reactivity = 0

**HMIS ratings (scale 0-4)**

**(Hazardous Materials Identification System)**

HEALTH	3
FIRE	0
REACTIVITY	2

Health (acute effects) = 3  
Flammability = 0  
Reactivity = 2

**4 First aid measures**

**General information**

Immediately remove any clothing soiled by the product.

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## After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

## After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

## After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.

## 5 Fire fighting measures

### Suitable extinguishing agents

Product is not flammable. Use fire fighting measures that suit the surrounding fire.

**Special hazards caused by the material, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Sodium oxide

### Protective equipment:

Wear self-contained respirator.

Wear fully protective impervious suit.

## 6 Accidental release measures

### Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

### Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

### Measures for cleaning/collecting:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

### Additional information:

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

### Handling

#### Information for safe handling:

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

#### Information about protection against explosions and fires:

The product is not flammable

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**Storage**

**Requirements to be met by storerooms and receptacles:**

No special requirements.

**Information about storage in one common storage facility:**

Do not store together with acids.

Store away from metals.

Store away from water/moisture.

**Further information about storage conditions:**

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

**8 Exposure controls and personal protection**

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Components with limit values that require monitoring at the workplace:**

Sodium hydroxide

mg/m<sup>3</sup>

ACGIH TLV	2-CEILING
Austria MAK	2
Belgium	2-STEL
Denmark TWA	2
Finland TWA	2
France VME	2
Germany MAK	2
Ireland TWA	2-STEL
Japan OEL	2
Korea TLV	2-Ceiling
Netherlands MAC-TGG	2
Norway TWA	2
Poland TWA	0.5; 1-STEL
Sweden TGV	2
Switzerland MAK-W	2; 4-KZG-W
United Kingdom TWA	2-STEL
OSHA PEL	2

**Additional information:** No data

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

**Breathing equipment:**

Use suitable respirator when high concentrations are present.

**Protection of hands:** Impervious gloves

**Eye protection:**

Safety glasses

Tightly sealed goggles

Full face protection

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**Body protection:** Protective work clothing.

**9 Physical and chemical properties:**

**General Information**

<b>Form:</b>	Solution
<b>Color:</b>	Colorless
<b>Odor:</b>	Odorless

**Change in condition**

<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined

<b>Flash point:</b>	Not applicable
	Not determined

<b>Flammability (solid, gaseous)</b>	Product is not flammable.
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<b>Ignition temperature:</b>	Not determined
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<b>Decomposition temperature:</b>	Not determined
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<b>Danger of explosion:</b>	Product does not present an explosion hazard.
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**Explosion limits:**

<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined

<b>Vapor pressure:</b>	Not determined
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<b>Density:</b>	Not determined
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<b>Solubility in / Miscibility with Water:</b>	Fully miscible
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**10 Stability and reactivity**

**Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

**Materials to be avoided:**

Acids  
Metal powders  
Halocarbons

Aqueous solutions are incompatible with alkali and alkaline earth metals and many reactive organic and inorganic chemicals.

**Dangerous reactions**

Reacts with halogenated compounds  
Reacts with acids  
Exothermic reaction with water

**Dangerous products of decomposition:** Sodium oxide

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**11 Toxicological information**

**Acute toxicity:**

**Primary irritant effect:**

**on the skin:**

Strong corrosive effect on skin and mucous membranes.

Irritant to skin and mucous membranes.

**on the eye:**

Strong corrosive effect.

Irritating effect.

**Sensitization:** No sensitizing effects known.

**Subacute to chronic toxicity:**

Corrosive materials are acutely destructive to the respiratory tract, eyes, skin and digestive tract. Eye contact may result in permanent damage and complete vision loss. Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis. May cause coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. Ingestion may cause damage to the mouth, throat and esophagus. May cause skin burns or irritation depending on the severity of the exposure.

Sodium hydroxide, both solid and in solution, is corrosive to all body tissues causing burns, and possibly ulceration and scarring. Dilute solutions have a less irritating effect.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

**12 Ecological information:**

**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations**

**Product:**

**Recommendation**

Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

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**14 Transport information**

**DOT regulations:**



**Hazard class:** 8  
**Identification number:** UN1824  
**Packing group:** II  
**Proper shipping name (technical name):** SODIUM HYDROXIDE SOLUTION  
**Label:** 8

**Land transport ADR/RID (cross-border)**



**ADR/RID class:** 8 (C5) Corrosive substances  
**Danger code (Kemler):** 80  
**UN-Number:** 1824  
**Packaging group:** II  
**Description of goods:** 1824 SODIUM HYDROXIDE SOLUTION

**Maritime transport IMDG:**



**IMDG Class:** 8  
**UN Number:** 1824  
**Label:** 8  
**Packaging group:** II  
**Proper shipping name:** SODIUM HYDROXIDE SOLUTION

**Air transport ICAO-TI and IATA-DGR:**



**ICAO/IATA Class:** 8  
**UN/ID Number:** 1824  
**Label:** 8  
**Packaging group:** II  
**Proper shipping name:** SODIUM HYDROXIDE SOLUTION

**15 Regulations**

**Product related hazard informations:**

**Hazard symbols:**  
C Corrosive

**Risk phrases:**  
35 Causes severe burns.

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## **Safety phrases:**

- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 37/39 Wear suitable gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately.

## **National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

## **Information about limitation of use:**

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

## **16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing MSDS:** Health, Safety and Environmental Department.

**Contact:** Darrell R. Sanders