

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

1 Identification of substance:

Product details:

Product name: Sodium hydroxide

Stock number: A18395

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): 100%

Identification number(s):

EINECS Number: 215-185-5

EU Number: 011-002-00-6

3 Hazards identification

Hazard description:



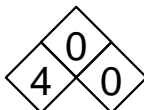
C Corrosive

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.

(Contd. on page 2)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 1)

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:

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

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

No special requirements.

(Contd. on page 3)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 2)

Information about storage in one common storage facility:

Store away from water/moisture.
Do not store together with acids.

Further information about storage conditions:

This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.

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/m³

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

Check protective gloves prior to each use for their proper condition.

Material of gloves

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

Eye protection:

Safety glasses

Tightly sealed goggles

(Contd. on page 4)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 3)

Full face protection

Body protection: Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Pellets
Color:	White
Odor:	Odorless

Change in condition

Melting point/Melting range:	318°C (604°F)
Boiling point/Boiling range:	1390°C (2534°F)
Sublimation temperature / start:	Not determined

Flash point:	Not applicable
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Ignition temperature:	Not determined
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Decomposition temperature:	Not determined
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Danger of explosion:	Product does not present an explosion hazard.
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Explosion limits:

Lower:	Not determined
Upper:	Not determined

Vapor pressure:	Not determined
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Density at 20°C (68°F):	2.13 g/cm ³
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Solubility in / Miscibility with Water:	Hydrolyzes
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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:

Water/moisture

Acids

Dangerous reactions No dangerous reactions known**Dangerous products of decomposition:** Sodium oxide**11 Toxicological information****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LDLo	500 mg/kg (rbt)
Irritation of skin	severe	500 mg/24H (rbt)
Irritation of eyes	severe	50 µg/24H (rbt)
		400 ug (rbt)
		1 % (rbt)

(Contd. on page 5)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 4)

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.**Other information (about experimental toxicology):**

Mutagenic effects have been observed on tests with insects.

Mutagenic effects have been observed on tests with laboratory animals.

Subacute to chronic toxicity:**Subacute to chronic toxicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) reports the following effects in laboratory animals:

Behavioral - anorexia (human).

Nutritional and Gross Metabolic - body temperature increase.

Skin and Appendages - primary irritation (after topical exposure).

Subacute to chronic toxicity:

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.

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.

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.

Carcinogen as defined by OSHA.

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.

USA

(Contd. on page 6)

Material Safety Data Sheet

acc. to OSHA and ANSI

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Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 5)

14 Transport information

DOT regulations:

Hazard class: 8
Identification number: UN1823
Packing group: II
Proper shipping name (technical name): SODIUM HYDROXIDE, SOLID
Label: corrosive

Land transport ADR/RID (cross-border)



ADR/RID class: 8 (C6) Corrosive substances
Danger code (Kemler): 80
UN-Number: 1823
Packaging group: II
Description of goods: 1823 SODIUM HYDROXIDE, SOLID

Maritime transport IMDG:



IMDG Class: 8
UN Number: 1823
Label: 8
Packaging group: II
Proper shipping name: SODIUM HYDROXIDE, SOLID

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 8
UN/ID Number: 1823
Label: 8
Packaging group: II
Proper shipping name: SODIUM HYDROXIDE, SOLID

15 Regulations

Product related hazard informations:

Hazard symbols:
 C Corrosive

Risk phrases:
 35 Causes severe burns.

(Contd. on page 7)

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 03/27/2007

Reviewed on 03/27/2007

Product name: Sodium hydroxide

(Contd. of page 6)

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: Paul V. Connolly

USA