

Safety Data Sheet

According to Hazardous Products Regulation (SOR/2015-17)

Revision date: 12.02.2024

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SECTION 1: Identification

Product identifier

Trade name/designation:	Sodium hydroxide 40%
Product No.:	BDH7994-4, BDH7994-6, BDH7994-7
Synonyms:	none
CAS No.:	1310-73-2
Other means of identification:	

Relevant identified uses of the substance or mixture and uses advised against

Recommended use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

Details of the supplier of the safety data sheet

Supplier

VWR International

Street	2360 Argentia Road
Postal code/City	Mississauga, Ontario
	Canada L5N 5Z7
Telephone	+1-800-932-5000 toll-free within US/Canada
Telefax	+1-610-728-2103

Emergency phone number

Telephone +1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

Preparation Information

VWR International - Product Information Compliance

E-mail SDS@avantorsciences.com

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

Classification according to Hazardous Products Regulation (SOR/2015-17)

Hazard classes and hazard categories	Hazard statements
Substance or mixture corrosive to metals, category 1	H290
Skin corrosion, category 1A	H314
Serious eye damage, category 1	H318

2.2 Label elements

Labelling in accordance with (SOR/2015-17)

Hazard pictograms



Signal word: Danger

Hazard statements	
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

Precautionary statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P234	Keep only in original container.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in a corrosion-resistant container with a resistant inner liner.
P501	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.

Hazard(s) not otherwise classified (HNOC)
none

SECTION 3: Composition/information on ingredients

3.1 Substances

not applicable

3.2 Mixtures

Hazardous ingredients GHS Classification in accordance with (SOR/2015-17)

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Sodium hydroxide	35 - 45%	CAS No.: 1310-73-2	Skin Corr. 1A - H314

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

Do not leave affected person unattended. If unconscious but breathing normally, place in recovery position and seek medical advice. Take off contaminated clothing. Never give anything by mouth to an unconscious person or a person with cramps. When in doubt or if symptoms are observed, get medical advice.

In case of inhalation

Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact

Remove contaminated, saturated clothing immediately. Wash off any skin contamination immediately. In case of skin irritation, consult a physician.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.

In case of ingestion

Seek medical advice immediately (poison centre). Rinse mouth immediately and drink plenty of water. Do NOT induce vomiting.

Self-protection of the first aider

First aider: Pay attention to self-protection! Wear personal protection equipment (refer to section 8).

4.2 Most important symptoms/effects, acute and delayed

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Causes severe skin burns and eye damage. After inhalation: Cough. Dyspnoea. Pulmonary oedema. After skin contact: Causes poorly healing wounds. Occurrence of severe chemical burns resembling a burn. After eye contact: Risk of blindness. After ingestion: Risk of stomach perforation if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed

After inhalation, immediate application of glucocorticoids (inhalative), administration of oxygen and immobilization of the affected person are indicated. If necessary, all further measures of pulmonary edema prophylaxis. After vapor inhalation cardiovascular and pulmonary functions should be carefully monitored. After decontamination of the skin pain treatment and shock prophylaxis. After swallowing: Do not induce vomiting. No oral administration of fluids, activated charcoal, or laxatives, no gastric lavage, but aspiration of the fluid from the stomach via a nasogastric tube, avoiding intubation, if this is possible within 60 minutes.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Water spray.

ABC-powder

Carbon dioxide (CO₂).

Nitrogen

Extinguishing media which must not be used for safety reasons

Full water jet

5.2 Specific hazards arising from the chemical

In case of fire may be liberated:

Pyrolysis products, toxic

5.3 Advice for firefighters

In case of fire: Evacuate area.

Do not inhale explosion and combustion gases.

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Vapors are heavier than air, spread along floors and form explosive mixtures with air.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

Use water spray jet to protect personnel and to cool endangered containers.

DO NOT fight fire when fire reaches explosives.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Wear personal protection equipment (refer to section 8). Avoid contact with skin, eyes and clothes. Remove victim out of the danger area. Stop leak if safe to do so. Provide adequate ventilation. First Aid, decontamination, treatment of symptoms.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter into surface water or drains. Cover drains. Advise Authorities if spillage has entered water course or sewer or has contaminated soil or vegetation.

6.3 Methods and material for containment and cleaning up

Large spills: Dike or dam to contain for later disposal. Take up mechanically, placing in appropriate containers for disposal. Take precautionary measures against static discharges. Small spills: Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Dispose according to legislation.

6.4 Reference to other sections

Personal protection equipment (PPE): see section 8 Disposal information: see section 13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advices on safe handling

Use extractor hood (laboratory).

Use only in well-ventilated areas.

Avoid breathing dust/fume/gas/mist/vapors/spray.

Avoid contact with eyes and skin.

Use personal protective equipment as required.

Measures to prevent fire, aerosol and dust generation

Usual measures for fire prevention.

Use only in well-ventilated areas.

Measures required to protect the environment

Do not empty into drains.

Collect spillage.

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15-25 °C

Store in a well-ventilated place. Keep container tightly closed. Packaging materials: High density polyethylene (HDPE) Unsuitable container/equipment material: Metal container

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

8.2 Engineering controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

Eye/face protection

Eye glasses with side protection

Skin protection

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time	> 480 min

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time	> 480 min

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

Additional information

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls

no data available

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	
Physical state:	liquid
Color:	colorless
Odor:	no data available

Safety relevant basic data

pH:	no data available
Melting point/freezing point:	no data available
Initial boiling point and boiling range:	no data available
Flash point:	no data available
Flammability:	Not applicable
Lower and upper explosion limit	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
Vapor pressure:	no data available
Relative vapour density:	no data available
Density and/or relative density	
Density:	no data available
Solubility(ies)	
Water solubility:	no data available
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Decomposition temperature:	Not applicable
Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
Particle characteristics:	does not apply to liquids

9.2 Other information

Evaporation rate:	no data available
Explosive properties:	no data available
Oxidising properties:	Not applicable
Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Corrosive to metals

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Violent reaction with:

Alkali metals

Alkaline earth metal

Alkali (lye)

light metals

The product develops hydrogen in an aqueous solution in contact with metals.

May cause strong formation of hydrogen by contact with amphoteric metals (e.g. alumina, lead, zinc) - danger of explosion.

Exothermic reaction with:

Water.

Substance, organic

10.4 Conditions to avoid

No special measures are necessary.

10.5 Incompatible materials:

Metal.

The product develops hydrogen in an aqueous solution in contact with metals.

10.6 Hazardous decomposition products

Decomposition products in case of fire: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute effects

Acute oral toxicity:

no data available

Acute dermal toxicity:

no data available

Acute inhalation toxicity:

no data available

Irritant and corrosive effects:

Primary irritation to the skin:

Causes severe skin burns and eye damage.

Irritation to eyes:

Causes serious eye damage.

Irritation to respiratory tract:

Not applicable

Respiratory or skin sensitization

In case of skin contact: not sensitizing

In case of inhalation: not sensitizing

STOT-single exposure

Not applicable

STOT-repeated exposure

Not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No indication of human carcinogenicity.

Germ cell mutagenicity

No indications of human germ cell mutagenicity exist.

Reproductive toxicity

No indications of human reproductive toxicity exist.

Aspiration hazard

Not applicable

Other adverse effects

no data available

Additional information

no data available

SECTION 12: Ecological information

12.1 Toxicity

Fish toxicity:

Sodium hydroxide - LC50: 196 mg/l (96 h) - Adema, D.M.M. 1985. Aquatic Toxicity of Compounds that may be Carried by Ships (Marpol 19733 Annex II). A Progress Report for 1985. Tech.Rep.No.R85/217, TNO, The Hague, Netherlands :40 p.

Daphnia toxicity:

Sodium hydroxide - EC50: 40.4 mg/l (48 h) - Warne, M.S.J., and A.D. Schiffko 1999. Toxicity of Laundry Detergent Components to a Freshwater Cladoceran and Their Contribution to Detergent Toxicity. Ecotoxicol.Environ.Saf. 44(2):196-206

Algae toxicity:

no data available

Bacteria toxicity:

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

12.4 Mobility in soil:

no data available

12.5 Results of PBT/vPvB assessment

Not applicable

12.6 Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to the environment.

12.7 Other adverse effects

no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Appropriate disposal / Product

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal. Product is an acid. Before disposal it needs to be neutralised.

Waste code product: no data available

Appropriate disposal / Package

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

Additional information

none

No further relevant information available.

SECTION 14: Transport information

Land transport (TDG)

UN-No.:	1824
Proper Shipping Name:	SODIUM HYDROXIDE SOLUTION
Class(es):	8
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

Sea transport (IMDG)

UN-No.:	1824
Proper Shipping Name:	SODIUM HYDROXIDE SOLUTION

Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	18
EmS-No.	F-A S-B
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
not relevant	

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1824
Proper Shipping Name:	SODIUM HYDROXIDE SOLUTION
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	II
Special precautions for user:	

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
DOT - Department of Transportation
IARC - International Agency for Research on Cancer
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
NTP - National Toxicology Program
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
STV - Short Term Value
SVHC - Substances of Very High Concern
TDG - Transport of Dangerous Goods
TLV - Threshold Limit Value
vPvB - very Persistent, very Bioaccumulative

Key literature references and sources for data

This Safety Data Sheet has been prepared based on information available for public as TOXNET information, European Chemicals Agency (ECHA) substance dossier, papers from international cancer research institutes (IARC Monographs), U.S. National Toxicology Program data, U.S. Agency for Toxic Substances and Disease Control (ATSDR), PubChem websites and SDS from our raw material manufacturers.

Revision date	Version	Print date
12.02.2024	6.5	12.02.2024

Additional information

Indication of changes Section 2: Revision of P-phrases, review and revision of Sections 4, 5, 6, 7 and 10.

If you need an explanation of the change, contact the supplier (SDS@avantorsciences.com).

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.