
MATERIAL SAFETY DATA SHEET

1. Identification of the substance/preparation and of the company/undertaking

Identification of the product
Product Name: Sodium
hydroxide

2. Composition/information on ingredients

Synonyms Caustic soda

Hazardous ingredients:

CAS-No. 1310-73-2

EC No. 215-185-5

Chemical formula: NaOH

M: 40.00 g/mol

3. Hazards identification

Causes severe burns.

4. First aid measures

After inhalation: fresh air. Summon doctor.

After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400.

Immediately remove contaminated clothing.

After eye contact: rinse out with plenty of water for at least 10 minutes with the eyelid held wide open. Immediately summon eye specialist.

After swallowing: make victim drink plenty of water (if necessary several litres), avoid vomiting (risk of perforation!). Immediately summon doctor. Do not attempt to neutralize.

5. Fire-fighting measures

Suitable extinguishing media:

CO₂, powder. Cover with dry sand or cement. Fire extinguisher: powder for glowing fire, carbon dioxide. Special risks:

Non-combustible. Ambient fire may liberate hazardous vapours. Hydrogen may form upon contact with light metals (danger of explosion!).

Special protective equipment for fire fighting:

Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Other information:

Prevent fire-fighting water from entering surface water or groundwater. Contain escaping vapours with water.

6. Accidental release measures

Person-related precautionary measures: Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure supply of fresh air in enclosed rooms.

Environmental-protection measures:

Do not allow to enter sewerage system. Procedures for cleaning / absorption:

Carefully take up dry. Forward for disposal. Clean up affected area. Additional notes:

Render harmless: neutralize with dilute sulfuric acid.

7. Handling and storage

Handling:

No further requirements.

Storage:

Tightly closed. Dry. Away from acids. Storage temperature: no restrictions. Requirements for storage rooms and containers: No aluminium, tin, or zinc containers.

8. Exposure controls/personal protection

Personal protective equipment:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Respiratory protection: required when dusts are generated. Eye protection: required

Hand protection: required

Industrial hygiene:

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

9. Physical and chemical properties

Form: pearls

Colour:

colourless

Odour:

odourless pH

value at 50 g/l

H₂O (20 °C): ~

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Melting point: 323 °C

Boiling point (1013 hPa):

1390 °C Ignition temperature:

not available Flash point: not

available Explosion limits

Lower: not available

Upper: not available

Density (20 °C): 2.13 g/cm³

Solubility in

water (20 °C): 1090

g/l ethanol: 139 g/l

ether: insoluble

10. Stability and reactivity

Conditions to be

avoided no information

available Substances

to be avoided

metals, light metals: Formed could be: hydrogen (risk of explosion!);

acids, nitriles, alkaline earth metals in powder form, ammonium compounds, cyanides, magnesium, organic nitro compounds, organic combustible substances, phenols and

oxidizable substances. *Hazardous decomposition products*

no information

available Further

information

hygroscopic

11. Toxicological information

Acute toxicity

Quantitative data on the toxicity of this product are not available. Specific symptoms in animal studies:

Skin irritation test (rabbit):

burns. Eye irritation test

(rabbit): burns. *Subacute*

to chronic toxicity

No teratogenic effect in animal

experiments. Bacterial mutagenicity:

Escherichia coli: negative.

Ames-Test: negative.

Mikronucleus-Test:

negative. *Further*

toxicological information

After inhalation: burns of mucous membranes.

After skin contact: Burns.

After eye contact: Burns. Risk of blindness!

After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus, and gastrointestinal tract. Risk of perforation in the oesophagus and stomach.

Further data

The product should be handled with the care usual when dealing with chemicals.

12. Ecological information

Biologic degradation:

Methods for the determination of biodegradability are not applicable to inorganic substances. Behavior in environmental compartments:

Concentration in organisms is not to be expected. Ecotoxic effects:

Biological effects: Harmful effect on aquatic organisms. Toxic effect on fish and plankton.

Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Does not cause biological oxygen deficit. Neutralization possible in waste water treatment plants.

Fish toxicity: *Onchorhynchus mykiss* LC₅₀: 45.4 mg/l /96 h (in hard water); *L.macrochirus* LC₅₀: 99 mg/l /48 h; *Daphnia* toxicity: *Daphnia magna* EC₅₀: 76 mg/l /24 h.

Further ecologic data:

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product:

There are no uniform regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated through corresponding laws and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.

Packaging:

Disposal in compliance with official regulations. Handle contaminated packaging in the same way as the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

14. Transport information

Land transport
RID Classification

GGVS, GGVE, ADR,
8/41b

Name	1823	
NATRIUMHYDROXID,FEST River transport		ADN,
ADNR		

Classification	not
tested	
Sea transport	IMDG, GGVSee

Classification	8/UN 1823/PG
II Ems	8-06
MFAG	705

Name	SODIUM HYDROXIDE
Air transport	ICAO, IATA
Classification	8/UN 1823/PG II
Name	SODIUM HYDROXIDE

The transport regulations are cited according to international regulations. Possible national deviations in other countries are not considered.

15. Regulatory information

Labelling according to EC Directives

Symbol: Corrosive

R- Causes severe burns.

S- In case of contact with eyes, rinse immediately with plenty of water
medical advice. Wear suitable protective clothing, gloves and
protection. In case of accident or if you feel unwell, seek medical
immediately (show the label where possible).

EC-No.: 215-185-5 EC label

16. Other information:

The information provided in this Material Safety Data Sheet has been obtained from sources believed to be reliable.