

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date

26.03.2010

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

Product Information

Catalogue No.: 106467
Product name: Sodium hydroxide granulated
Use of the Substance/Mixture: Chemical production
Company: Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Emergency telephone: Please contact the regional Merck representation in your country.
Responsible/issuing person: EQ-EPS * e-mail: prodsafe@merck.de

2. Hazards identification

GHS Classification

Skin corrosion, Category 1A
Corrosive to metals
H314: Causes severe skin burns and eye damage.
H290: May be corrosive to metals.

EC Classification

C; R35

For the full text of the R-phrases mentioned in this Section, see Section 16.

3. Composition/information on ingredients

Formula	NaOH	HNaO (Hill)
CAS-No.	1310-73-2	
Index-No.	011-002-00-6	
EC-No.	215-185-5	
Molar mass	40,00 g/mol	

4. First aid measures

After inhalation: fresh air. Get medical attention.

After skin contact: wash off with plenty of water. Dab with polyethylene glycol 400. Immediately remove contaminated clothing. Consult a physician.

After contact with eyes: Rinse with plenty of water keeping eyelids open, protecting the unaffected eye (at least 10 minutes). Seek medical advice immediately!

After swallowing: make victim drink water (two glasses at the most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

5. Fire-fighting measures

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during fire fighting

Not combustible.

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Ambient fire may liberate hazardous vapours.

Special protective equipment for fire-fighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental release measures

Personal precautions

Avoid generation of dusts; do not inhale dusts. Avoid substance contact. Ensure adequate ventilation.

Environmental precautions

Do not empty into drains.

Methods for cleaning up

Take up dry. Forward for disposal. Clean up affected area. Avoid generation of dusts.

7. Handling and storage

Handling

Advice on safe handling

Store dry and tightly closed.

Storage

Further information on storage conditions

Tightly closed. Dry.

Requirements for storage areas and containers

No aluminium, tin, or zinc containers.

Without limitations.

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.

Recommended Filter type: Filter B-(P3)

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
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Glove thickness: 0,11 mm
Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example, KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Eye protection

Tightly fitting safety goggles

Protective measures

Protective suit

Hygiene measures

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

9. Physical and chemical properties

Form	solid
Colour	colourless
Odour	odourless
pH	ca. 14 at 50 g/l 20 °C
Viscosity, dynamic	no data available
Melting point	323 °C
Boiling point/boiling range	1.390 °C at 1.013 hPa
Ignition temperature	not applicable
Flash point	not applicable
Oxidizing properties	no data available
Flammability	no data available
Lower explosion limit	not applicable
Upper explosion limit	not applicable

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Vapour pressure	at 20 °C not applicable
Relative vapour density	no data available
Density	2,13 g/cm ³ at 20 °C
Solubility/qualitative	no data available
Water solubility	1.090 g/l at 20 °C
Partition coefficient: n- octanol/water	no data available
Evaporation rate	no data available

10. Stability and reactivity

Conditions to avoid
no information available

Materials to avoid
Risk of explosion with:

Metals, Light metals

Formed could be:

Hydrogen, Risk of explosion.

Violent reactions possible with:

acids, Nitriles, Alkaline earth metals, in powder form, ammonium compounds, Cyanides, magnesium, organic nitro compounds, organic combustible substances, phenols, oxidizable substances

Hazardous decomposition products
no information available

Further information
hygroscopic

unsuitable working materials:

Metals, metal alloys, brass, Aluminium, Zinc, Tin, various plastics

11. Toxicological information

Acute oral toxicity

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Acute inhalation toxicity

Symptoms: burns of mucous membranes

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Skin irritation

rabbit
Result: Causes burns.
(RTECS)

Eye irritation

rabbit
Result: Causes burns.
Risk of blindness! (RTECS)

Genotoxicity in vitro

Mutagenicity (mammal cell test): micronucleus.
Result: negative
(Lit.)

Ames test

Result: negative
(IUCLID)

Teratogenicity

Did not show teratogenic effects in animal experiments. (Lit.)

Further information

Quantitative data on the toxicity of this product are not available.

Further toxicological data:

Systemic effects:

collapse, death

Further data:

Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Ecotoxicity

Toxicity to fish

LC50
Species: Oncorhynchus mykiss (rainbow trout)
Dose: 45,4 mg/l
Exposure time: 96 h
(50% solution) (IUCLID)

Toxicity to daphnia and other aquatic invertebrates.

EC50
Species: Daphnia magna (Water flea)
Dose: 76 mg/l
Exposure time: 24 h
(50% solution) (External MSDS)

Persistence and degradability

Biodegradability

The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulation

Bioaccumulation is unlikely.

Additional ecological information

Biological effects:

Harmful effect due to pH shift.

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Forms corrosive mixtures with water even if diluted.
Neutralization possible in waste water treatment plants.
Further information on ecology
Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

Product

Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

Packaging

Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

14. Transport information

ADR/RID

UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

IATA

UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

IMDG

UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

EmS F-A S-B

The transport regulations re cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

15. Regulatory information

GHS-Labeling

Hazard pictograms



Signal word

Danger

Hazard statements

H314: Causes severe skin burns and eye damage.

H290: May be corrosive to metals.

Precautionary statements

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301 + P330 + P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P309 + P310: IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove

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contact lenses, if present and easy to do. Continue rinsing.

Reduced labelling (≤125 ml)

Hazard pictograms



Signal word
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Index-No. 011-002-00-6

Labelling according to EC Directives

Symbol(s): C Corrosive

R-phrase(s): 35

Causes severe burns.

S-phrase(s): 26-36/37/39-45

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

EC-No. 215-185-5

EC Label

Reduced labelling (≤125 ml)

Symbol(s): C Corrosive

R-phrase(s): 35

Causes severe burns.

S-phrase(s): 26-36/37/39-45

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

National legislation

Storage class VCI: 8BS Non combustible solids, corrosive

Major Accident Hazard Legislation: 96/82/EC Update: 2003

Directive 96/82/EC does not apply

Other regulations: Take note of Dir 94/33/EC on the protection of young people at work.

16. Other information

Full text of R-phrases referred to under sections 2 and 3

R35 Causes severe burns.

Regional representation: This information is given on the authorised Safety Data Sheet for

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your country.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.