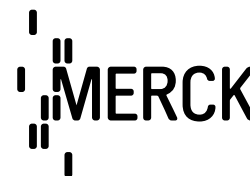


# Safety Data Sheet



According to EC Directive 91/155/EEC

Date of issue: 01.03.2003 Supersedes edition of 17.08.2002

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

### Identification of the product

Catalogue No.: 106498

Product name: Sodium hydroxide pellets GR for analysis ISO

### Use of the substance/preparation

Reagent for analysis

Chemical production

### Company/undertaking identification

Company: Merck KGaA \* 64271 Darmstadt \* Germany \* Phone: +49 6151 72-0

Emergency telephone No.: Please contact the regional Merck representation in your country.

## 2. Composition/information on ingredients

### Synonyms

Soda caustic

CAS-No.: 1310-73-2

EC-Index-No.: 011-002-00-6

M: 40.00 g/mol

EC-No.: 215-185-5

Formula Hill: HNaO

Chemical formula: NaOH

## 3. Hazards identification

Causes severe burns.

## 4. First aid measures

After inhalation: fresh air. Call in physician.

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 call in ophthalmologist.

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

## 5. Fire-fighting measures

Suitable extinguishing media:

In adaption to materials stored in the immediate neighbourhood.

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.

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**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**

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*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: In full contact:  
 Glove material: nitrile rubber  
 Layer thickness: 0.11 mm  
 Breakthrough time: > 480 Min.

In splash contact:  
 Glove material: nitrile rubber  
 Layer thickness: 0.11 mm  
 Breakthrough 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 740 Dermatril® (full contact), 740 Dermatril® (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).

## 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:                                  | solid          |                |                   |
| Colour:                                | colourless     |                |                   |
| Odour:                                 | odourless      |                |                   |
| pH value<br>at 50 g/l H <sub>2</sub> O | (20 °C)        | ~ 14           |                   |
| Melting point                          |                | 323            | °C                |
| Boiling point                          | (1013 hPa)     | 1390           | °C                |
| Ignition temperature                   | not applicable |                |                   |
| Flash point                            | not applicable |                |                   |
| Explosion limits                       | lower          | not applicable |                   |
|  | upper          | not applicable |                   |
| Vapour pressure                        | not applicable |                |                   |
| Density                                | (20 °C)        | 2.13           | g/cm <sup>3</sup> |
| Solubility in<br>water                 | (20 °C)        | 1090           | g/l               |

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**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:

Eye irritation test (rabbit): burns.

Skin irritation test (rabbit): burns.

*Subacute to chronic toxicity*

Mutagenicity (mammal cell test): micronucleus negative.

Bacterial mutagenicity: Escherichia coli: negative.

Bacterial mutagenicity: Ames test: negative.

No teratogenic effect in animal experiments.

*Further toxicological information*

After inhalation: burns of mucous membranes.

After skin contact: Burns.

After eye contact: Burns. Risk of blindness!

After swallowing: burns in mouth, throat, 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.

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**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* LC<sub>50</sub>: 45.4 mg/l /96 h (in hard water). *L.macrochirus* LC<sub>50</sub>: 99 mg/l /48 h.

Daphnia toxicity: *Daphnia magna* EC<sub>50</sub>: 76 mg/l /24 h.

**Further ecologic data:**

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](http://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](http://www.retrologistik.de) you will find special information on the respective national conditions as well as contact partners.

**14. Transport information****Land transport ADR, RID**

UN 1823 NATRIUMHYDROXID, FEST, 8, II

Transport by river ADN, ADNR not tested

**Transport by sea IMDG, GGVSee**

UN 1823 SODIUM HYDROXIDE, SOLID, 8, II

Ems 8-06

**Transport by air CAO, PAX**

SODIUM HYDROXIDE, SOLID, 8, UN 1823, II

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

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**15. Regulatory information***Labelling according to EC Directives*

|            |             |   |
|------------|-------------|---|
| Symbol:    | C           | Corrosive   |
| R-phrases: | 35          | Causes severe burns.  |
| S-phrases: | 26-37/39-45 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable 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  |

**16. Other information***Reason for alteration*

Chapter 8: personal protective equipment.

General update.

*Regional representation:*

This information is given on the authorised Safety Data Sheet for 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.*