

## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 6.6 Revision Date 18.11.2013

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GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Sodium hydroxide

Product Number : S8045  
Brand : Sigma-Aldrich  
Index-No. : 011-002-00-6  
REACH No. : 01-2119457892-27-XXXX  
CAS-No. : 1310-73-2**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich Chemie GmbH  
Riedstrasse 2  
D-89555 STEINHEIMTelephone : +49 89-6513-1444  
Fax : +49 7329-97-2319  
E-mail address : eurtechserv@sial.com**1.4 Emergency telephone number**

Emergency Phone # : +49 7329-97-2323

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Corrosive to metals (Category 1), H290

Skin corrosion (Category 1A), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

C Corrosive R35

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

**2.2 Label elements****Labelling according Regulation (EC) No 1272/2008**

Pictogram



Signal word : Danger

Hazard statement(s)

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P280

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

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 or doctor/ physician.  
 Supplemental Hazard Statements none

**2.3 Other hazards** - none

**SECTION 3: Composition/information on ingredients**

**3.1 Substances**

Synonyms : Caustic soda  
 Formula : HNaO  
 Molecular Weight : 40,00 g/mol  
 CAS-No. : 1310-73-2  
 EC-No. : 215-185-5  
 Index-No. : 011-002-00-6  
 Registration number : 01-2119457892-27-XXXX

**Hazardous ingredients according to Regulation (EC) No 1272/2008**

Component	Classification	Concentration
<b>Sodium hydroxide</b>		
CAS-No. 1310-73-2 EC-No. 215-185-5 Index-No. 011-002-00-6 Registration number 01-2119457892-27-XXXX	Met. Corr. 1; Skin Corr. 1A; H290, H314	<= 100 %

**Hazardous ingredients according to Directive 1999/45/EC**

Component	Classification	Concentration
<b>Sodium hydroxide</b>		
CAS-No. 1310-73-2 EC-No. 215-185-5 Index-No. 011-002-00-6 Registration number 01-2119457892-27-XXXX	C, R35	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

- 4.3 Indication of any immediate medical attention and special treatment needed**  
no data available

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**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Sodium oxides

**5.3 Advice for firefighters**

Wear self contained breathing apparatus for fire fighting if necessary.

**5.4 Further information**

no data available

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

**7.3 Specific end use(s)**

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

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Components with workplace control parameters**

**Derived No Effect Level (DNEL)**

Application Area	Exposure routes	Health effect	Value
Workers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
Consumers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>

**8.2 Exposure controls**

**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

#### Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |  |                                |
|--|--------------------------------|
| a) Appearance                              | Form: pellets<br>Colour: white |
| b) Odour                                   | odourless                      |
| c) Odour Threshold                         | no data available              |
| d) pH                                      | 14 at 50 g/l at 20 °C          |
| e) Melting point/freezing point            | Melting point/range: 318 °C    |
| f) Initial boiling point and boiling range | 1.390 °C                       |

- |   |   |
|---|---|
| g) Flash point                                  | not applicable                            |
| h) Evaporation rate                             | no data available                         |
| i) Flammability (solid, gas)                    | no data available                         |
| j) Upper/lower flammability or explosive limits | no data available                         |
| k) Vapour pressure                              | < 24,00 hPa at 20 °C<br>4,00 hPa at 37 °C |
| l) Vapour density                               | 1,38 - (Air = 1.0)                        |
| m) Relative density                             | 2,1300 g/cm <sup>3</sup>                  |
| n) Water solubility                             | ca.1.260 g/l at 20 °C                     |
| o) Partition coefficient: n-octanol/water       | no data available                         |
| p) Auto-ignition temperature                    | no data available                         |
| q) Decomposition temperature                    | no data available                         |
| r) Viscosity                                    | no data available                         |
| s) Explosive properties                         | no data available                         |
| t) Oxidizing properties                         | no data available                         |

## 9.2 Other safety information

- |                         |                            |
|-------------------------|----------------------------|
| Bulk density            | ca.1.150 kg/m <sup>3</sup> |
| Relative vapour density | 1,38 - (Air = 1.0)         |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Strong oxidizing agents, Strong acids, Organic materials

### 10.6 Hazardous decomposition products

Other decomposition products - no data available  
In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

no data available

#### Skin corrosion/irritation

Skin - rabbit

Result: Causes severe burns. - 24 h

**Serious eye damage/eye irritation**

Eyes - rabbit

Result: Corrosive - 24 h

**Respiratory or skin sensitisation**

Will not occur

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure**

no data available

**Specific target organ toxicity - repeated exposure**

no data available

**Aspiration hazard**

no data available

**Additional Information**

RTECS: WB4900000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish	LC50 - <i>Gambusia affinis</i> (Mosquito fish) - 125 mg/l - 96 h
	LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 45,4 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - <i>Daphnia</i> - 40,38 mg/l - 48 h

**12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

**12.6 Other adverse effects**

Harmful to aquatic life.

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**

Dispose of as unused product.

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**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 1823

IMDG: 1823

IATA: 1823

**14.2 UN proper shipping name**

ADR/RID: SODIUM HYDROXIDE, SOLID

IMDG: SODIUM HYDROXIDE, SOLID

IATA: Sodium hydroxide, solid

**14.3 Transport hazard class(es)**

ADR/RID: 8

IMDG: 8

IATA: 8

**14.4 Packaging group**

ADR/RID: II

IMDG: II

IATA: II

**14.5 Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**14.6 Special precautions for user**no data available

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**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

**15.2 Chemical Safety Assessment**A Chemical Safety Assessment has been carried out for this substance.

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**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3.**

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Met. Corr. Corrosive to metals

Skin Corr. Skin corrosion

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

C Corrosive

R35 Causes severe burns.

**Further information**

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