

# Material Safety Data Sheet

## According to 91/155 EEC(2001/58 EC)

Printing date: 01.12.2006

Reviewed on: 01.12.2006

### 1 Identification of substance:

- **Product details:**
- **Trade name:** **Caustic Soda (solid)**
- **Application of the substance / the preparation** Basic raw material for the chemical industry
- **Supplier/Manufacturer:**  
Penpet Petrochemical Trading GmbH  
Merkur-Park  
Sieker Landstrasse 126  
22143 Hamburg  
Germany  
Tel: +49 40 675 799 0  
Fax: +49 40 675 799 99 / 88
- **Information department:** see above
- **Emergency information:** National Poisons Information Centre      Tel.: +44 (0)870 6006266

### 2 Composition/Data on components:

- **Chemical characterization:**
- **CAS No. Description:**  
1310-73-2 sodium hydroxide
- **Identification number(s):**
- **EINECS Number:** 215-185-5
- **EU Number:** 011-002-00-6

### 3 Hazards identification

- **Hazard description:**



C Corrosive

- **Information pertaining to particular dangers for man and environment:**  
R 35 Causes severe burns.
- **Classification system:**  
The classification was made according to the latest editions of the EU-lists, and expanded using company data and specialized literature.

### 4 First aid measures

- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Remove victim from contaminated area. If breathing is difficult, give oxygen. If breathing stops, provide artificial respiration. Call a doctor.  
In case of unconsciousness, place patients on their side in a stable position for transportation.
- **After skin contact:**  
At first remove dust mechanically.  
Clean effected skin thoroughly with water and a mild cleansing agent. No residues shall remain on the skin.  
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.
- **After eye contact:**  
Protect unharmed eye.  
Rinse the eyes with open eyelids for 10 - 15 minutes with water.  
Immediate transport to ophthalmologist or ophthalmic clinic.
- **After swallowing:**  
Do not induce vomiting; call for medical help immediately.  
Drink plenty of water, but never give anything to an unconscious person.

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- **Information for doctor:**

- **Treatment:**

In cases of irritation to the lungs, initial treatment with Dexametason metered aerosol.  
Symptomatic treatment  
(decontamination, vital functions)

## 5 Fire fighting measures

- **Suitable extinguishing agents:**

The product is not combustible and does not support the combustion.  
Use fire fighting measures that suit the environment.

- **For safety reasons unsuitable extinguishing agents:** Water

- **Protective equipment:**

Wear self-contained respiratory protective device.  
Wear fully protective suit.  
During clearance wear protective clothing and rubber boots.

- **Additional information:**

Pay special attention to corrosive effects if water is used as extinguishing agent.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

## 6 Accidental release measures

- **Person-related safety precautions:**



Wear protective equipment. Keep unprotected persons away.

Avoid formation of dust.

Keep away from water and humidity.

Ensure adequate ventilation

- **Measures for environmental protection:**

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

- **Measures for cleaning/collecting:**

Use neutralizing agent.

Pick up mechanically.

Avoid dust formation absolutely. If necessary pick up with a tested and approved industrial vacuum cleaner.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

## 7 Handling and storage

- **Handling**

- **Information for safe handling:**

Ensure good ventilation/exhaustion at the workplace.

When diluting, always stir the product into standing water, do not add water to product.

Any deposit of dust which cannot be avoided must be regularly removed.

Avoid inhalation of dust.

Restrict the quantity stored at the work place.

Keep the working area dry and clean.

Avoid contact with eyes and skin.

- **Information about protection against explosions and fires:** No special measures required.

- **Storage**

- **Requirements to be met by storerooms and receptacles:**

Store container tightly sealed at a cool and dry place with sufficient ventilation.

Provide alkali-resistant floor.

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Unsuitable material for receptacle: aluminium

**Information about storage in one common storage facility:**

Store away from foodstuffs.

Store away from feed.

Do not store together with acids.

**Further information about storage conditions:**

Keep receptacle tightly sealed.

Protect from humidity and water.

**Storage class 8 Corrosive products (VCI)**

### 8 Exposure controls and personal protection

**Additional information about design of technical systems:** No further data; see item 7.

**Components with limit values that require monitoring at the workplace:** Not required.

**Personal protective equipment**
**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove soiled soaked clothing and use again only after washing.

Wash hands before breaks and at the end of work.

Avoid contact with eyes and skin absolutely.

Do not eat or drink while working.

Use skin protection cream for skin protection.

Provide eye bath.

If larger quantities are handled provide emergency showers.

**Breathing equipment:**

If dust, vapours or mist is formed use combination filter:

up to 0,5 vol. % B2-P2(clour code grey/white)

up to 1,0 vol. % B2-P3

above 1 Vol. % and in case of unclear conditions use respirator equipment which is independent of the ambient air.

**Protection of hands:**

Alkaline resistant gloves

Check the permeability prior to each anewed use of the glove.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves:**

Polychloroprene rubber (CR)

Nitrile rubber, NBR

Butyl rubber, BR

Fluorocarbon rubber (FKM)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

**Penetration time of glove material:**

The exact break-through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Tightly sealed goggles.

**Body protection:** Alkaline resistant protective clothing

### 9 Physical and chemical properties:

**General Information**
**Form:** Granulate

**Colour:** White

**Odour:** Odourless

**Change in condition:**
**Melting point/Melting range:** 319°C

**Boiling point/Boiling range:** 1390°C

**Flash point:** not applicable

**Flammability (solid, gaseous)** Product is not flammable.

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- **Danger of explosion:** Product does not present an explosion hazard.
- **Vapour pressure at 800°C:** 3.5 mbar
- **Density at 20°C:** 2.13 g/cm<sup>3</sup>
- **Solubility in / Miscibility with Water at 20°C:** 420 g/l
- **pH-value (50 g/l) at 20°C:** ~ 14

### 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
  - Ammonia compounds
  - Acids
  - Metals
  - Light metals
  - Phenol
- **Dangerous reactions:**
  - Strong exothermic reaction with acids
  - During thinning give base to water never the other way round.
  - Reacts with light alloys to form hydrogen
- **Dangerous products of decomposition:** No dangerous decomposition products known
- **Additional information:** Hygroscopic

### 11 Toxicological information

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:**
  - 1310-73-2 sodium hydroxide**
  - Oral LD50 2000 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** Mutagenicity (mammalian cell test): micronucleus negative
- **Additional toxicological information:**
  - Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

### 12 Ecological information

- **Ecotoxicological effects:**
- **Aquatic toxicity:**
  - 1310-73-2 sodium hydroxide**
  - EC<sub>50</sub>/24h 76 mg/l (daphnia magna)
  - LC<sub>50</sub>/48h 99 mg/l (Iepomis macrochirus)
  - LC<sub>50</sub>/96h 45.4 mg/l (Onchorhynchus mykiss)
- **Remark:** Harmful effect by pH-value shift.
- **General notes:**
  - Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water.
  - Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
  - Must not reach sewage water or drainage ditch undiluted or unneutralized.

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### 13 Disposal considerations

- **Product:**
- **Recommendation:**



Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Must be specially treated adhering to official regulations.

- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

### 14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 8 (C6) Corrosive substances.
- **Danger code (Kemler):** 80
- **UN-Number:** 1823
- **Packaging group:** II
- **Label:** 8
- **Description of goods:** 1823 SODIUM HYDROXIDE, SOLID
- **Remarks:** Limited Quantity: 3 kg inner packaging, 30 kg packaging unit (gross)

- **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** 1823
- **Label:** 8
- **Packaging group:** II
- **EMS Number:** F-A,S-B
- **Marine pollutant:** No
- **Proper shipping name:** SODIUM HYDROXIDE, SOLID

- **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 1823
- **Label:** 8
- **Packaging group:** II
- **Proper shipping name:** SODIUM HYDROXIDE, SOLID
- **Remarks:**
  - Packing Instructions:
  - For Limited Quantity: Y 814 5 kg max. net/Pkg
  - Passenger and cargo aircraft: 814 15 kg max. net/Pkg
  - Cargo aircraft only: 816 50 kg max. net/Pkg

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### 15 Regulations

**Markings according to EC guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials  
EC-labelling

**Code letter and hazard designation of product:**

C Corrosive

**Risk phrases:**

35 Causes severe burns.

**Safety phrases:**

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

37/39 Wear suitable gloves and eye/face protection.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

**National regulations****Information about limitation of use:**

Restrictions on juvenile employment must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

**Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.

### 16 Other information:

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing MSDS:**

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