1 - Chemical Product and Company Identification

engro polymer & chemicals

Product Name	Sodium Hydroxide
Product No.:	484024
UN-Number:	Not applicable
Index No.:	011-002-00-6
Recommended Use	Laboratory chemicals, Manufacture of substances
Synonyms	Caustic Flakes
Supplier Address	Sigma-Aldrich Chemie GmbH Industriestrasse 25 CH-9471 BUCHS, +41 81-755-2511. eurtechserv@sial.com

Chemical Emergency Phone Number: +4181-755-2255

2 - Hazards Identification

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.

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

Other hazards - none

3 - Composition / Information on Ingredients

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

Hazardous ingredients according to Directive 1999/45/EC

Component		Classification	Concentration
Sodium hydroxide			
CAS-No. EC-No. Index-No. Registration No.	1310-73-2 215-185-5 011-002-00-6 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

4 - First Aid Measures

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.

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

Indication of any immediate medical attention and special treatment needed

No data available

5 - Fire-Fighting Measures

Extinguishing media

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

Special hazards arising from the substance or mixture

Sodium oxides

Advice for firefighters

Wear self-contained breathing apparatus for fire-fighting if necessary.

Further information

No data available

6 - Accidental Release Measures

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.

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.

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.

Reference to other sections

For disposal see section 13

7 - Handling and Storage

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.

Conditions for safe storage, including any incompatibilities

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

Specific end use(s)

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

8 - Exposure Controls / Personal Protection

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/m3
Consumers	Inhalation	Long-term local effects	1 mg/m3

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.

9 - Physical and Chemical Properties

Information on basic physical and chemical properties

a)	Appearance	Form: flakes 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 4,00 hPa at 37 °C
l)	Vapour density	1,38 - (Air = 1.0)
m)	Relative density	2,1300 g/cm3
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

Other safety information

Bulk density	ca.1.150 kg/m3
Relative vapour density	1,38 - (Air = 1.0)

10 – Stability & Reactivity

Reactivity

no data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

Strong oxidizing agents, Strong acids, Organic materials

Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11 - Toxicological Information

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 sensitization
Will not occur

Germ cell mutagenicity
no data available

Carcinogenicity

IARC: No components 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

12 - Ecological Information

Toxicity

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h
LC50 - Oncorhynchus mykiss (rainbow trout) - 45,4 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates:

Immobilization EC50 - Daphnia - 40,38 mg/l - 48 h

Persistence and degradability

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

Bioaccumulative potential

no data available

Mobility in soil

no data available

Results of PBT and vPvB assessment

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

Other adverse effects

Harmful to aquatic life.

13 - Disposal Considerations

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.

14 - Transport Information

UN number

ADR/RID: 1823 IMDG: 1823 IATA: 1823

UN proper shipping name

ADR/RID: SODIUM HYDROXIDE, SOLID

IMDG: SODIUM HYDROXIDE, SOLID

IATA: Sodium hydroxide, solid

Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

Packaging group

ADR/RID: II IMDG: II IATA: II

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

no data available

15 - Regulatory Information

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

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

No data available

Chemical Safety Assessment

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

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

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.