



Egyptian Petrochemicals Co.

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)

Version: 1 Language: EN Revision date: 24/03/2011

1. Identification of the substance/mixture and of the Company/Undertaking

1.1 Product identifier

Sodium hydroxide

solution 48-50%

Trade name:	Caustic Soda Liquid 48-50 %
CAS-No.:	1310-73-2
EC-No.:	215-185-5
REACH registration number:	01-2119457892-27-0077 (Registration number for solid sodium hydroxide)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses of the substance/mixture:	pH-regulator, production of biodiesel from vegetable oils, cleansing of bottles (food industry), deinking of water (pulp and paper industry), drying agent for air, extracting agent for aluminum (aluminum industry), mercerisation of cotton (textile industry), peeling of vegetables, manufacturing of chemicals (intermediate use), regenerant for resins, water softener, paint stripper
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Not recommended uses of the substance/mixture:	None
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1.3 Details of the supplier of the Safety Data Sheet

Manufacturer

Egyptian Petrochemicals Co.
Km. 36 Alex / Cairo Desert Road
Amria, Alex, Egypt

Telephone: + 203 477001219
Fax: + 203 4770029
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(for technical information)

Only Representative

BiPRO GmbH
Grauertstr. 12
81545 München, Germany

Telephone: +49 89 189 790 50
Fax: +49 89 189 790 52
E-mail (competent person): mail@bipro.de

1.4 Emergency telephone number

GIZ Nord, Göttingen, Germany	Telephone: +49 511 19 240
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2. Hazards identification

2.1 Classification of the substance or mixture

According to legal specifications all data of 'relevant ingredients' have been taken into account which are present in concentration of 1% (w/w) or greater.

2.1.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

Skin Corr. 1A; H314

2.1.2 Classification according to Directive 67/548/EEC and 1999/45/EC

C; R35

2.1.3 Additional information

For full text of R-phrases and Hazard- and EU Hazard-statements: see section 16.

2.2 Label elements**2.2.1 Labelling according to Regulation (EC) No 1272/2008**

Hazard pictograms:



Signal word:

Danger

H phrases:

314

Causes severe skin burns and eye damage.

P phrases:

260

Do not breathe vapours.

264

Wash hands thoroughly after handling.

280

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

301+330+331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

303+361+353

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

304+340

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

305+351+338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

310

Immediately call a POISON CENTER or doctor/physician.

321

Specific treatment (see on this label).

363

Wash contaminated clothing before reuse.

405

Store locked up.

501

Dispose of contents/container in accordance with local regulations.

2.2.2 Labelling according to Directive 67/548/EEC or 1999/45/EC

Hazard symbols:



R phrases:

35

Causes severe burns.

S phrases:

1/2

Keep locked up and out of the reach of children.

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).

2.3 Other hazards

This substance does not meet the criteria for classification as PBT or vPvB.

3. Composition/information on ingredients

3.1 Mixtures

Sodium hydroxide solution in water (48-50% (w/w)).

Substances

Sodium hydroxide

EC No.: 215-185-5

CAS No.: 1310-73-2

REACH Registration No.: 01-2119457892- 27-0077

Concentration: 48 – 50 %

4. First aid measures

4.1 Description of first aid measures

General information:	Take off immediately all contaminated clothing. In case of accident or if you feel unwell, seek medical advice immediately (show safety data sheet if possible).
Following inhalation:	Move victim to fresh air. Put victim at rest and keep warm. In case of irregular breathing or respiratory arrest provide artificial respiration.
Following skin contact:	After contact with skin, take off immediately all contaminated clothing, and wash skin immediately with plenty of water.
Following eye contact:	In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.
Following ingestion:	If swallowed, rinse mouth with water (only if the person is conscious). Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting. In case of irregular breathing or respiratory arrest provide artificial respiration.
Self-protection:	First aid assistant: Pay attention to self-protection!

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:	After skin contact: blistering may occur. Following eye contact: corneal burns may occur. After ingestion: corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose. Following inhalation: there may be shortness of breath with a burning sensation in the throat. Exposure can cause coughing or wheezing.
Nature of Hazard:	Progressive ulceration will occur if treatment is not immediate. May cause permanent damage.

4.3 Indication of any immediate medical attention and special treatment needed

Emergency aid:	First Aid, decontamination, treatment of symptoms.
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Treatment: Treat symptomatically.

5. Fire fighting measures

5.1 Extinguishing media

Suitable: Water fog, carbon dioxide (CO₂)

Unsuitable: High power water jet

5.2 Special hazards arising from the substance or mixture

Thermal decomposition can lead to the escape of irritating gases and vapours.

5.3 Advice for fire fighters

Special protective equipment for fire-fighters

In case of fire: Wear self-contained breathing apparatus. Full protective suit.

Additional information

In case of fire and/or explosion do not breathe fumes.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment. Keep away from unprotected people. See protective measures under point 8.

6.2 Environmental precautions

Do not empty into drains or the aquatic environment.

6.3 Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Dilute with a large quantity of water.

6.4 Reference to other sections

Waste disposal according to official state regulations. Refer to chapter 13.

7. Handling and storage

7.1 Precautions for safe handling

Information for safe handling

Provide adequate ventilation. Keep container tightly closed. Do not eat, drink, smoke or sneeze at the workplace. Wear personal protection equipment.

Technical measures

Provide for sufficient ventilation and punctiform suction at critical points. Provide sufficient washing facilities.

Precautions against fire and explosion

Possibly extensive generation of hydrogen (explosive hazard) on contact with amphoteric metals (e.g. aluminium, lead, zinc).

Additional information

Observe instructions for use if available.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed in a cool, well-ventilated place.

Packaging materials

Keep/Store only in original container.

Requirements for storerooms and containers

Store in a place accessible only to authorized persons. Store locked up. Remove all sources of ignition.

Information about storing together in storage facility

Keep away from food, beverages and animal feedingstuffs.

Keep away from: water, aluminum, tin, zinc, combustible acids, leather, wood, nitro- and halogens containing compounds, carbon, aldehyde, reducing sugars.

Further information concerning storage conditions

Observe instructions for use if available.

Storage class: 8 B Non-combustible corrosive substances.

7.3 Specific end use(s)

Observe instructions for use if available.

8. Exposure controls / Personal protection

8.1 Control parameters

8.1.1 Limits for occupational exposure

Substance name	EC No	CAS No	Type of limit value (Country)	Occupational exposure limit value				Limitation of exposure peaks	Source / Remark
				long term		short term			
				mg/m ³	ppm	mg/m ³	ppm		
Sodium hydroxide	215-185-5	1310-73-2	Austria	2 (inhalable aerosol)	-	4 (inhalable aerosol)	-	-	GESTIS International Limit Values
			Belgium	2	-	-	-	-	
			Canada - Québec	-	-	2 (ceiling value)	-	-	
			Denmark	2	-	2	-	-	
			France	2	-	-	-	-	
			Hungary	2	-	2	-	-	
			Poland	0,5	-	1	-	-	
			Spain	2	-	-	-	-	
			Sweden	1	-	(2) (inhalable dust)	-	-	
			Switzerland	2 (inhalable aerosol)	-	2 (inhalable aerosol)	-	-	
			USA - NIOSH	-	-	2 (ceiling limit value)	-	-	
			United Kingdom	-	-	2	-	-	

8.1.2 DNEL and PNEC values

DNEL Values

Long-term DNEL inhalation (workers and general population): 1 mg/m³ (based on the data indicated in the Chemical Safety Report, which have been derived for solid sodium hydroxide)

PNEC Values

No information available.

8.1.3 Control-Banding

No information available.

8.2 Exposure controls

For more detailed risk management measures please also refer to the ES in the Annex.

Occupational exposure controls

General protection and hygiene measures: Wash hands before breaks and at the end of work. Do not eat, drink, smoke or sneeze at the workplace. Wash contaminated clothing prior to re-use. After cleaning apply high-fat content skin care cream.

Chemical handling

Avoid exposure. Avoid contact with skin, eye and clothing.

Personal protection equipment

Wear personal protection equipment.

Respiratory protection

If technical suction or ventilation measures are not possible or are insufficient, protective breathing apparatus must be worn.

Hand protection

Before using check leak tightness / impermeability. Wear suitable gloves.

Eye protection

Wear eye/face protection.

Skin protection

Wear suitable protective clothing. Suitable protection of the body: Lab apron, boots.

Environmental exposure controls

Refer to chapter 6. No further action is necessary.

Consumer exposure controls

Refer to chapter 7. No further action is necessary.

9. Physical and chemical properties

9.1 Information on the basic physical and chemical properties

Appearance

State of matter:

Liquid

Colour:

Colourless

Odour:

Odourless

Odour threshold:

No data available

Safety relevant basis data	Value	Unit	Remark
Specific gravity:	1.54	g/cm ³	
Package density:			Not applicable
pH:	14		48-50% aqueous solution
Melting point / range:	~ 13	°C	
Boiling point / range:	~ 143	°C	
Flash point:			Not flammable
Flammability:			Not flammable
Lower flammability limit:			Not relevant
Upper flammability limit:			Not relevant
Explosion hazard:			Not explosive
Lower explosion limit:			Not relevant
Upper explosion limit:			Not relevant
Ignition temperature:			Not relevant
Decomposition temperature:			No data available
Oxidizing characteristics:			Not oxidizing
Vapour pressure:	6.3	hPa	
Relative vapour density:			No data available
Speed of vaporization/evaporation rate:			No data available
Solubility in water:			Completely soluble
Fat solubility:			Not soluble
log Pow (n-octanol / water):			Not relevant
Viscosity:			No data available
Solvent content:	50-52	%	Water

9.2 Other information

None

10. Stability and reactivity

10.1 Reactivity

Possibly extensive generation of hydrogen (explosion hazard!) on contact with amphoteric metals (e.g. aluminium, lead, zinc). Highly exothermic reaction with acids.

10.2 Chemical stability

Chemically stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Possibly extensive generation of hydrogen on contact with amphoteric metals (e.g. aluminium, lead, zinc)

(explosion hazard!).

10.4 Conditions to avoid

Water, moisture, air.

10.5 Incompatible materials

Water, aluminum, tin, zinc, combustible acids, leather, wood, nitro- and halogens containing compounds, carbon, aldehyde, reducing sugars.

10.6 Hazardous decomposition products

Irritating gases.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

According to the Chemical Safety Report for sodium hydroxide no reliable studies are available for acute toxicity of NaOH. According to REACH Regulation, acute toxicity testing does not generally need to be conducted if the substance is classified as corrosive to the skin. Since NaOH is a corrosive substance there is no need for further acute toxicity testing.

Specific symptoms in laboratory animals

No data available.

11.2 Irritation and etching

Irritant effect on the skin

Strongly corrosive to skin and mucous membranes.

Irritant effect on the eye

Strongly corrosive – risk of blindness.

Irritant effect on the respiratory tract

Cauterisation of mucous membranes, coughing, shortness of breath, pulmonary edema.

Etching

Highly caustic.

11.3 Sensitization

According to the REACH Regulation, a standard skin sensitization study does not need to be conducted if the substance is a strong base (pH > 11.5). Furthermore NaOH has been used widely and for a long time and no human cases of skin sensitisation have been reported - therefore NaOH is not considered to be a skin sensitizer.

11.4 Repeated dose toxicity

No reliable studies were available for repeated dose toxicity. Furthermore, systemic effects as a result of a long term application of the substance are not expected to occur.

11.5 CMR effects

Carcinogenicity

Not carcinogen.

Mutagenicity

Not mutagenic.

Reproductive toxicity

Not reproductive toxic.

11.6 General remarks

The product is handled with the care usual when dealing with chemicals

Practical experience

No information available.

12. Ecological information

12.1 Toxicity

Ecotoxicity

NaOH solid

Fish LC50 (96h): 196 mg/L

Aquatic invertebrates EC50 (48h): 40.4 mg/L

12.2 Persistence and degradability

Sodium hydroxide is a strong alkaline substance that dissociates completely in water into the ubiquitous Na^+ and OH^- ions. Its highly water soluble properties and its low vapour pressure lead to the assumption that the substance will be found predominantly in the aquatic compartment.

Once emitted as aerosols in the air the substance will be neutralized by absorbing CO_2 – the resulting salt will subsequently be washed out by rain.

12.3 Bioaccumulative potential

Taking into account the physico-chemical properties (high water solubility, ubiquitous character of the ions) of sodium hydroxide it can be concluded that the substance poses no bioaccumulative potential.

12.4 Mobility in soil

Depending on the grade of dilution the speed of movement in the soil compartment will increase.

12.5 Results of PBT and vPvB assessment

Due to the highly water soluble character sodium hydroxide does not fulfill the P and B criteria. The assessed LC50 value of 40 mg/L for crustaceans is well above the threshold level of 0.1 mg/L. Therefore sodium hydroxide does not fulfill the T criterion.

12.6 Other adverse effects

No information available.

13. Disposal considerations

13.1 Waste treatment methods

Appropriate disposal/product

Waste disposal according to official state regulations.

Appropriate disposal/packaging

Handle contaminated packaging in the same way as the substance itself.

Control report for waste code/ waste marking according to EWC

Refer to your local waste disposal company.

14. Transport information

14.1 UN Number

1824

14.2 UN proper shipping name

ADR/RID

SODIUM HYDROXIDE SOLUTION

IMDG-Code / ICAO-TI / IATA-DGR

SODIUM HYDROXIDE SOLUTION

14.3 Transport hazard class(es)

8

14.4 Packing group

II

14.5. Environmental hazards

Hazard code(s)

ADR/RID / IMDG-Code / ICAO-TI / IATA – DGR: No

Marine pollutant: No

14.6 Special precautions for users

Refer to chapters 6 – 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution Category: Y**Ship type:** 3**Product name:** Sodium hydroxide solution**Special provisions:** Refer to sections 16.2.6, 16.2.9 of the Regulation

14.8 Further limitations and legal requirements

Tunnel Restriction Code: 2(E)

15. Regulatory information

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

EU-Regulations**Directive 1999/13/EC on the limitation of emissions of volatile organic compounds (VOC-RL)**

Not relevant

Regulation (EC) No 2037/2000 on substances that deplete the ozone layer

Not relevant.

Regulation (EC) No 850/2004 on persistent organic pollutants

Not relevant.

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals

Not relevant.

Regulation (EC) No 648/2004 (Detergents regulation)

Relevant.

Restrictions under Title VIII of Regulation (EC) No 1907/2006

Not relevant.

National regulations

Moreover, national legislation has to be observed!

Informations on working limitations

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions under the law for the protection of young people at work (94/33/EC). Observe regulation 98/24/EC for employee health protection against the threat of chemical substances in the workplace.

Major Accidents Ordinance

Relevant.

Storage class according to VCI (DE)

8 B Non-combustible corrosive substances.

Water Hazard Class according to VwVwS (DE)

1 weak water pollutant (WGK 1)

15.2 Chemical safety assessment

For NaOH 100 % a chemical safety assessment has been carried out.

16. Other information**16.1 Wording of the H and R-phrases under paragraph 2 and 3****Regulation (EC) No 1272/2008**

H314 Causes severe skin burns and eye damage.

Directive 67/548/EEC

R35 Causes severe burns.

16.2 Training instructions

The product should only be handled by persons over the age of 18, who were informed sufficiently about the dangerous nature of the product and about the necessary safety precautions.

16.3 Further remarks

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

16.4 Documentation of changes

None.

16.5 Data sources

Data arise from reference works and literature.

16.6 Key and definition

None.

17. Appendix**17.1 Exposure scenario**

See Annex.