Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 02.04.2015 Version number 3 Revision: 02.04.2015

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

1.1 Product identifier

Trade name: SODIUM HYDROXIDE SOLUTION 1 mol/l - 1 N volumetric standard solution

Article number: K021

Registration number
A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
Mixture - Registration numbers of the components, see Chapter 3

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

Application of the substance / the mixture
Laboratory chemical

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Carl Roth GmbH + Co. KG
Schoemperlenstraße 3-5
76185 Karlsruhe
Germany
Telefon: +49/(0)721 5606-0 Telefax: +49/(0)721 5606-149 E-Mail: sicherheit@carlroth.de

Further information obtainable from: Department Health, Safety and Environment

1.4 Emergency telephone number:
Poison Centre Munich Telefon +49/(0)89 19240

*
SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Met. Corr.1 H290 May be corrosive to metals.
Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC
C; Corrosive
R34: Causes burns.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008
The product is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS05

Signal word Danger

Hazard-determining components of labelling:
sodium hydroxide

Hazard statements
H290 May be corrosive to metals.

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H314 Causes severe skin burns and eye damage.

Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
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/doctor.

Additional information:
-

2.3 Other hazards
All chemicals are potentially dangerous. They are therefore only be handled by specially trained personnel with the necessary care.

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

*
SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances

CAS No. Description
-

Identification number(s)
EC number: -

3.2 Chemical characterisation: Mixtures
Description: Aqueous solution.

Dangerous components:		
CAS: 1310-73-2 EINECS: 215-185-5 Index Number: 011-002-00-6 Reg.nr.: 01-2119457892-27-XXXX	sodium hydroxide C R35 Met. Corr.1, H290; Skin Corr. 1A, H314	3-<5%

Additional information: For the wording of the listed risk phrases refer to section 16.

*
SECTION 4: First aid measures

4.1 Description of first aid measures

General information:
Immediately remove any clothing soiled by the product.

After inhalation:
After inhalation of vapors / aerosols:
Supply fresh air or oxygen; call for doctor.

After skin contact:
Immediately rinse with water.
If available swab with polyethylene glycol 400.
Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

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After eye contact:
Rinse immediately for 15 minutes with plenty of water with the eyelid held wide open. Seek medical advice.

After swallowing:
Rinse out mouth and then drink water.
Risk of perforation!
Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed
Irritation and corrosion
coughing
Dyspnoea
collapse

Hazards
blindness
Risk of perforation

4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

*
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents:
Product non-combustible.
Use fire extinguishing methods suitable to surrounding conditions.

For safety reasons unsuitable extinguishing agents:
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Ambient fire may liberate hazardous vapours.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

*
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear personal protective equipment.
Do not inhale vapours. Avoid contact with the eyes and skin.

6.2 Environmental precautions
Do not allow product to reach sewage system or any water course.
Dilute with plenty of water.

6.3 Methods and material for containment and cleaning up
Absorb with liquid-binding material (e.g. Basosorb® Art. No. 3287.1).
Dispose contaminated material as waste according to item 13.

6.4 Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

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See Section 13 for disposal information.

*
SECTION 7: Handling and storage

7.1 Precautions for safe handling
Handle and open container with care.
Keep containers, equipment and working place clean.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:
Store only in the original receptacle.

Information about storage in one common storage facility:
Store away from foodstuffs.

Further information about storage conditions:
Keep container tightly sealed.

Recommended storage temperature: +15 °C - +25 °C

7.3 Specific end use(s)
No further relevant information available.

*
SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
1310-73-2 sodium hydroxide	
WEL (Great Britain)	Short-term value: 2 mg/m³

DNELs

Worker

Long-term exposure - systemic effects:		
1310-73-2 sodium hydroxide		
Inhalative	DNEL	1 mg/m³ (worker)

Consumer

Long-term exposure - local effects:		
1310-73-2 sodium hydroxide		
Inhalative	DNEL	1 mg/m³ (Custumer)

Additional information:
The lists valid during the making were used as basis.

8.2 Exposure controls

Personal protective equipment:

General protective and hygienic measures:
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
Wash hands before breaks and at the end of work.

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Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Respiratory protection:

Required when vapours/aerosols are generated. Filter P2.

Protection of hands:

Protective gloves
Check protective gloves prior to each use for their proper condition.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
Nitrile, thickness: ≥ 0.11 mm
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material
Value for the permeation: Level ≥ 6
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

As protection from splashes gloves made of the following materials are suitable:
Nitrile, thickness: ≥ 0.11 mm
Value for the permeation: Level ≥ 6

Eye protection:

Tightly sealed goggles

Body protection:
Protective work clothing

*
SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Fluid
Colour:	Colourless

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Odour:	Odourless
Odour threshold:	Not determined.
pH-value at 20 °C:	~ 14
Change in condition	
Melting point/Melting range:	No information available.
Boiling point/Boiling range:	~ 100 °C
Flash point:	No information available
Flammability (solid, gaseous):	No information available
Ignition temperature:	No information available
Decomposition temperature:	No information available
Self-igniting:	No information available
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	No information available.
Upper:	No information available.
Oxidizing properties:	No information available.
Vapour pressure at 20 °C:	23 hPa
Density at 20 °C:	1.03 g/cm³
Vapour density	No information available
Evaporation rate	No information available
Solubility in / Miscibility with water:	Fully miscible.
Partition coefficient (n-octanol/water):	No information available
Viscosity:	
Dynamic:	No information available.
Kinematic:	No information available.
9.2 Other information	No further relevant information available.

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SECTION 10: Stability and reactivity

10.1 Reactivity
May be corrosive to metals.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
Strong reaction possible with:
Acids
ammonium compounds
organic combustible substances
organic nitro compounds
Cyanides
phenol
Reacts with metals forming hydrogen (risk of explosion).

10.4 Conditions to avoid
No information available.

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10.5 Incompatible materials:
Aluminium
Tin
Zinc
various plastics

10.6 Hazardous decomposition products:
No information available.

*
SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:
Quantitative data on the toxicity of this product are not available.

Primary irritant effect:

on the skin:
Caustic effect on skin and mucous membranes.

on the eye:
Causes serious eye damage.
Burns, risk of blindness.

after inhalation:
Irritations in the respiratory tract, coughing, dyspnoea.

Sensitisation:
No sensitising effects known.

CMR effects:
Germ cell mutagenicity:
No known significant effects or critical hazards.
Carcinogenicity:
No known significant effects or critical hazards.
Reproductive toxicity:
No known significant effects or critical hazards.

Aspiration hazard:
No aspiration toxicity classification.

Specific target organ toxicity - single exposure
The substance or mixture is not classified as specific target organ toxicant, single exposure.
Specific target organ toxicity - repeated exposure
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Additional toxicological information:
If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Further information:
The product should be handled with the care usual when dealing with chemicals.

*
SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:
Quantitative data on the ecological effect of this product are not available.

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Fish toxicity:	
1310-73-2 sodium hydroxide	
LC_{50}	45 mg/l/96 h (Onchorhynchus mykiss)

12.2 Persistence and degradability
Biologic degradation: Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

Ecotoxical effects:

Remark:
Harmful effect on aquatic organisms due to pH shift.
Do not allow to enter waters, waste water, or soil!

12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

12.6 Other adverse effects
No further relevant information available.

*
SECTION 13: Disposal considerations

Waste treatment methods

Recommendation
This material and its container must be disposed of as hazardous waste.
The disposal is regionally differently regulated, therefore the kind of disposal is to be inquired at the responsible authorities.

Uncleaned packaging:

Recommendation:
Disposal according to official regulations.

*
SECTION 14: Transport information

14.1 UN-Number
ADR, IMDG, IATA UN1824

14.2 UN proper shipping name
ADR 1824 SODIUM HYDROXIDE SOLUTION
IMDG, IATA SODIUM HYDROXIDE SOLUTION

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14.3 Transport hazard class(es)

ADR, IMDG, IATA

Class	8 Corrosive substances.
Label	8

14.4 Packing group

ADR, IMDG, IATA	II

14.5 Environmental hazards:

Marine pollutant:	No

14.6 Special precautions for user

	Warning: Corrosive substances.
Danger code (Kemler):	80
EMS Number:	F-A,S-B
Segregation groups	Alkalis

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Transport/Additional information:

ADR

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
Transport category	2
Tunnel restriction code	E

IMDG

Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml

UN "Model Regulation":	UN1824, SODIUM HYDROXIDE SOLUTION, 8, II

*

SECTION 15: Regulatory information

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

National regulations:

Information about limitation of use: Employment restrictions concerning juveniles must be observed.

Breakdown regulations:

Waterhazard class:
Water hazard class 1 (Self-assessment): slightly hazardous for water.

15.2 Chemical safety assessment

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A Chemical Safety Assessment has not been carried out.

*
SECTION 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.

Relevant phrases
H290 May be corrosive to metals.
H314 Causes severe skin burns and eye damage.

R35 Causes severe burns.

Department issuing MSDS: Department: Health, Safety and Environment

Contact: Frau Weckemann
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
LD50*: Lethal Dose, 50 percent (Not relevant for classification)
LD50*: Lethal Concentration, 50 percent (Not relevant for classification)
Met. Corr.1: Corrosive to metals, Hazard Category 1
Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
*** Data compared to the previous version altered.**