

Safety Data Sheet

according to UK REACH Regulation

Sodium Hydroxide / Caustic Soda 0.1 mol/l (~ 0.4 %)

Revision date: 26.07.2023

Product code: 12190.xxxxx

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

1.1. Product identifier

Sodium Hydroxide / Caustic Soda 0.1 mol/l (~ 0.4 %)

UFI: AKR2-Y1MF-M00X-CSQH

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

Use of the substance/mixture

Use as laboratory reagent.

The product is intended for research, analysis and scientific education.

Uses advised against

Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name:	MORPHISTO GmbH	
Street:	Schumannstr. 144	
Place:	D-63069 Offenbach	
Telephone:	+49 (0) 69 / 400 3019-60	Telefax: +49 (0) 69 / 400 3019-64
E-mail:	info@morphisto.de	
Contact person:	Morphisto GmbH	
E-mail:	gefahrstoffmanagement@morphisto.de	
Internet:	http://www.morphisto.de	

1.4. Emergency telephone number:

Morphisto GmbH, Tel: +49(0)69 400 3019-60, Mo-Fr.: 09-16Uhr

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Signal word: Warning

Pictograms:



Hazard statements

H290 May be corrosive to metals.

Precautionary statements

P234 Keep only in original packaging.
P390 Absorb spillage to prevent material damage.
P406 Store in a corrosion-resistant container with a resistant inner liner.

2.3. Other hazards

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This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

SECTION 3: Composition/information on ingredients**3.2. Mixtures****Hazardous components**

none (according to UK REACH Regulation)

Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Remove contaminated, saturated clothing immediately.

After inhalation

Provide fresh air. Remove casualty to fresh air and keep warm and at rest. In case of respiratory tract irritation, consult a physician. Apply cortisone spray at early stage.

After contact with skin

Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Remove contaminated, saturated clothing immediately. Call a physician immediately.

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist. Danger of blindness!

After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Call a physician immediately. Do NOT induce vomiting. Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Never give anything by mouth to an unconscious person or a person with cramps.

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

If swallowed danger of perforation of the esophagus and the stomach (strong corrosive effects).

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO₂). Dry extinguishing powder. alcohol resistant foam. Atomized water.

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Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Non-flammable. The product itself does not burn.

5.3. Advice for firefighters

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

Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****General advice**

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up**For cleaning up**

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Treat the recovered material as prescribed in the section on waste disposal.

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Personal protection equipment (See section 8.)

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat, drink, smoke, sniff. Always close containers tightly after the removal of product.

Further information on handling

Conditions to avoid: generation/formation of aerosols

Avoid contact with skin, eyes and clothes.

General protection and hygiene measures: See section 8.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep container tightly closed. Unsuitable container/equipment material: Metal. Keep only in the original

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container in a cool, well-ventilated place.
 Make sure spills can be contained, e.g. in sump pallets or kerbed areas.
 Suitable floor material: Alkali-resistant

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Radioactive substances. Infectious substances. Food and fodder.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.
 Recommended storage temperature: 15-25 °C
 Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

Use as laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
1310-73-2	Sodium hydroxide	-	2		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
1310-73-2	Sodium hydroxide			
Worker DNEL, long-term		inhalation	local	1 mg/m ³
Consumer DNEL, long-term		inhalation	local	1 mg/m ³

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Use extractor hood (laboratory).
 Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Suitable eye protection: Tightly sealed safety glasses. EN 166

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Pull-over gloves of rubber. EN ISO 374

Suitable material:

(penetration time (maximum wearing period): >= 8h)

Butyl rubber.

FKM (fluororubber).

(penetration time (maximum wearing period): >= 2h)

CR (polychloroprenes, Chloroprene rubber).

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

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Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

In case of inadequate ventilation wear respiratory protection. With correct and proper use, and under normal conditions, breathing protection is not required.

Respiratory protection necessary at:

- generation/formation of aerosols
- insufficient ventilation
- exceeding exposure limit values

Suitable respiratory protective equipment: Particle filter device (EN 143) - Type P2/3

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Environmental exposure controls

Do not empty into drains.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	colourless	
Odour:	characteristic	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		100 °C
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		12,5-13,5
Viscosity / kinematic:		not determined
Water solubility:		completely miscible
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		23 hPa
(at 20 °C)		
Vapour pressure:		123 hPa
(at 50 °C)		
Density (at 20 °C):		1,00 g/cm ³
Relative vapour density:		not determined
Particle characteristics:		not applicable

9.2. Other information
Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. none

Sustaining combustion:

Not sustaining combustion

Oxidizing properties

none

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Other safety characteristics

Evaporation rate:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Viscosity / dynamic:	not determined
Flow time:	not determined

SECTION 10: Stability and reactivity**10.1. Reactivity**

Corrosive to metals.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Acid, Peroxides, Oxidizing agent. Possibly extensive generation of hydrogen on contact with amphoteric metals (e.g. aluminium, lead, zinc) (explosive hazard!).

Violent reaction with: Acid

10.4. Conditions to avoid

heat. UV-radiation/sunlight. frost.

10.5. Incompatible materials

Metal. Keep away from: Acid, Oxidizing agent, Peroxides. Materials to avoid: Alkali metals. Oxidizing agents.

Strong acid. Nitrile. light metals. Phenols. Metal.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information**11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

Based on available data, the classification criteria are not met.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Based on available data, the classification criteria are not met.

C >= 5%, Skin Corr. 1A, H314;

2% =< C < 5%, Skin Corr. 1B, H314;

0,5% =< C < 2%, Skin Irrit. 2, H315;

0,5% =< C < 2%, Eye Irrit. 2, H319.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

Keine Bekannt

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

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11.2. Information on other hazards**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

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

Based on available data, the classification criteria are not met.

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

The product has not been tested.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process. Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

160507 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded inorganic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - used product

160507 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; discarded inorganic chemicals consisting of or containing hazardous substances; hazardous waste

List of Wastes Code - contaminated packaging

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

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SECTION 14: Transport information
Land transport (ADR/RID)

14.1. UN number or ID number: UN 1824
14.2. UN proper shipping name: SODIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Classification code: C5
 Limited quantity: 5 L
 Excepted quantity: E1
 Transport category: 3
 Hazard No: 80
 Tunnel restriction code: E

Inland waterways transport (ADN)

14.1. UN number or ID number: UN 1824
14.2. UN proper shipping name: SODIUM HYDROXIDE SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Classification code: C5
 Limited quantity: 5 L
 Excepted quantity: E1

Marine transport (IMDG)

14.1. UN number or ID number: UN 1824
14.2. UN proper shipping name: SODIUM HYDROXIDE, SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8



Marine pollutant: NO
 Special Provisions: 223
 Limited quantity: 5 L
 Excepted quantity: E1
 EmS: F-A, S-B

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number: UN 1824
14.2. UN proper shipping name: SODIUM HYDROXIDE, SOLUTION
14.3. Transport hazard class(es): 8
14.4. Packing group: III
 Hazard label: 8

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Special Provisions:	A3 A803	
Limited quantity Passenger:	1 L	
Passenger LQ:	Y841	
Excepted quantity:	E1	
IATA-packing instructions - Passenger:		852
IATA-max. quantity - Passenger:		5 L
IATA-packing instructions - Cargo:		856
IATA-max. quantity - Cargo:		60 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: strongly corrosive. Refer to section 6-8

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Restrictions on use (REACH, annex XVII):

Entry 75

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): - - non-hazardous to water

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**Changes**

This data sheet contains changes from the previous version in section(s): 1,2,3,4,5,6,7,8,9,10,11,12,13,15,16.

Rev. 1,0; 03.11.2016, Initial release

Rev. 1.1; 21.12.2017, Changes in chapter: 1, 11, 16.

Rev. 2,0; 26.07.2023; general adjustment(s)

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

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ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NTP: National Toxicology Program
N/A: not applicable
OSHA: Occupational Safety and Health Administration
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SARA: Superfund Amendments and Reauthorization Act
SVHC: substance of very high concern
TRGS Technische Regeln fuerGefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe
WGK: Wassergefaehrungsklasse
CLP: Classification, labelling and Packaging
REACH: Registration, Evaluation and Authorization of Chemicals
GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals
UN: United Nations
CAS: Chemical Abstracts Service
DNEL: Derived No Effect Level
DMEL: Derived Minimal Effect Level
PNEC: Predicted No Effect Concentration
ATE: Acute toxicity estimate
LL50: Lethal loading, 50%
EL50: Effect loading, 50%
EC50: Effective Concentration 50%
ErC50: Effective Concentration 50%, growth rate
NOEC: No Observed Effect Concentration
BCF: Bio-concentration factor
PBT: persistent, bioaccumulative, toxic
vPvB: very persistent, very bioaccumulative
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Regulations concerning the international carriage of dangerous goods by rail
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)
EmS: Emergency Schedules
MFAG: Medical First Aid Guide
MARPOL: International Convention for the Prevention of Marine Pollution from Ships
IBC: Intermediate Bulk Container
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

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Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data

Relevant H and EUH statements (number and full text)

H290 May be corrosive to metals.

Further Information

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations. Classification according EC regulation 1272/2008 (CLP): -

Classification procedure:

Health hazards: Calculation method.

Environmental hazards: Calculation method.

Physical hazards: On basis of test data and / or calculated and / or estimated.

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.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)