

# Sodium hydroxide

## Safety Data Sheet

**S0523**

according to Regulation (EU) 2015/830

Version: 2.0

Date of issue: 06/10/2010    Revision date: 15/11/2017

Supersedes 28/09/2011

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

#### 1.1. Product identifier

Product form : Substance  
 Trade name : Sodium hydroxide  
 EC-No. : 215-185-5  
 CAS-No. : 1310-73-2  
 REACH registration No : 01-2119457892-27  
 Product code : S0523  
 Formula : NaOH  
 Product group : Raw material

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

##### 1.2.1. Relevant identified uses

Main use category : Professional use  
 Industrial/Professional use spec : For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Duchefa Biochemie B.V.  
 A. Hofmanweg 71  
 2031 BH Haarlem - The Netherlands  
 T +31(0)23-5319093 - F +31(0)23-5318027  
[info@duchefa.nl](mailto:info@duchefa.nl)

#### 1.4. Emergency telephone number

Emergency number : Supplier contact information:  
 +31(0)23-5319093 (M-F 09:00-17:00)  
 +31(0)6-30109355 (outside office hours)

Organisation/Company	Address	Comment
World Health Organization world directory of poison centres	<a href="http://apps.who.int/poisoncentres/">http://apps.who.int/poisoncentres/</a>	Consult website for a local poison centre

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation, Category 1A H314  
 Corrosive to metals, Category 1 H290

Full text of hazard classes and H-statements : see section 16

##### Adverse physicochemical, human health and environmental effects

No additional information available

## 2.2. Label elements

### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) :

: Danger

Hazard statements (CLP) :

: H290 - May be corrosive to metals.

: H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) :

: P280 - Wear eye protection, face protection, protective clothing, protective gloves.

: P308+P313 - IF exposed or concerned: Get medical advice/attention.

: P305+P351 - IF IN EYES: Rinse cautiously with water for several minutes.

: P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

: P406 - Store in corrosive resistant container with a resistant inner liner.

## 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Name : Sodium hydroxide

CAS-No. : 1310-73-2

EC-No. : 215-185-5

Name	Product identifier	%
Sodium hydroxide, caustic soda	(CAS-No.) 1310-73-2 (EC-No.) 215-185-5 (EC Index-No.) 011-002-00-6	> 98

Full text of H-statements: see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest. If you feel unwell, seek medical advice.

First-aid measures after skin contact : Remove contaminated clothes. Wash off with plenty of water. Seek medical advice.

First-aid measures after eye contact : Rinse immediately with plenty of water. Get immediate medical advice/attention.

First-aid measures after ingestion : Give water to drink. Do not induce vomiting because of corrosive effects. Get immediate medical advice/attention.

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

Symptoms/effects after inhalation : Shortness of breath. Cough.

- Symptoms/effects after skin contact : Causes severe burns.
- Symptoms/effects after eye contact : Blurred vision. Risk of serious damage to eyes. Direct contact may result in corneal injury.
- Symptoms/effects after ingestion : Burns or irritation of the linings of the mouth, throat, and gastrointestinal tract. Abdominal pain, nausea.

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

No additional information available

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

- Suitable extinguishing media : Alcohol resistant foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>). Water spray. Sand.

### 5.2. Special hazards arising from the substance or mixture

- Hazardous decomposition products in case of fire : When exposed to heat, may decompose liberating hazardous gases.

### 5.3. Advice for firefighters

- Firefighting instructions : Exercise caution when fighting any chemical fire.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.
- Other information : Prevent fire fighting water from entering the environment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Spill should be handled by trained cleaning personnel properly equipped with respiratory and eye protection.

#### 6.1.1. For non-emergency personnel

- Measures in case of dust release : Avoid dust formation.

#### 6.1.2. For emergency responders

No additional information available

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Sweep up dry powder and dispose properly. Use non-corrodable disposal containers.

### 6.4. Reference to other sections

No additional information available

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Handle in accordance with good industrial hygiene and safety procedures. Avoid dust formation.
- Hygiene measures : Ensure prompt removal from eyes, skin and clothing.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Store in dry, well-ventilated area. Store at room temperature. Keep container closed when not in use. Store in original container or corrosive resistant and/or lined container.

**7.3. Specific end use(s)**

For professional use only. Duchefa Biochemie B.V. products are intended only for "in vitro laboratory" research purposes.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters**

<b>Sodium hydroxide (1310-73-2)</b>	
DNEL/DMEL (Workers)	
Long-term - local effects, inhalation	1 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - local effects, inhalation	1 mg/m <sup>3</sup>

Additional information : Provide local exhaust or general room ventilation

**8.2. Exposure controls****Hand protection:**

Type	Material	Permeation	Thickness (mm)	Standard
Gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0,11	EN 374

**Eye protection:**

Safety glasses (to European standard EN 166 or equivalent)

**Skin and body protection:**

Long sleeved protective clothing

**Respiratory protection:**

Wear appropriate mask. Filter type P2 (EN 143)

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

Physical state	: Solid
Appearance	: Powder. Crystalline powder.
Molecular mass	: 40 g/mol
Colour	: White.
Odour	: No data available
Odour threshold	: No data available
pH	: ≈ 14 (100 g/l, 20 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 319 - 322 °C
Freezing point	: No data available
Boiling point	: 1390 (1.013 hPa)
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available

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Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2,13 g/cm <sup>3</sup> (20 °C)
Solubility	: Water: 1090 g/l (20 °C)
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

Strong acids. Organic products.

### 10.4. Conditions to avoid

Moisture.

### 10.5. Incompatible materials

Aluminium. Metals. Zinc. Metal alloy. This material may attack some forms of plastics and rubbers.

### 10.6. Hazardous decomposition products

Reacts with water, generates heat.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: ≈ 14 (100 g/l, 20 °C)
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: ≈ 14 (100 g/l, 20 °C)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified

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Aspiration hazard : Not classified

Other information : See actual entry in RTECS for complete information: WB4900000.

## SECTION 12: Ecological information

### 12.1. Toxicity

Sodium hydroxide (1310-73-2)	
LC50 fish 1	45,4 mg/l <i>Oncorhynchus mykiss</i> (Rainbow trout)
LC50 fish 2	125 mg/l <i>Gambusia affinis</i> (Mosquito fish)
EC50 Daphnia 1	76 mg/l ( <i>Daphnia magna</i> )
EC50 Daphnia 2	40,4 mg/l ( <i>Ceriodaphnia</i> )

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems.

Additional information : Avoid release to the environment. Prevent entry to sewers and public waters

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of this material and its container at hazardous or special waste collection point. Dispose in a safe manner in accordance with local/national regulations.

## SECTION 14: Transport information

In accordance with ADR / IATA / IMDG

ADR	IMDG	IATA
<b>14.1. UN number</b>		
1823	1823	1823
<b>14.2. UN proper shipping name</b>		
SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID	Sodium hydroxide, solid
<b>Transport document description</b>		
UN 1823 SODIUM HYDROXIDE, SOLID, 8, II, (E)	UN 1823 SODIUM HYDROXIDE, SOLID, 8, II	UN 1823 Sodium hydroxide, solid, 8, II
<b>14.3. Transport hazard class(es)</b>		
8	8	8

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ADR	IMDG	IATA
		
<b>14.4. Packing group</b>		
II	II	II
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No
No supplementary information available		

### 14.6. Special precautions for user

#### . Overland transport

Classification code (ADR) : C6  
Limited quantities (ADR) : 1kg  
Excepted quantities (ADR) : E2  
Transport category (ADR) : 2  
Hazard identification number (Kemler No.) : 80  
Orange plates :



Tunnel restriction code (ADR) : E  
EAC code : 2W

#### - Transport by sea

Limited quantities (IMDG) : 1 kg  
Excepted quantities (IMDG) : E2  
EmS-No. (Fire) : F-A  
EmS-No. (Spillage) : S-B  
Stowage category (IMDG) : A  
Segregation (IMDG) : SG35  
Properties and observations (IMDG) : White pellets, flakes, lumps or solid blocks, deliquescent. Reacts with ammonium salts, evolving ammonia gas. In the presence of moisture, corrosive to aluminium, zinc and tin. Causes burns to skin, eyes and mucous membranes. Reacts violently with acids.

#### - Air transport

PCA Excepted quantities (IATA) : E2  
PCA Limited quantities (IATA) : Y844  
PCA limited quantity max net quantity (IATA) : 5kg  
PCA packing instructions (IATA) : 859  
PCA max net quantity (IATA) : 15kg  
CAO packing instructions (IATA) : 863  
CAO max net quantity (IATA) : 50kg  
ERG code (IATA) : 8L

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU-Regulations**

No REACH Annex XVII restrictions

Sodium hydroxide is not on the REACH Candidate List

Sodium hydroxide is not on the REACH Annex XIV List

**15.1.2. National regulations**

Ensure all national/local regulations are observed.

**Germany**

VwVwS Annex reference : Water hazard class (WGK) 1, low hazard to waters (Classification according to VwVwS, Annex 1 or 2; ID No. 142)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

**Netherlands**

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

**Denmark**

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

**15.2. Chemical safety assessment**

No additional information available

**SECTION 16: Other information**

Indication of changes:

1.4	Emergency number	Modified	
8.2	Hand protection	Modified	Specified material, thickness, et cetera of gloves
11.1	RTECS no	Added	

Abbreviations and acronyms:

ATE	Acute Toxicity Estimate
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
BCF	Bioconcentration factor
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
IATA	International Air Transport Association

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IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
PBT	Persistent Bioaccumulative Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SDS	Safety Data Sheet

Data sources : ECHA (European Chemicals Agency). Supplier.

Full text of H- and EUH-statements:

Met. Corr. 1	Corrosive to metals, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.

SDS Biochemicals version 2017

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product*