

## Safety Data Sheet

according to UK REACH Regulation

### Sodium hydroxide solution / NaOH 0.5 %

Revision date: 02.11.2022

Product code: 18293.xxxxx

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

##### 1.1. Product identifier

Sodium hydroxide solution / NaOH 0.5 %

Abbreviation: NaOH  
UFI: 99K6-4AFX-H00W-JCG3

##### 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. 142/144  
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: info@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  
Skin Irrit. 2; H315  
Eye Irrit. 2; H319

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.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

###### Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

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P332+P313 P337+P313 P390	present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Absorb spillage to prevent material damage.
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#### 2.3. Other hazards

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

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
1310-73-2	Sodium hydroxide; caustic soda			< 1 %
	215-185-5	011-002-00-6	01-2119457892-27	
	Met. Corr. 1, Skin Corr. 1A; H290 H314			

Full text of H and EUH statements: see section 16.

##### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
1310-73-2	215-185-5	Sodium hydroxide; caustic soda	< 1 %
		Skin Corr. 1A; H314: >= 5 - 100 Skin Corr. 1B; H314: >= 2 - < 5 Skin Irrit. 2; H315: >= 0,5 - < 2 Eye Irrit. 2; H319: >= 0,5 - < 2	

##### Further Information

Product does not contain listed SVHC substances > 0,1 % according to Regulation (EC) No. 1907/2006 Article 59 (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

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Remove contaminated, saturated clothing immediately. @0403.B004101 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.

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#### **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. Treat symptomatically.

### SECTION 5: Firefighting measures

#### **5.1. Extinguishing media**

##### **Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder. alcohol resistant foam. Atomized water.

##### **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**

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit. 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. Wear personal protection equipment. (See section 8.)

@1501.B015718 Avoid contact with skin, eyes and clothes.

#### **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 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**

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**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.)  
 @1501.B015806

**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. When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Take off contaminated clothing and wash it before reuse.

**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 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 <sup>3</sup>	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; caustic soda			
Worker DNEL, long-term		inhalation	local	1 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	1 mg/m <sup>3</sup>

**8.2. Exposure controls**

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**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**

Suitable eye protection: goggles. 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):  $\geq$  8h)

Butyl rubber.

FKM (fluororubber).

(penetration time (maximum wearing period):  $\geq$  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.

**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**

@1501.B015774

**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		

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Solid/liquid:	not applicable
Gas:	not applicable
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):	>14
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:	1,00 g/cm <sup>3</sup>
Relative vapour density:	not determined

**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

**Other safety characteristics**

Evaporation rate:

not determined

Solvent content:

AQUA (Water) 99,50 %

Solid content:

0,50 %

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. Possibility of hazardous reactions. May be 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.

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**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**
**Toxicokinetics, metabolism and distribution**

No information available.

**Acute toxicity**

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

**Irritation and corrosivity**

Causes skin irritation.

Causes serious eye irritation.

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

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

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

0,5% =&lt; C &lt; 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.

**Specific effects in experiment on an animal**

No information available.

**Further information**

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

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

The product is not: Ecotoxic.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
1310-73-2	Sodium hydroxide; caustic soda					
	Acute fish toxicity	LC50	196 mg/l	96 h	Adema, D.M.M. 1985., GESTIS.	
	Acute crustacea toxicity	EC50	40,4 mg/l	48 h	Ceriodaphnia sp.	Warne and Schifko, 1999; ECHA Dossier.

**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.

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**12.4. Mobility in soil**

@1718.B017281

**12.5. Results of PBT and vPvB assessment**

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

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

**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**

@1718.B017281

**Further information**

Avoid release to the environment. Nicht unverdünnt bzw. unneutralisiert in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.

**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. @1501.B015745

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

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

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



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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



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

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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 3, 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].  
REACH 1907/2006 Appendix XVII, No (mixture): 3**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**

Rev. 1,0; 03.11.2016, Initial release

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

**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)

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

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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).

**Relevant H and EUH statements (number and full text)**

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

**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.

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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.

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