

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product identifier

Trade name: Boule Hypochlorite (2 %) Cleaner, 500 mL/450 mL

1.2 Uses

Relevant identified uses of the substance or mixture: Used for cleaning of Boule hematology systems.

Uses advised against: The product should only be used according the relevant identified uses specified above. If the product is used for any other purposes, it is recommended to contact Boule Medical AB.

1.3 Details of the supplier of the safety data sheet

Supplier: BOULE MEDICAL AB
Address: Domnarvsgatan 4, SE-163 53 Spånga, Sweden
Telephone No: +46(0)8 - 7447700
Telefax No: +46(0)8 - 7447720
E-mail: info@boule.com

1.4 Emergency telephone number

Emergencies (24 hours): 112 (the European emergency number)

Health advice and information (24 hours): Email: director.birmingham.unit@npis.org
Website: <http://www.npis.org/>

England and Wales:	Scotland:	N Ireland:	Republic of Ireland:
NHS 111 - dial 111	NHS 24 - dial 111	Contact your local GP or pharmacist during normal hours	01 809 2166

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the mixture

2.1.1 CLASSIFICATION ACCORDING TO CLP [REGULATION (EC) NO 1272/2008]

Classification: Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 3; H412.

2.2 Label elements

Trade name: BOULE HYPOCHLORITE 2 % CLEANER

Substances in the mixture: Sodium hypochlorite

Hazard Pictograms:



Signal word: WARNING

Hazard statements: **H315** Causes skin irritation, **H319** Causes serious eye irritation, **H412** Harmful to aquatic life with long lasting effects.

Precautionary statements: **P280** Wear protective gloves/protective clothing/eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Other labelling: No

2.3 Other hazards

PBT substance: YES NO NOT APPLICABLE

vPvB substance: YES NO NOT APPLICABLE

Physical hazards: No other known hazards.

Health hazards: No other known hazards.

Environmental hazards: No other known hazards.

2.4 Authorization (substance)

See section 15.1.2 Authorizations and restrictions according to Reach sections VII and VIII.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS □

3.1 Composition/information on ingredients

Substance name	Index No	CAS No	EC No	Registration No	
Sodium hypochlorite	017-011-00-1	7681-52-9	231-668-3	-	
	Classification according to CLP			Conc (w/w)	Other
	Met. Corr. 1; H290 Skin Corr. 1B, H314 STOT SE 3; H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410			1 - < 2.5	HGV / SCL
Substance name	Index No	CAS No	EC No	Registration No	
Sodium hydroxide	011-002-00-6	1310-73-2	215-185-5	-	
	Classification according to CLP			Conc (w/w) %	Other
	Skin Corr. 1A, H314			Ca 0.4	HGV/SCL

1. For a complete explanation of the danger codes and hazard statements, refer to section 16 Other information.

SECTION 4: FIRST AID MEASURES □

4.1 Description of first aid measures

General description of the product: Bring this safety data sheet, safety instructions leaflet or label with you to the doctor treating you. First-aiders may need protective equipment, refer to section 8.2 Exposure controls.

Inhalation: If the product is inhaled, and symptoms like shortness of breath or other symptoms of illness occur, fresh air and rest is recommended. If simple first aid does not produce a quick recovery, call a POISON CENTER or doctor/physician.

Skin contact: Wash with soap and water. In contact with chemical substances exposed clothes and shoes should normally be removed.

Eye contact: Rinse immediately with a soft or low pressure waterjet or eye wash for at least 5 minutes. Remove contact lenses and keep eyes wide open. If symptoms persist (intense stinging, pain, light sensitivity, poor vision) continue rinsing and call a POISON CENTER or doctor/physician.

Ingestion: Drink a couple of glasses of water. If more than a small quantity has been ingested seek medical advice. If symptoms arise (intense stinging or pain), or if more than a small quantity has been ingested, call a POISON CENTER or doctor/physician.

Notes for the doctor: The mixture is an irritant. Treat symptomatically and supportively.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms:

Eye contact: Tears, red eyes, pain, blurred vision, impaired but reversible vision.
Ingestion: Irritation, nausea, vomiting,
Skin contact: Dry skin. Stain may bleach skin.
Inhalation: Cough, sore nose and throat, nausea, chest pressure, shortness of breath.

Delayed effects: Not expected.

4.3 Indication of immediate medical attention and special treatment needed

Specific/immediate treatment at the workplace: Treat symptomatically and supportively.

Special treatment No

SECTION 5: FIREFIGHTING MEASURES



5.1 Extinguishing media

Suitable extinguishing media: The product is not flammable. Extinguishing media should be chosen according to fire and surroundings.

Unsuitable extinguishing media: Water jets are not a suitable extinguishing media when extinguishing fire from chemical products.

5.2 Special hazards arising from the substance or mixture

Specific hazards: Hydrogen chloride and chlorine may evolve in case of fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

5.3 Advice for fire-fighters

General safety measures: Apply general fire safety precautions. Avoid inhalation of smoke fumes.

Safety measures during firefighting: Adequate protective equipment should be worn for all firefighting. Protective equipment providing total coverage and an oxygen mask is recommended.



SECTION 6: ACCIDENTAL RELEASE MEASURES



6.1 Personal precautions, protective equipment and emergency procedures

General safety measures:	After accidental release of flammable or volatile substances or substances that generates dust, ventilate the exposed area thoroughly. Use methods to minimize generation of dust and vapors.
Personal protective equipment:	Avoid inhalation of vapors and exposure to eyes and skin. Always wear gloves when handling chemical substances.
Protection for emergency responders:	See section 8.2.2 Personal protection.

6.2 Environmental precautions

General safety measures:	None
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6.3 Methods and material for containment and cleaning up

Containment techniques:	Specific containment is normally not necessary.
Methods for cleaning up:	Collect spills. Absorb spill with vermiculite, dry sand, or adsorbent pads.

6.4 Reference to other sections

Sections 8 and 13:	Information regarding personal protective equipment, see section 8.2 Exposure controls, and regarding waste disposal, refer to section 13 Disposal considerations.
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SECTION 7: HANDLING AND STORAGE



7.1 Precautions for safe handling

General requirements:	The employer shall identify the hazardous chemical substances, which occur or can be expected to occur in the activity. Information in this safety data sheet may comprise one of several sections in order to provide adequate instructions for safe handling, storage, disposal, etc. of the product. Standard industry hygiene applies. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.
Measures to prevent fire:	The product is not flammable or combustible.
Measures to prevent aerosol, vapors and dust generation:	The vapor generation potential can be reduced by using ventilation and closed systems and good housekeeping.
Measures to protect the environment:	Refer to section 6.2 Environmental Precautions.

7.2 Conditions for safe storage, including any incompatibilities

General conditions for safe storage:	Store in a cool (4 - 30 °C), dry place away from heat, sparks, open flame, or strong oxidizing agents.
Specific storage requirements:	Avoid storage with e.g. strong acids, alcohols, amines and metals like nickel, cobalt and copper.
Packaging compatibilities:	None.
Specific designs for storage rooms or vessels:	None.

7.3 Specific end use(s)

Exposure scenario: YES, see attached ES. NO
 Industry or sector specific guidance: YES, see below in this section. NO
 Reference to guidance: Source: - Issuing date: -

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION □

8.1 Control parameters

8.1.1 NATIONAL OCCUPATIONAL EXPOSURE LIMITS OR COMMUNITY OCCUPATIONAL EXPOSURE LIMITS

National limit values: YES, see table below. NO
 Community limit values: YES, see table below. NO

Substance name	CAS No	Occupational exposure limits			
		Long-term (8 h)		Short-term (15 min)	
		ppm	mg/m ³	ppm	mg/m ³
Sodium hydroxide (UK)	1310-73-2	-	-	-	2
Chlorine (UK)	7782-50-5	-	-	0.5	1,5

8.1.2 DN(M)EL / PNEC

8.1.2.1 DN(M)EL

Substance: Sodium hypochlorite (CAS no 7681-52-9)

Exposure - health	DN(M)EL	Exposure group	
		Workers	Others ¹
SHORT TERM EXPOSURE			
<i>Systemic effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	3.1 mg/m ³	3.1 mg/m ³
Ingestion	DNEL	N/A	No data
<i>Local effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	3.1 mg/m ³	3.1 mg/m ³
LONG TERM EXPOSURE			
<i>Systemic effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	1.55 mg/m ³	1.55 mg/m ³
Ingestion	DNEL	No data	0.26 mg/kg bw/day
<i>Local effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	1.55 mg/m ³	1.55 mg/m ³

1. Others: comprise include consumers and the general population.

Substance: Chlorine (CAS No 7782-50-5)

Exposure - health	DN(M)EL	Exposure group	
		Workers	Others ¹
SHORT TERM EXPOSURE			
<i>Systemic effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	1.5 mg/m ³	1.5 mg/m ³
Ingestion	DNEL	N/A	No data
<i>Local effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	1.5 mg/m ³	1.5 mg/m ³
LONG TERM EXPOSURE			
<i>Systemic effects</i>			
Skin contact	DNEL	No data	No data
Inhalation	DNEL	0.75 mg/m ³	0.75 mg/m ³
Ingestion	DNEL	No data	0.25 mg/kg bw/day
<i>Local effects</i>			
Skin contact	DNEL	0.5 % (w/w) in mixture	0.5 % (w/w) in mixture
Inhalation	DNEL	0.75 mg/m ³	0.75 mg/m ³

1. Others: comprise include consumers and the general population.

8.1.2.2 PNEC

Substance: Sodium hypochlorite (CAS no 7681-52-9)

Exposure - compartment	PNEC
Water (freshwater)	0.21 µg/l
Water (marine water)	0.042 µg/l
Water (intermittent releases)	0.26 µg/l
STP (Sewage Treatment Plant)	4.69 mg/L
Sediment (freshwater/marine)	Not expected
Soil	Not expected
Secondary poisoning	11.1 mg/kg food

Substance: Chlorine (7782-50-5)

Exposure - compartment	PNEC
Water (freshwater)	0.21 µg/l
Water (marine water)	0.042 µg/l
Water (intermittent releases)	0.26 µg/l
STP (Sewage Treatment Plant)	0.03 mg/l
Sediment (freshwater/marine)	Not relevant
Soil	Not relevant

8.1.3 MONITORING

Controls of air pollution:

If more than one substance occurs or can be expected to occur in the working environment, the risk for interacting effects with increasing toxicity shall be assessed. In the assessment of exposure conditions, consideration shall be paid, not only to the concentration of air contaminants in the respiratory air, but also to the workload and to the possibility of certain substances being absorbed percutaneously. The person planning and conducting measurement of air contaminants shall have sufficient knowledge for the purpose. Measurements should be taken using a method and equipment suitable for the purpose. Exposure measurements shall refer to conditions during normal operations. If necessary they should also indicate exposure under other conditions. Exposure measurements shall be conducted in the breathing zone and on a sufficient number of persons for the exposure to be judged with reference to all persons exposed.

8.1.4 RISK MANAGEMENT MEASURES

General recommendations:

If a risk assessment has shown that there is a risk for exposure at a workplace, the work shall be arranged, conducted and followed up in such a way that the exposure will be as low as is practically possible. In order to reduce the risk, substitution shall by preference be undertaken. Where it is not reasonably practicable to prevent exposure to a substance hazardous to health, the employer shall take risk reduction measures, in order of priority: (a) The design and use of appropriate work processes, systems and engineering controls and the provision and use of suitable work equipment and materials; (b) The control of exposure at source, including adequate ventilation systems and appropriate organizational measures; (c) Where adequate control of exposure cannot be achieved by other means, the provision of suitable personal protective equipment in addition to the measures required by sub-paragraphs (a) and (b).

8.2 Exposure controls

8.2.1 APPROPRIATE ENGINEERING CONTROLS

Precautionary measures:

No respiratory protection is ordinarily required under normal conditions of use and when adequate ventilation is ensured. In accordance with good industrial hygiene practices, precautions should be taken to avoid breathing of material, e.g. vapors, dust etc., see section 8.1.3 Risk management measures.

8.2.2 PERSONAL PROTECTION

Requirements for protection equipment:

Personal protective clothing should meet recommended standards. This is checked with the clothing supplier. Ensure that all protective clothing requirements are observed. Regular checks should be performed to ensure that protective clothing is both effective and complete.



Eye/face protection:

With risk of exposure to the eyes, always wear protective glasses [EN 166 (Personal eye-protection - Specifications)].

Skin protection:

Always wear gloves when handling the chemical substance [EN 374 (Protective gloves against chemicals and micro-organisms)]. For advice about suitable gloves for the type of work, period and frequency of exposure, contact the glove supplier.

Suitable glove material (example only), see 8.2.2. Skin protection:

Material	Thickness	Breakthrough time
Nitrile	0.5	> 8 h

Body protection:

Standard protective clothing. The product may bleach clothing.

Respiratory protection

With risk of exposure to the respiratory system, use a gas filter (removal of chlorine and acid gases) and a dust filter P3 [EN 143 (particle filters)], [EN 140 (Half masks and quarter masks), EN 149 (Filtering half masks to protect against particles)].

Thermal hazards:

None.

8.2.3 ENVIRONMENTAL EXPOSURE CONTROLS

General risk management measures:

No specific measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES



9.1 Information on basic physical and chemical properties

Property	Value	Method / Remarks
Physical state:	Liquid	-
Granulometry:	Not applicable	-
Color as supplied:	Light yellow	-
Odor:	Weak chlorine	-
Odor threshold:	Not applicable	-
pH:	11,5-12,1	-
Melting point / freezing point:	0 °C	-
Initial boiling point and boiling range:	100 °C	-
Flash point:	Not applicable	-
Evaporation rate:	Not applicable	-
Flammability (solid, gas):	Non flammable	-
Upper/lower flammability or explosive limits:	Non explosive	-

Vapor pressure:	No information	-
Vapor density:	Not applicable	-
Density:	Ca 1 g/m ³	-
Solubility in water:	Completely soluble	-
Solubility in organic solvents:	Insoluble in organic solvents	-
Partition coefficient: n-octanol/water:	Not applicable	-
Auto-ignition temperature:	Not applicable	-
Decomposition temperature:	Not applicable	-
Viscosity:	Not applicable	-
Explosive properties:	Non explosive	-
Oxidizing properties:	Slightly oxidizing, bleaching, but not oxidizing under CLP	-
9.2 Other safety information		
Property	Value	Method / Remarks
Solubility in fat:	Insoluble in fat	-
Conductivity:	No information	-
Dissociation constant in water (pKa):	Not applicable	-

SECTION 10: STABILITY AND REACTIVITY



10.1 Reactivity

Reactivity hazards: The substance is normally not reactive but can react with specific materials, see 10.5 Incompatible materials.

10.2 Chemical stability

Stability under normal handling and storage: Stable substance under normal and intended handling conditions and storage, e.g. temperature, pressure etc.

Stabilizers: -

10.3 Possibility of hazardous reactions

Hazardous reactions: Sodium hypochlorite reacts exothermically with acids to release chlorine gas.

Hazardous conditions: Refer to section 10.4 Conditions to avoid.

10.4 Conditions to avoid

Hazardous conditions: Sodium hypochlorite solution decomposes slowly. Decomposition is speeded up by heat (temperatures above 40 deg C), light and by certain metals e.g. nickel, cobalt and copper.

Risk management measures: Refer to section 7 Handling and storage.

10.5 Incompatible materials

Specific materials: Strong acids and reducing agents. Combustible materials as well as metals such as nickel, cobalt and copper.

Risk management measures: Refer to section 7 Handling and storage.

10.6 Hazardous decomposition products

Known/anticipated hazardous decomposition products: Refer to section 10.3 Possibility of hazardous reactions.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

11.1.1 MIXTURE - INFORMATION ON RELEVANT HAZARD CLASSES

Acute toxicity:

- Ingestion: Based on available data, the classification criteria are not met. Ingestion may cause irritation, nausea and vomiting.
- Skin contact: Based on available data, the classification criteria are not met. Stain may bleach skin.
- Inhalation: Based on available data, the classification criteria are not met. Inhalation of vapours may cause irritation. Heating of the product or in case of contact with acids irritating substances, e.g. chlorine, may be released which can cause cough, sore nose and throat, nausea, chest pressure, shortness of breath.

Skin corrosion/irritation: Based on available data, the classification criteria are not met. Skin contact may result in transient skin irritation.

Serious eye damage/irritation: Eye contact may cause red eyes, pain, blurred vision, impaired but reversible vision.

Respiratory or skin sensitization: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

Specific target organ toxicity – single exposure: Based on available data, the classification criteria are not met.

Specific target organ toxicity – repeated exposure: Based on available data, the classification criteria are not met.

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

CMR properties cat. 1A and 1B: Based on available data, the classification criteria are not met.

11.2 References to the toxicological effects

General information: All data used are from the Echa database for registered substances. For specific data for sodium hypochlorite, refer to <https://echa.europa.eu/sv/brief-profile/-/briefprofile/100.013.805>.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity - substance

12.1.1 TOXICITY AFTER SHORT AND LONG TERM EXPOSURE

Summary: Harmful to aquatic life with long lasting effects.

12.1.2 IMPACT ON SEWAGE TREATMENT PLANTS

Summary: The substance is not expected to be dangerous for wastewater treatment plants, at concentrations below the PNEC value, refer to section 8.1.2.2.

12.2 Persistence and degradability

Biotic degradability: Not applicable for inorganic substances.

Abiotic degradability: Environmental fate is expected to be rapid.

12.3 Bio accumulative potential

Log P_{ow} and/or BCF value: The mixture does not contain any substances with bioaccumulation properties.

12.4 Mobility in soil

Environmental distribution: All substances in the mixture are expected to be distributed to the water phase and mobile in soil.

12.5 Results of PBT and vPvB assessment

PBT substance: YES NO NOT APPLICABLE
vPvB substance: YES NO NOT APPLICABLE

12.6 Other adverse effects

General: No known adverse effects.

12.7 Ecological data

General information: All data used are from the Echa database for registered substances. For specific data for sodium hypochlorite, refer to <https://echa.europa.eu/sv/brief-profile/-/briefprofile/100.013.805>.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Disposal considerations

13.1.1 CLASSIFICATION OF WASTE

Hazardous waste: YES NO

Waste designations according to EWC: 20 01 29 Detergents containing dangerous substances.

Packaging: 15 01 02 Plastic packaging.

13.1.2 HANDLING OF WASTE

General information: Before handling waste, see section 8 Exposure controls/Personal protection. During application the product may have been contaminated with hazardous substances, which properties in the waste may not be the same as the original product's properties. It is therefore always the user's responsibility to classify the waste. Hazardous waste must be transported by an approved transporter. For regular transport of hazardous waste, the user is responsible for providing a transport document.

Handling of waste product: To be handled as hazardous waste.

Handling of packaging: Clean packages can be recycled.

SECTION 14: TRANSPORT INFORMATION

14.1 General information

Dangerous goods: YES NO

SECTION 15: REGULATORY INFORMATION



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

15.1.1 REGULATIONS/LEGISLATION REGARDING SAFETY, HEALTH AND ENVIRONMENT

General information:	The employer shall inform the employees concerned of the health hazards and accident risks entailed by hazardous chemical substances occurring at the worksite and how these risks are avoided. Information shall also be supplied concerning occupational exposure limit values for the substances occurring and concerning other Provisions applying to the work, as well as concerning the routines existing for internal chemicals control. The employer shall ascertain that the employees concerned have understood the information.
Work environment:	The Control of Substances Hazardous to Health Regulations 2002 No. 2677. (UK only) EH40/2005 Workplace exposure limits. (UK only)
Environment:	The Producer Responsibility Obligations (Packaging Waste) Regulations 1997 No. 648. (UK only)
Safety:	-

15.1.2 AUTHORIZATIONS AND RESTRICTIONS ACCORDING TO REACH SECTIONS VII AND VIII

Authorization (substance):	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Authorization No:	-	
Restriction (substance/mixture):	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

15.1.3 SPECIAL RULES ON PACKAGING ACCORDING TO CLP [(EC) No 1272/2008]

Consumer product:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Child-resistant fastening:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Tactile warning of danger:	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

15.2 Chemical Safety Assessment (CSR)

Chemical Safety Assessment: YES, mixture YES, substance(s) NO

SECTION 16: OTHER INFORMATION



16.1 Indication of changes

Information to the user: When the information under particular sections in the safety data sheet is changed in accordance with Reach art 31 (9), it is shown by ticking the respective checkbox to the right of that section. The specific changes are given on request.

The SDS has been written since the product contains a corrosive substance (sodium hypochlorite) at a concentration above 1 % and since there are national occupational exposure limits (free chlorine).

Changes in the current edition: Storage temperature (from 2-30 °C to 4-30 °C) and pH (from 12-13 to 11,5-12,1) have been updated.

16.2 Abbreviations and acronyms

BCF:	B io c oncentration F actor. The equilibrium concentration of a chemical in a living organism, expressed as the ratio C_b/C_w (C_b = concentration in biota, C_w = concentration in water).
CAS No:	C hemical A bstracts S ervice number.
CMR properties:	C arcinogenic, M utagenic or toxic for R eproduction
CSR:	C hemical S afety R eport.
DMEL:	D erived M inimal E ffect L evel.
DNEL:	D erived N o- E ffect L evel.
EC ₅₀ :	E ffect C oncentration. Statistically derived median concentration of a substance in an environmental medium expected to produce a certain effect in 50 % of test organisms in a given population under a defined set of conditions.
EWC:	<u>The European Waste Catalogue</u> . The EWC is a hierarchical list of waste descriptions established by Commission Decision 2000/532/EC.
LC ₅₀ :	L ethal C oncentration. In ecotoxicology, the LC ₅₀ is the concentration which kills 50 % of a population of one species, within a specified period of time.
LD ₅₀ :	L ethal D ose. The LD ₅₀ is the dose of a substance which kills 50 % of a population of one species and is expressed as weight (mg, g) or as weight per weight of test animal (mg/kg).
Log P _{ow} :	The potential for bioaccumulation - determined by using the octanol/water partition coefficient - is reported as log "Pow" by the EU, whereas the GHS criteria refer to log "Kow".
NOAEC:	N o O bserved A dverse E ffect C oncentration. The highest concentration tested in an experiment that does not show adverse effects. Expressed as daily dose weight per weight of animal (mg/m ³).
NOAEL:	N o O bserved A dverse E ffect L evel. The highest dose tested in an experiment that does not show adverse effects. Expressed as daily dose weight per weight of animal (mg/kg).
NOEC:	N o O bserved E ffect C oncentration. The highest concentration tested in an experiment that does not show any effect on the organism. Expressed as concentration (mg/l) or (mg/m ³).
NOEL:	N o O bserved E ffect L evel. The highest dose tested in an experiment that does not show any effect on the animal. Expressed as daily dose per weight of animal (mg/kg).
PBT substance:	P ersistent, b io accumulative and t oxic substance.
PNEC:	P redicted N o- E ffect C oncentration.
vPvB substance:	V ery p ersistent and v ery b io accumulative substance.
WEL:	W orkplace E xposure L imits.

16.3 Key literature references and sources for data

References: REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC,

93/105/EC and 2000/21/EC.

REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

16.4 Information on the classification

16.4.1 EVALUATION METHOD USED FOR CLASSIFICATIONS ACCORDING TO ARTICLE 9 CLP





Evaluation method: 9.1 (title I chapter 2 CLP) 9.2 (other methods than art 8.3)
 9.3 (expert judgement) 9.4 (bridging principles)
 9.5 other methods described in part 3 and 4 annex I

16.5 Relevant hazard statement(s) and danger code(s)

16.5.1 Hazard statement(s) (in section 3)

H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

16.5.2 DANGER CODE(S) (IN SECTION 3)

Hazard class / Danger Code	Hazard statement	Hazard pictogram	Signal word
Corrosive to metals / Met. Corr. 1	H290		WARNING
Skin corrosion / irritation / Skin Corr. 1B	H314		DANGER
Specific target organ toxicity - single exposure / STOT SE 3	H335		WARNING
Hazardous to the aquatic environment / Aquatic Acute 1 Aquatic Chronic 1	H400 H410		WARNING

16.6 Training advice

General training:

The employer shall inform the employees concerned of the health hazards and accident risks entailed by hazardous chemical substances occurring at the worksite and how these risks are avoided. Information shall also be supplied concerning occupational exposure limit values for the substances occurring and concerning other Provisions applying to the work, as well as concerning the routines existing for internal chemicals control. The employer shall ascertain that the employees concerned have understood the information.

Specific training:

No specific information is required for this product.

16.7 Exposure scenarios (ES)

ES for the mixture:

ES are not given as an attachment to this safety data sheet. Relevant information for the mixture is given under each specific section.