Safety Data Sheet

according to Regulation (EC) No 1907/2006

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 the 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 (visiting): Västberga Allé 32, SE-126 30 HÄGERSTEN

Address (mail): P.O. Box 42056, SE-126 13 STOCKHOLM, Sweden

Telephone No: +46(0)8 - 7447700

Telefax No: +46(0)8 - 7447720

E-mail: info@boule.se

1.4 Emergency telephone number

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

Health advice and information (24 hours): +44 (0) 845 4647 (UK only)

SECTION 2: HAZARDS IDENTIFICATION ☐

2.1 Classification of the substance

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

Classification: See section 16.4 Information on the classification.

2.1.2 CLASSIFICATION ACCORDING TO DSD (COUNCIL DIRECTIVE 67/548/EEC)

Classification: The product is not classified as a dangerous substance under the current legislation for classification and labeling of dangerous chemical substances and mixtures.

2.2 Label elements

Trade name: BOULE HYPOCHLORITE (2 %) CLEANER, 500 mL/450 mL

Substances in the mixture: Names of the ingredients are not compulsory according to article 10 DPD.

Danger symbol and indication of danger:

R phrases: R phrases are not compulsory according to article 10 DPD.

S phrases: S phrases are not compulsory according to article 10 DPD.

Other labelling: 'Safety data sheet available for professional user on request.'

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 Authorisation (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[1]			**Conc (w/w)**	**Other**
	R31 C; R34 N; R50			1 - < 2.5	-
	Classification according to CLP				
	Skin Corr. 1B; H314 Aquatic Acute 1; H400 EUH031				
1. For a complete explanation of the symbol letters and risk phrases go 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 do normally not need protective equipment.

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 the emergency number.

Skin contact: Wash with soap and water. In contact with chemical substances exposed clothes and shoes should normally be removed. The product does normally not possess any hazard to the exposed person or to first-aiders.

Eye contact: To prevent eye irritation, rinse immediately with a tempered, soft or low pressure water jet or eye wash for at least 5 minutes. If symptoms persist (intense stinging, pain, light sensitivity, poor vision) continue rinsing and seek medical assistance.

Ingestion: Drink a couple of glasses of water. If more than a small quantity has been ingested seek medical advice.

Notes for the doctor: Exposure does generally not possess any hazard to the health.

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.
- 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.

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.

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 fire fighting. 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 vapours.
Personal protective equipment:	Avoid inhalation of vapours 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.

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, see section 13 Disposal considerations.

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, vapours and dust generation:	The vapor and dust generation potential can be reduced by using ventilation and closed systems, good housekeeping, prevention of dust from process equipment, preventing accumulation of dust on overhead and on horizontal surfaces.
Measures to protect the environment:	See section 6.2 Environmental precautions.

7.2 Conditions for safe storage, including any incompatibilities

General conditions for safe storage:	Store in a cool (2 - 30 °C), dry place away from away from heat, sparks, open flame, or strong oxidizing agents. The storage place should be kept clean from all spills.
Specific storage requirements:	None.
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
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

Exposure - health	**DN(M)EL**	**Exposure group**	
		Workers	Others[1]
Acute exposure, inhalation, systemic effects	DNEL	3.1 mg/m^3	3.1 mg/m^3
Acute exposure, inhalation, local effects	DNEL	3,1 mg/m^3 (inhalable dust)	Not relevant
Chronic (repeated)	DNEL	1.55 mg/m^3	1.55 mg/m^3

exposure, inhalation, systemic effects			
Chronic (repeated) exposure, ingestion, systemic effects	DNEL	Not relevant	0.26 mg/kg bw/day
Chronic (repeated) exposure, skin contact, local effects	DNEL	0.5 % (w/w) in mixture	0.5 % (w/w) in mixture
Chronic (repeated) exposure, inhalation, local effects	DNEL	1.55 mg/m^3	1.55 mg/m^3
1. Others: comprise include consumers and the general population.			

8.1.2.2 PNEC

Substance: Sodium hypochlorite

Exposure - comparment	**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
1. NOT CLASSFIED. The substance does not fulfill the criteria for being classified as a hazardous substance according to CLP.	

8.1.3 MONITORING

Controls of air pollution: If more than one substance occur 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).

Control banding: Using a control banding approach in order to identify appropriate risk management measures, is only applicable for the relevant identified uses, see section 1 Identification of the substance/mixture and of the company. No specific risk assessment limitations can be given, since different models of control banding are available.

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. dust, 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	-
Colour as supplied:	Light yellow	-
Odour:	Weak chlorine	-

Odour threshold:	Not applicable	-
pH:	11 - 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	-
Vapour pressure:	No information	-
Vapour 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	-
Oxidising properties:	No oxidising properties	-
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.

Stabilisers: -

10.3 Possibility of hazardous reactions

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

Hazardous conditions: See 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:	See section 7 Handling and storage.

10.5 Incompatible materials

Specific materials:	Strong acids, alcohols, amines and metals like nickel, cobalt and copper.
Risk management measures:	See section 7 Handling and storage.

10.6 Hazardous decomposition products

Known/anticipated hazardous decomposition products:	See 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, see section 11.2.1 Toxicity data. Ingestion may cause irritation, nausea and vomiting.
Skin contact:	Based on available data, the classification criteria are not met, see section 11.2.1 Toxicity data.
Inhalation:	Based on available data, the classification criteria are not met, see section 11.2.1 Toxicity data. Inhalation of vapours may cause irritaion. Heating of the product or in case of contact with acids irritating substances 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 and possible bleaching of the skin.
Serious eye damage/irritation:	Based on available data, the classification criteria are not met. Eye contact may cause red eyes, pain, blurred vision, impaired but reversible vision.
Respiratory or skin sensitisation:	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, see section 11.2.1 Toxicity data.
Reproductive toxicity:	Based on available data, the classification criteria are not met, see section 11.2.1 Toxicity data.
Specific target organ toxicity – single exposure:	Based on available data, the classification criteria are not met, see section 11.2.1 Toxicity data.
Specific target organ toxicity – repeated exposure:	Based on available data, the classification criteria are not met, see section 11.2.1 Toxicity data.
Aspiration hazard:	Based on available data, the classification criteria are not met.

11.2 Brief summaries of the information derived from the application of Annexes VII to XI

Summary:	Information is given to each hazard class in section 11.1.1 Substance - Information on relevant hazard classes.
CMR properties cat. 1A and 1B:	Based on available data, the classification criteria are not met.

11.2.1 TOXICITY DATA

Substance: Sodium hypochlorite

Study	Exposure		Species	Results	Method	Rem
	Exp.route	Dur. time / frequency				
Acute	Oral	-	Rat	LD_{50} > 1100 mg/kg bw (chlorine)	-	-
Acute	Dermal	-	Rabbit	LD_{50} > 20000 mg/kg bw (chlorine)	-	-
Acute	Inhalation	1 hr	Rat	LC_{50} > 10.5 mg/m^3 (chlorine)	-	-
Chronic	Oral	90 d	Rat	NOAEL 50 mg/kg bw/d	-	-
Cancer	Oral	-	Rat	NOAEL 50 mg/kg bw/d	-	-
Reproduction	Oral	-	Rat	NOAEL 5 mg/kg bw/d (chlorine)	-	1
Reproduction	Oral	-	Rat	NOAEL 5.7 mg/kg bw/d (chlorine)	-	1

1. Effects on development.
2. Effects on fertility.

SECTION 12: ECOLOGICAL INFORMATION ☒

12.1 Toxicity - substance

12.1.1 TOXICITY AFTER SHORT AND LONG TERM EXPOSURE

Summary: The mixture is not expected to be dangerous for the aquatic or terrestrial environment from short-term or long-term exposure, see section 12.7.1 Ecological data.

12.1.2 IMPACT ON SEWAGE TREATMENT PLANTS

Summary: The mixture is not expected to be dangerous for wastewater treatment plants, see section 12.7.1 Ecological data.

12.2 Persistence and degradability

Biotic degradability: Expected to be rapidly degradable in the environment.

Abiotic degradability: Expected to be rapidly degradable in the environment.

12.3 Bioaccumulative potential

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

12.4 Mobility in soil

Environmental distribution: All substances in the mixture are expected to be 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 Brief summaries of the information derived from the application of Annexes VII to XI

Summary: See information in sections 12.1 – 12.4.

12.7.1 ECOLOGICAL DATA

Substance: Sodium hypochlorite

Study	Species	Results	Method	Rem
Short-term	Fish	96 hr LC_{50} 0.06 mg/l	-	1
Short-term	Fish	96 hr EC 0.032 mg/l	-	2
Short-term	Water flea (*Daphnia magna*)	48 hr EC_{50} 0.141 mg/l	-	-
Short-term	Water flea	48 hr EC_{50} 0.026 mg/l	-	1
Photolysis	-	T ½ 12 min (pH 8)	-	-
Photolysis	-	T ½ 60 min (pH 5)	-	-
1. Freshwater. 2. Marine water.				

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: 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 AUTHORISATIONS AND RESTRICTIONS ACCORDING TO REACH SECTIONS VII AND VIII

Authorisation (substance):	☐ YES	☒ NO
Authorisation No:	-	
Restriction (substance/mixture):	☐ YES	☒ NO

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

Consumer product:	☐ YES	☒ NO
Child-resistant fastening:	☐ YES	☒ NO
Tactile warning of danger:	☐ YES	☒ 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).

16.2 Abbreviations and acronyms

@:	Used instead of the word ”at”.
BCF:	**B**iocon**c**entration **F**actor. The equilibrium concentration of a chemical in a living organism, expressed as the ratio Cb/Cw (Cb = concentration in biota, Cw = concentration in water .
BW:	**B**ody **w**eight.
CAS No:	**C**hemical **A**bstracts **S**ervice number.
Cat:	Category. Subdivision of a hazard class, used in classification.
CLP:	**C**lassification, **L**abelling and **P**ackaging of chemical substances and mixtures. Short for: 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.
CMR properties:	**C**arcinogenic, **M**utagenic or toxic for **R**eproduction
Control banding:	Control banding (CB) is a technique used to guide the assessment and

	management of workplace risks. It is a generic technique that determines a control measure (for example dilution ventilation, engineering controls, containment, etc.) based on a range or "band" of hazards (such as skin/eye irritant, very toxic, carcinogenic, etc.) and exposures (small, medium, large exposure). It is an approach that is based on two pillars; the fact that there are a limited number of control approaches, and that many problems have been met and solved before.
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.
DSD:	**D**angerous **S**ubstances **D**irective. Council Directive 67/548/EEC.
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.
EC No:	The EC number, i.e. EINECS, ELINCS or NLP, is the official number of the substance within the European Union.
Einecs:	**E**uropean **In**ventory of **E**xisting Commercial **C**hemical **S**ubstances.
Elincs:	The **E**uropean **Li**st of **N**otified **C**hemical **S**ubstances.
EN 140:	Respiratory protective devices - Half masks and quarter masks - Requirements, testing, marking.
EN 143:	Respiratory protective devices - Particle filters - Requirements, testing, marking.
EN 149:	Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking.
EN 166:	Personal eye-protection – Specifications.
EN 374:	Protective gloves against chemicals and micro-organisms - Part 3: Determination of resistance to permeation by chemicals.
EN 388:	Protective gloves against mechanical risks.
ES:	**E**xposure **s**cenario.
EWC:	The **E**uropean **Waste C**atalogue. The **EWC** is a hierarchical list of **waste** descriptions established by Commission Decision 2000/532/EC.
Index No:	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008.
LOAEL:	**L**owest **O**bservable **A**dverse **E**ffect **L**evel. The lowest dose tested which gives a specific adverse effect.
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 Pow:	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).
NLP:	**N**o-**L**onger **P**olymers List.
OECD:	**O**rganisation for **E**conomic **C**o-operation and **D**evelopment. The OECD Guidelines for the Testing of Chemicals are a collection of internationally agreed test methods. They cover tests for the physical-chemical properties, human health effects and environmental effects.
PBT substance:	**P**ersistent, **b**ioaccumulative and **t**oxic substance.
pH:	pH is a measure of the acidity or basicity of an aqueous solution.
pKa:	The symbol for the acid dissociation constant at logarithmic scale.
PNEC:	**P**redicted **N**o-**E**ffect **C**oncentration.
ppm:	**p**arts **p**er **m**illion.
Reach:	**R**egistration, **E**valuation, **A**uthorisation and Restriction of **Ch**emicals. REACH is the **European** Community Regulation on **chemicals** and their safe use.
vPvB substance:	**V**ery **p**ersistent and **v**ery **b**ioaccumulative 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, Authorisation 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 CLASSIFICATION ACCORDING TO CLP [REGULATION (EC) NO 1272/2008]

Classification: The product is not classified as a dangerous substance under the current legislation for classification and labeling of dangerous chemical substances and mixtures.

16.4.2 EVALUATION METHOD USED FOR CLASSIFICATIONS ACCORDING TO ARTICLE 9 CLP

Evaluation method:

☒ 9.1 (chap 1 sect II CLP) ☐ 9.2 (other methods than art 8.3)
☒ 9.3 (expert judgement) ☐ 9.4 (bridging princples)
☐ 9.5 other methods described in part 3 and 4 annex I

16.5 Relevant R- and H-phrases

16.5.1 R PHRASES ACCORDING TO DSD (IN SECTION 3)

R31	Contact with acids liberates toxic gas.
R34	Causes burns.
R50	Very toxic for aquatic organisms

16.5.2 DANGER CODES ACCORDING TO DSD (IN SECTION 3)

Hazard class / Category of danger	Symbol letter	Danger symbol	Indication of danger
Corrosive	C		Corrosive
Dangerous for the environment	N		Dangerous for the environment

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.