

Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

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

1.1. Product identifier

Product name **STERYLTOP**
UFI : **FY10-K0ED-2008-V9Y0**

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

Intended use **Sanitizing detergent for surfaces. Professional and home use.**

Uses Advised Against

Uses other than those indicated

1.3. Details of the supplier of the safety data sheet

Name **OIKOS S.P.A. A SOCIO UNICO**
Full address **Via Cherubini 2**
District and Country **47043 Gatteo Mare (FC)**
Italia
Tel. **0547 681412**
Fax **0547 681430**

e-mail address of the competent person responsible for the Safety Data Sheet **certificazioniprodoti@oikos-group.it**

1.4. Emergency telephone number

For urgent inquiries refer to **NHS National Health Service 111**

OIKOS S.P.A. a socio unico Company emergency number: 0547 681412
Technical support - Monday to Friday from 8.00-13.00; 13:30 to 16:30

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Substance or mixture corrosive to metals, category 1	H290	May be corrosive to metals.
Hazardous to the aquatic environment, chronic toxicity, category 3	H412	Harmful to aquatic life with long lasting effects.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Warning**

Hazard statements:

SECTION 2. Hazards identification ... / >>

H290	May be corrosive to metals.
H412	Harmful to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

Precautionary statements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents / container in accordance with local regulation.

Contains: Sodium hypochlorite, active 1% Cl solution

Ingredients compliant with Regulation (EC) No. 648/2004
Less than 5% chlorine-based bleaching agents

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration \geq 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
Sodium hypochlorite		
20% - active chlorine		
<i>INDEX</i>	017-011-00-1	$1 \leq x < 2$
Met. Corr. 1 H290, Skin Corr. 1B H314, Eye Dam. 1 H318, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=1, EUH031, Classification note according to Annex VI to the CLP Regulation: B		
<i>EC</i>	231-668-3	
<i>CAS</i>	7681-52-9	
<i>REACH Reg.</i>	01-2119488154-34-0033	
Diphenyl ether		
<i>INDEX</i>		$0,00079 \leq x < 0,00174$
Eye Irrit. 2 H319, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411		
<i>EC</i>	202-981-2	
<i>CAS</i>	101-84-8	
<i>REACH Reg.</i>	01-2119472545-33-XXXX	

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove any contact lenses. Wash immediately and abundantly with water for at least 30/60 minutes, opening the eyelids well. See a doctor immediately.

SKIN: Take off contaminated clothes. Take a shower immediately. Do not use solvents. See a doctor immediately.

INGESTION: Give water to drink as much as possible. See a doctor immediately. Do not induce vomiting unless expressly authorized by the doctor.

INHALATION: Call a doctor immediately. Take the person outdoors, away from the accident site. If breathing stops, give artificial respiration.

Take adequate precautions for the rescuer.

PROTECTION MEASURES FOR FIRST AIDERS: for PPE necessary for first aid, refer to section 8.2 of this safety data sheet.

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

SECTION 4. First aid measures ... / >>

Acute effects:

Skin: irritation, burn, necrosis and perforations.

Eyes: irritation, corneal damage.

Respiratory tract: severe irritation to the respiratory tract.

Ingestion: irritation of the digestive system with sometimes blood vomiting.

Chronic effects.

Skin: dermatosis

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

Treat symptomatologically.

In the event of an accident or if you feel unwell, seek medical advice immediately (if possible show the instructions for use or the safety data sheet).

SECTION 5. Firefighting measures**5.1. Extinguishing media**

SUITABLE EXTINGUISHING MEDIA

The extinguishing media are the traditional ones: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING MEDIA

Strong jets of water.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF A FIRE

Heating can release dangerous gases.

Reacts violently with acids and is corrosive to metals developing flammable hydrogen gas.

If directly involved it can give rise to toxic fumes (chlorine). Avoid breathing combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Cool containers with jets of water to avoid product decomposition and the development of substances potentially hazardous for health.

Always wear complete fire protection equipment. Collect extinguishing water that must not be discharged into the sewers. Dispose of the contaminated water used for extinguishing and the residue of fire according to current regulations.

EQUIPMENT

Normal fire fighting clothing, such as an open circuit compressed air breathing apparatus (EN 137), flame retardant suit (EN469), flame retardant gloves (EN 659) and boots for the Fire Brigade (HO A29 or A30).

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

6.1.1 For those who do not intervene directly

Do not take any action involving any personal risk or without adequate training. Evacuate the surrounding areas. Do not touch or walk on spilled material.

Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of this Safety Data Sheet) to prevent contamination of the skin, eyes and personal clothing. Wear appropriate respirator when ventilation is inadequate.

Do not inhale the mists / vapors / gas. Avoid dispersion of the product in the environment. Follow the appropriate internal procedures provided for personnel not authorized to intervene directly in case of accidental release.

6.1.2 For those who intervene directly

Stop the leak if there is no danger.

Evacuate unauthorized personnel. Wear suitable protective equipment. (see section 8 of this Safety Data Sheet). Follow the appropriate internal procedures for authorized personnel. Isolate the danger area and deny entry. Ventilate enclosed spaces before entering.

6.2. Environmental precautions

Prevent dispersal of spilled material, runoff and contact with soil, waterways, drains, sewers and groundwater. Immediately inform the competent authorities in case of pollution in order to limit environmental damage as much as possible.

Water spray can be used to dilute the vapors.

6.3. Methods and material for containment and cleaning up

Aspirate the liquid into a suitable container and absorb the rest with inert absorbent material (clay, sand or other non-combustible material).

Introduce the collected material in clean and labeled containers. Use neutralization means and keep the pH value under control.

SECTION 6. Accidental release measures ... / >>

The equipment must be resistant to corrosion.

Provide sufficient ventilation of the place affected by the leak. The disposal of contaminated material must be carried out in accordance with the provisions of point 13.

In case of dispersion of a large quantity of product, inform the local authorities as soon as possible. After removing all the product, wash the contaminated area with plenty of water without using solvents and acid products, and retain the contaminated washing water to manage it as waste.

Do not use acid products to clean.

Cleaning products that are among the incompatible agents must not be used (ref. Section 10.5).

6.4. Reference to other sections

Any information regarding personal protection and disposal is given in sections 8 and 13.

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

Check the integrity of the packaging. Whenever possible, operate above wind.

Avoid contact with skin and eyes. Do not inhale the mists / vapors / gas. Do not eat, drink or smoke during use or handling. Wash hands after use. Avoid dispersal of the product in the environment. Handle in a suitable place with good general ventilation. Once emptied, the containers must be transferred without delay to the area identified for their collection pending disposal.

Keep away from heat, sparks and open flames, do not smoke or use matches or lighters. Avoid the accumulation of electrostatic charges.

7.2. Conditions for safe storage, including any incompatibilities

Handle the product after consulting all the other sections of this safety data sheet. Avoid dispersal of the product in the environment.

Remove contaminated clothing and protective equipment before entering areas where you eat.

Keep the packaging closed and labeled. The containers must also be protected from damage, accidental impacts and falls. Store in a well-ventilated, dry and cool place.

Protect from direct sunlight. Minimize all possible sources of loss through suitable procedural and plant engineering interventions. Keep away from food, feed or drinks. Keep only in the original container.

The arrangement of the storage area must be such as to prevent the percolation of accidental spills into the ground.

Keep containers away from any incompatible materials, checking section 10.

For the storage area, provide floors resistant to alkaline solutions.

Recommended storage temperature: <20 ° C.

7.3. Specific end use(s)

No use other than that indicated in section 1.2 of this safety data sheet.

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

Regulatory References:

EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

SECTION 8. Exposure controls/personal protection ... / >>

Sodium hypochlorite

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
TLV-ACGIH		0,1		0,4		Espresso come Cloro

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,00021	mg/l
Normal value in marine water	0,00004	mg/l
	2	
Normal value of STP microorganisms	4,69	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation					3.1	3,1	1.55	1,55
					mg/m ³	mg/m ³	mg/m ³	mg/m ³

Diphenyl ether

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
OEL	EU	7	1	14	2	

Predicted no-effect concentration - PNEC

Normal value in fresh water	455	ng/l
Normal value in marine water	45,5	ng/l
Normal value for fresh water sediment	92,6	µg/kg
Normal value for marine water sediment	9,26	µg/kg
Normal value of STP microorganisms	10	mg/l

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Chronic	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation					14	NPI	7	59
					mg/m ³		mg/m ³	mg/m ³
Skin					NPI	NPI		25
								mg/kg
								bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
 VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

The general practice of hygiene at work involves certain measures (for example, showering and changing clothes at the end of the work shift) in order to avoid any type of third party contamination and appropriate cleaning practices (i.e. regular cleaning with suitable cleaning devices), do not eat and smoke in the workplace.

In general, inhalation and ingestion must be avoided. Unless stated otherwise, certified work shoes and clothing must be worn.

Contaminated work clothing should not be taken out of the workplace.

Ensure good general ventilation in the place of and effective local suction or other technical equipment in order to keep the levels in the air below the exposure limit values.

In the absence of adequate ventilation, indicator devices and automatic warning devices must be installed to signal the achievement of concentrations or dangerous conditions.

Where this is not possible, frequent checks and measurements should be performed.

For the choice of personal protective equipment, if necessary ask for advice from your PPE suppliers.

The individual protection devices must bear the CE marking which certifies their compliance with the standards in force.

Provide emergency shower with visocular tray.

Exposure levels should be kept as low as possible to avoid significant build-up in the body.

Manage personal protective equipment in such a way as to ensure maximum protection (e.g. reduction of replacement times).

If the product may or must come into contact or react with acids, suitable technical and/or organisational measures should be taken to prevent the development of toxic and/or inflammable gases.

HAND PROTECTION

Protect your hands with work gloves, category III (ref. standard EN 374).

Main recommended materials: PVC, latex, nitrile rubber.

Protection class: 6 (breakthrough time greater than 480 minutes).

When identifying the relevant material and the relative thickness to be used, it is highly recommended to contact the PPE manufacturer

SECTION 8. Exposure controls/personal protection ... / >>

directly to evaluate the effective protection with regard to the specific characteristics of the same on the basis of use and duration of use. The following must be considered: compatibility, degradation, breaking time and permeation. In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it cannot be foreseen. The gloves have a wear time that depends on the duration and mode of use.

Thermal hazards: Wear heat resistant gloves in case of thermal hazards.

PROTECTION OF THE SKIN

Wear category III professional long-sleeved overalls and safety footwear (ref. Directive 89/686 / EEC and standard EN ISO 20344). Wash with soap and water after removing protective clothing.

EYE PROTECTION

Wear hood visor or protective visor combined with airtight goggles (ref. Standard EN 166).

RESPIRATORY PROTECTION

Wear a mask with type B filter (inorganic gases and vapors) whose class (1, 2 or 3) must be chosen in relation to the limit concentration of use. (ref. EN 14387 standard). If gases or vapors of a different nature and / or gases or vapors with particles (aerosols, fumes, mists, etc.) are present, combined filters must be provided.

The use of respiratory protection means is necessary if the technical measures adopted are not sufficient to limit the worker exposure to the threshold values taken into consideration. The protection offered by the masks is however limited.

In case the substance considered is odorless or its olfactory threshold is higher than the relative TLV-TWA and in case of emergency, wear an open circuit compressed air breathing apparatus (ref. Standard EN 137) or a plug-in respirator outdoor air (ref. standard EN 138). For the correct choice of the respiratory protection device, refer to EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

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

Properties	Value	Information
Appearance	liquid	
Colour	transparent	
Odour	scented	
Odour threshold	3.2 ppm	Remark: v / v (referred to chlorine Cl ₂)
Melting point / freezing point	not available	
Initial boiling point	> 100 °C	
Flammability	not applicable based on physical state	
Lower explosive limit	not available	
Upper explosive limit	not available	
Flash point	not available	
Auto-ignition temperature	not available	Remark: The substances contained are not subject to self-ignition
Decomposition temperature	> 35 °C °C	Remark: At temperatures > 35 °C, sodium hypochlorite begins to release Chlorine
pH	11,4	
Kinematic viscosity	not available	
Solubility	soluble in water	
Partition coefficient: n-octanol/water	log Pow: -3.42 (dato riferito all'ipoclorito di sodio)	
Vapour pressure	20 hPa	
Density and/or relative density	1	
Relative vapour density	not available	
Particle characteristics	not applicable	

Not applicable it means that is not useful for the determination of hazard.

9.2. Other information**9.2.1. Information with regard to physical hazard classes**

Information not available

SECTION 9. Physical and chemical properties ... / >>

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU)	0,93 % - 9,32	g/litre
Explosive properties	Not explosive. None of the substances contained have functional groups associated with explosive properties	
Oxidising properties	Non oxidizing. None of the substances contained have functional groups associated with oxidizing properties	

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

Contact with metals develops flammable hydrogen gas. Contact with strong acids can cause violent reactions and explosions. Potential danger for exothermic reactions. Corrosive power towards metals.

10.2. Chemical stability

Stable under normal conditions of use and storage (at room temperature).

10.3. Possibility of hazardous reactions

Contact with strong acids releases chlorine and chlorine dioxide gas. It releases hydrogen in reaction with metals. Sodium hypochlorite decomposes on heating, in contact with acids and if exposed to light producing toxic and corrosive gases containing chlorine.

10.4. Conditions to avoid

Protect from light.
Avoid exposing the product to high temperatures. Avoid moisture.

10.5. Incompatible materials

Keep separate from flammable and reducing substances, acids, strong acids, metals, food and feedstuffs.

10.6. Hazardous decomposition products

Decomposes on heating, developing toxic fumes containing sodium oxide, Chlorine. Sodium chlorate. Hypochlorous acid. Oxygen.

SECTION 11. Toxicological information**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**Metabolism, toxicokinetics, mechanism of action and other information

Sodium hypochlorite is absorbed orally, skin and inhalation.

Information on likely routes of exposure**SODIUM HYPOCHLORITE**

The main potential routes of exposure are inhalation, skin contact and ingestion.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**SODIUM HYPOCHLORITE**

Toxic effects in humans depend on the concentration of the solution. High concentrations are dangerous while the dilutions usually used do not involve risks.

The main manifestations are related to the corrosive nature of concentrated forms.

The ingestion of modest quantities of dilutions normally used determines only mild digestive disorders.

On the contrary, concentrated solutions cause severe irritation of the digestive system with vomiting, sometimes blood. Necrosis and perforation can occur. These effects can be accompanied by shock and hemolysis. There is an important hypernatremia, sometimes the cause of death.

Prolonged use of the substance can cause dermatosis.

Interactive effects

SECTION 11. Toxicological information ... / >>**SODIUM HYPOCHLORITE**

Important are the dangers in case of mixtures with acid products. In these cases there is release of chlorine which can cause severe bronchial irritation and acute pulmonary edema, sometimes delayed.

Likewise mixtures with ammonia, which cause the formation of chloramine, are irritating to the respiratory tract (INRS, 2006).

ACUTE TOXICITY

ATE (Inhalation) of the mixture: Not classified (no significant component)
ATE (Oral) of the mixture: Not classified (no significant component)
ATE (Dermal) of the mixture: Not classified (no significant component)

Sodium hypochlorite
LD50 (Dermal): > 2000 mg/kg Coniglio (Albino; maschio/femmina)
LD50 (Oral): 1100 mg/kg Ratto (Wistar, maschio)
LC50 (Inhalation vapours): > 10,5 mg/l/1h Ratto (Albino, maschio)

SODIUM HYPOCHLORITE

Method: equivalent or similar to OECD 401

Reliability (Klimisch score): 2

Species: Rat (Wistar; male)

Routes of exposure: oral

Results: LD50 = 1100 mg / kg (12.5% Cl solution)

Method: equivalent or similar to OECD 403

Reliability (Klimisch score): 2

Species: Rat (Albino; male)

Routes of exposure: inhalation (vapors)

Results: LD50 > 10.5 mg / L / 1h

Method: equivalent or similar to OECD 402

Reliability (Klimisch score): 2

Species: Rabbit (Albino; male / female)

Routes of exposure: cutaneous

Results: LD50 > 2000 mg / kg

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

In contact with the skin, concentrated solutions can cause severe burns.

Sodium hypochlorite is corrosive to rabbit skin (3.5% solution 15-30 min.); at a concentration of 20% the severity of the irritation is a function of the applied dose (INRS, 2006).

Causes severe skin burns (Harmonized classification, Annex VI, CLP Regulation).

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

In contact with the eye, concentrated solutions can cause severe burns with important sequelae.

In rabbits, eye corrosivity depends on the dose applied. A 0.5% solution causes a reversible irritation in 24 hours; a 5% solution causes immediate pain; if the eye is washed within 30 seconds, the lesion (slight transient opacification of the cornea and edema of the conjunctiva) is reversible within 24 hours, on the contrary, without washing, reversibility occurs after more than a week; an identical dose applied to a monkey's eye causes a more rapidly reversible injury (INRS, 2006).

Causes serious eye damage (Harmonized classification, Annex VI, Reg. CLP).

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

Method: equivalent or similar to OECD 406

Reliability (Klimisch score): 2

Species: guinea pig (Dunkin-Hartley; male / female)

Routes of exposure: cutaneous

Results: non sensitizing for the skin (aqueous solution at 40% v / v).

SECTION 11. Toxicological information ... / >>GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

Method: OECD 471 - In vitro test

Reliability (Klimisch score): 1

Species: bacteria (Salmonella typhimurium: TA98, TA100, TA102)

Results: Negative test

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

Based on the available data, the substance has no carcinogenic effects and is not classified under the relevant CLP hazard class.

The International Agency for Research on Cancer (IARC) allocates hypochlorite salts in group 3 (not classifiable as a human carcinogen), based on the absence of data in humans and evidence of inadequate carcinogenicity in laboratory animals (IARC, 1991).

Two-year studies with chlorinated drinking water were conducted in F344 / N rats and B6C3F1 male and female mice. There is "no evidence of carcinogenic activity" in male rats and "doubtful evidence of carcinogenic activity" in female rats based on the increased incidence of mononuclear cell leukemias. In conclusion, there is "no evidence of carcinogenic activity" in mice (NTP, 1992).

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Harmful effects on sexual function and fertility

SODIUM HYPOCHLORITE

Method: Equivalent or similar to OECD Guideline 415

Reliability (Klimisch score): 1

Species: Long-Evans rat, male / female

Routes of exposure: Oral

Results: No adverse effects observed

NO (A) EL

Male Parent ≥ 5.0 mg / kg bw / day

Female parent ≥ 5.0 mg / kg bw / day

F1 male ≥ 5.0 mg / kg bw / day

F1 female ≥ 5.0 mg / kg bw / day

Harmful effects on the development of offspring

SODIUM HYPOCHLORITE

Method: Equivalent or similar to OECD Guideline 414

Reliability (Klimisch score): 1

Species: Sprague-Dawley maschio rat / female

Routes of exposure: oral

Results: NOAEL (teratogenesis): $> = 5.7$ mg / kg bw / day

Adverse effects on sexual function and fertilityAdverse effects on development of the offspringSTOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

SODIUM HYPOCHLORITE

Sodium hypochlorite aerosols can be irritating to the respiratory tract (EU, 2007).

In humans, toxic effects depend on the concentration of the solution. High concentrations are dangerous while the dilutions usually used do not involve risks.

The main manifestations are related to the corrosive nature of concentrated forms.

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

SECTION 11. Toxicological information ... / >>**SODIUM HYPOCHLORITE**

Prolonged use of the substance can cause dermatosis (INRS, 2006).

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

No data are available on aspiration hazard.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

This product is dangerous for the environment and the aquatic organisms. In the long term, it have negative effects on aquatic environment.

12.1. Toxicity

Sodium hypochlorite	
LC50 - for Fish	0,032 mg/l/96h Oncorhynchus kisutch, Thatcher (1978)
EC50 - for Crustacea	0,165 mg/l/48h Daphnia magna (OECD TG 2002)
Chronic NOEC for Fish	0,04 mg/l/28d Menidia peninsulae (pubblicazione, nessuna linea guida seguita)
Chronic NOEC for Crustacea	0,007 mg/l/14d Specie differenti (Liden et al., 1980)
Chronic NOEC for Algae / Aquatic Plants	0,02 mg/l/96h Myriophyllum spicatum (Water Res. 18(8), 1037-1043)
Diphenyl ether	
LC50 - for Fish	4,2 mg/l
EC50 - for Crustacea	1,96 mg/l
EC50 - for Algae / Aquatic Plants	> 304 µg/l 304-580

12.2. Persistence and degradability**SODIUM HYPOCHLORITE**

No dispersion is expected in the atmosphere since the hypochlorite solutions are not volatile. However, when hypochlorite is accidentally mixed with acids it can release chlorine. No data are available on the effects of hypochlorite in atmospheric pity (EU, 2009).

Degradability: the study is not applicable as the substance is inorganic.

12.3. Bioaccumulative potential

Sodium hypochlorite	
Partition coefficient: n-octanol/water	-3,42 a 20°C (KOWWIN v1.67.)

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage \geq than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

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

Reuse if possible. Product residues are to be considered special hazardous waste. The hazardous nature of the waste which partially contains this product must be assessed on the basis of the laws in force. (Ref. Annex D - Part IV of Legislative Decree no. 152/2006 and subsequent amendments and adjustments).

Disposal must be entrusted to a company authorized to manage waste, in compliance with national and possibly local regulations.

The legal responsibility for disposal lies with the producer / holder of the waste.

CER (European Waste Code) codes may be applied to this product according to the specific circumstances that generated the waste, any alterations and contaminations.

The product as it is, out of specification in the original packaging, or transferred to a suitable container for disposal as waste, or the product in specific but no longer usable (for example following an accidental spill), is to be classified with a code CER compatible with the description of use indicated in section 1.2.

The appropriate final destination of the waste will be assessed by the manufacturer according to the chemical-physical characteristics of the waste itself compatible with the authorized plant to which it will be conferred for recovery, treatment or final disposal in the manner prescribed by current regulations.

Disposal through wastewater discharge is not permitted.

CONTAMINATED PACKAGING

Contaminated packaging must be sent, properly labeled, for recovery or disposal in compliance with national waste management regulations and is to be classified with the following EWC code: 15 01 10 *: packaging containing residues of dangerous substances or contaminated by these substances.

SECTION 14. Transport information**14.1. UN number or ID number**

ADR / RID, IMDG, IATA: 3266

14.2. UN proper shipping name

ADR / RID: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hypochlorite)

IMDG: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hypochlorite)

IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Sodium hypochlorite)

14.3. Transport hazard class(es)

ADR / RID: Class: 8 Label: 8



IMDG: Class: 8 Label: 8



IATA: Class: 8 Label: 8

**14.4. Packing group**

ADR / RID, IMDG, IATA: II

SECTION 14. Transport information ... / >>**14.5. Environmental hazards**

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 L	Tunnel restriction code: (E)
	Special provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Pass.:	Maximum quantity: 1 L	Packaging instructions: 851
	Special provision:	A3, A803	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**Seveso Category - Directive 2012/18/EU: 41Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006Product

Point 3 - 40

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicableSubstances in Candidate List (Art. 59 REACH)On the basis of available data, the product does not contain any SVHC in percentage \geq than 0,1%.Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Information not available

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the following contained substances

Sodium hypochlorite

Diphenyl ether

SECTION 16. Other information

Training for workers:

The training of workers must include contents, updates and duration according to the risk profiles assigned to the working sectors to which they belong, according to the procedures provided for by Legislative Decree 81/2008.

Classification and procedure used to derive it according to Regulation (EC) 1272/2008 (CLP) in relation to mixtures:

Classification according to Regulation (EC) n. 1272/2008 Classification procedure
Corrosive substance or mixture for metals, category 1 H290 Expert judgment
Skin corrosion, category 1B H314 Calculation method
Serious eye damage, category 1 H318 Calculation method
Hazardous to the aquatic environment, acute toxicity, category 1 H400 Calculation method
Hazardous to the aquatic environment, chronic toxicity, category 2 H411 Calculation method

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Skin Corr. 1B	Skin corrosion, category 1B
Eye Irrit. 2	Eye irritation, category 2
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH031	Contact with acids liberates toxic gas.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament

SECTION 16. Other information ... / >>

2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 09 / 11 / 12 / 15 / 16.