SAFETY DATA SHEET

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

1.1. **Product identifier:**
Sodium hypochlorite 150 g/l

Commercial name: Sodium hypochlorite solution 150 g/l

Alternative name: Aquahip Strong
Packaging units: cans and carboys of 1, 5, 25 and 50 litres, vehicular IBC tanks of 1 m^3

1.2. **Relevant identified uses of the substance or mixture and uses advised against:**
Disinfectant for applications including the followings:
swimming pool water and spa water, drinking water and wastewater and other waters,
in laundries, textile factories and wood processing,
air conditioners, walls, floors in private, public and industrial areas and other areas for professional activities,
tools and surfaces (equipment, containers, vessels, floors, other surfaces or pipelines) used in in slaughterhouses, dairies, beverage industry, kitchens, near food and animal feed,
disinfection of hospital waste and soil,
and general cleaning and bleaching agent, oxidizing agent.

Uses advised against: do not mix with other detergents, especially not with acids.

Biocidal product types: 2, 4, 5, 11.
Use in all product types: industrial and professional use.

Authorization numbers:
Surface disinfectants: 45456-3/2018/KJFFO
Water disinfectants: OTH 2242-4/2010

1.3. **Details of the supplier of the safety data sheet:**

Information about the manufacturer/distributor:
Vinyl Kft.
3524 Miskolc, Adler Károly u. 19.
Head office: 1097 Budapest, Illatos u. 19-23.
Tel.: +36 46 432 633

1.3.1. Responsible person: -
E-mail: ehsq@vinyl.hu

1.4. **Emergency telephone number:** *Please fill in*

SECTION 2: HAZARDS IDENTIFICATION

2.1. **Classification of the substance or mixture:**

Classification according to Regulation 1272/2008/EC (CLP):
Corrosive to metals, Hazard Category 1 – H290
Skin corrosion/irritation, Hazard Category 1B – H314
Serious eye damage/eye irritation, Hazard Category 1 – H318
Specific target organ toxicity – Single exposure, Hazard Category 3, Respiratory tract irritation – H335
Hazardous to the aquatic environment – Acute Hazard, Category 1 – H400
Hazardous to the aquatic environment – Chronic Hazard, Category 2 – H411

Hazard statements:
H290 – May be corrosive to metals.
H314 – Causes severe skin burns and eye damage.
H318 – Causes serious eye damage.
H335 – May cause respiratory irritation.
H400 – Very toxic to aquatic life.
H411 – Toxic to aquatic life with long lasting effects.

2.2. **Label elements:**

Components that define the hazards: Sodium hypochlorite
Active ingredient: Active chlorine released from sodium hypochlorite (CAS: 7681-52-9) 12-13 %

Hazard statements:
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.
H411 – Toxic to aquatic life with long lasting effects.

EUH 031 – Contact with acids liberates toxic gas.
EUH 206 – Warning! Do not use together with other products. May release dangerous gases (chlorine).

Precautionary statements:
P101 – If medical advice is needed, have product container or label at hand.
P102 – Keep out of reach of children.
P260 – Do not breathe vapours/spray.
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.
P310 – Immediately call a POISON CENTER or a doctor.
P390 – Absorb spillage to prevent material damage.
P403 + **P233** – Store in a well-ventilated place. Keep container tightly closed.
P501 – Dispose of contents/container in accordance with local regulations.

2.3. **Other hazards:**

The product has no other known specific hazards for human or environment.
Results of the PBT and vPvB assessment: The mixture does not contain persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) substances in concentrations ≥ 0.1 % in accordance with Annex XIII of Regulation (EC) No 1907/2006.
Endocrine disrupting property: The mixture does not contain substances classified as endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 in concentrations ≥ 0.1 %.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. **Substances:**

Not applicable.

3.2. **Mixtures:**

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
Sodium hypochlorite Index number: 017-011-00-1	7681-52-9	231-668-3	01-2119488154-34-0063	*	GHS05 GHS09 Danger	Skin Corr. 1B Eye Dam. 1 Aquatic Acute 1 M factor = 10 Aquatic Chronic 1 M factor = 1	H314 H318 H400 H410 EUH031
Sodium hydroxide Index number: 011-002-00-6	1310-73-2	215-185-5	-	< 1	GHS05 Danger	Skin Corr. 1A	H314

*: 12-13 % active chlorine, min 150 g/l

Specific concentration limits:
Sodium hypochlorite (CAS: 7681-52-9):
EUH031: C ≥ 5 %

Sodium hydroxide (CAS: 1310-73-2):
Skin Corr. 1A; H314: C ≥ 5 %
Skin Corr. 1B; H314: 2 % ≤ C < 5 %
Skin Irrit. 2; H315: 0.5 % ≤ C < 2 %
Eye Irrit. 2; H319: 0.5 % ≤ C < 2 %

It does not contain any other substance considered to be hazardous to health or to the environment, which is classified as a PBT or vPvB substance, which has a workplace exposure limit value, which is identified as an endocrine disruptor, which is listed on the SVHC candidate list or its concentration does not reach the level specified in the relevant legislation and therefore it does not need to be included in the safety data sheet.

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. **Description of first aid measures:**

INGESTION:

Measures:

- Rinse mouth with water.
- Give the victim 2-4 glasses of water or milk.
- Immediately call a physician.
- Do not induce vomiting.

INHALATION:

Measures:

- Take the victim into fresh air.
- Apply artificial respiration, if necessary.
- Immediately call a physician.

SKIN CONTACT:

Measures:

- Remove the contaminated clothes.
- Wash the skin with plenty of flowing water and soap.
- Obtain medical attention.

EYE CONTACT:

Measures:

- In case of contact with eyes flush with water holding eyelids apart and moving the eyeballs (for at least 15 minutes).
- Obtain immediate medical attention.

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

Severely irritates the airways; coughing, sneezing, runny nose, possibly breathing difficulties, burns on the mucous membrane and in the respiratory organs.
Local irritant effect, redness of the skin, burns.
Severely irritates the conjunctiva of the eye, causes redness and burns.
Unwellness, nausea, vomiting, diarrhoea, mental confusion, shock, coma, burns in the mouth, in the oesophagus and in the digestive tract. In serious cases, may cause death.

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

See section 4.1. Periodic medical examination is recommended depending on the degree of exposure.

SECTION 5: FIREFIGHTING MEASURES

5.1. **Extinguishing media:**

5.1.1. **Suitable extinguishing media:**

Water jet.
Choose extinguishing media depending on surrounding fire.

5.1.2. **Unsuitable extinguishing media:**

No unsuitable extinguishing media known.

5.2. **Special hazards arising from the substance or mixture:**

Non-flammable.
Strong corrosive and oxidizing effect. Chlorine gas may be released.
In case of fire, smoke and other combustion products may be formed; the inhalation of such combustion products can have serious adverse effects on health.

5.3. **Advice for firefighters:**

Closed protective clothing, compressed-air respiratory apparatus.
The product is an oxidizing agent. In case of heating, product releases oxygen which is capable of sustaining combustion. Materials contaminated with the product catch on fire and burn more easily after drying. The more concentrated the solution, the higher its danger as an oxidizing agent. Containers of the product exposed to fire should be cooled with water. Take action from safe distance due to the potential of the containers to burst.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. **Personal precautions, protective equipment and emergency procedures:**

6.1.1. **For non-emergency personnel:**

Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.

6.1.2. **For emergency responders:**

Prevent further leakage, if this can be done safely.
Keep away from incompatible materials.
Take persons to safety and keep them away from leakage.
Wear appropriate personal protective equipment.
Provide adequate ventilation.

6.2. **Environmental precautions:**

Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.

6.3. **Methods and material for containment and cleaning up:**

Prevent the spread of the product with dikes, cover with inert absorbent material (e.g. dry earth or sand) and collect into closed containers. Clean-up procedure should only be directed by trained personnel. Notify the fire brigade and the local authorities if large quantities have been released.
Transport the collected material in closed containers to a safe landfill for disposal. Store in adequately labelled, closed containers until proper disposal.
Treat recovered product as described in Section 13.
Small spilled quantities can be degraded by reducing agents (e.g. sodium thiosulphate, sodium metabisulphite or iron(II) salts). In order to accelerate the reaction, diluted (2M) sulfphur acid can be added. Pour the reaction mixture into large quantities of water and neutralize with soda. Transport the collected product into a suitable chemical incinerator. Afterwards, wash the area of the spillage with large quantities of water.
Contact with acids liberates toxic gas.

6.4. **Reference to other sections:**

For further and detailed information see section 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. **Precautions for safe handling:**

Observe conventional hygiene precautions.
Immediately collect and dispose of spilled product.
Avoid direct contact with the product.
Avoid the inhalation of the released spray, aerosol, vapours or gases.
Keep protective equipment at hand for the case of fire.
Keep container closed when not in use.
Empty container may contain product residues, which can be dangerous.
Decontaminate containers, funnels and other handling tools.
Product has a corrosive effect; contact with acids liberates chlorine gas.
Dangerous for the environment.
Do not eat, drink or smoke during work.
Immediately remove contaminated clothes.
Wash thoroughly before breaks and after work.
Provide safety showers and eye-washing facilities on the workplace.

Technical measures:

Provide adequate ventilation.

Precautions against fire and explosion:

No special measures required.

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

Technical measures and storage condition:
Store product in the original, closed and adequately labelled container.
The place of storage has to be properly ventilated.
Store in a dry place, on temperatures between 15 and 25 °C, at room temperature.
Protect from direct sun radiation and light.
Keep away from heat, sources of ignition, foodstuff and animal feed.
Prevent the access of unauthorized persons. Provide adequate signs and notices. Solutions containing more than 10 % active chlorine may slowly release oxygen upon storage, especially in warm conditions (above 18 °C). Ventilation systems should prevent pressure increase which could cause the burst of containers. It is PROHIBITED to discharge the product, its residues or its empty container into natural waters. Keep away from incompatible materials.
Incompatible materials: combustible, flammable materials, reducing agents, strong acids, nitrogen compounds, copper, nickel, cobalt.
Packaging material: no special prescriptions. May be corrosive to metals.

7.3. **Specific end use(s):**
See Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Occupational exposure limit values (Commission Directive (EC) No 2000/39 of 8 June 2000):
The components of the mixture are not regulated with exposure limit value.

Sodium hypochlorite (CAS: 7681-52-9):

DNEL values for workers:
Acute/short-term exposure – systemic effects (inhalation) DNEL: 3.1 mg/m³
Acute/short-term exposure – local effects (inhalation) DNEL: 3.1 mg/m³
Long-term exposure – systemic effects (inhalation) DNEL: 1.55 mg/m³
Long-term exposure – local effects (inhalation) DNEL: 1.55 mg/m³
Long-term exposure – local effects (dermal) DNEL: 0.5 %

DNEL values for consumers:
Acute/short-term exposure – systemic effects (inhalation) DNEL: 3.1 mg/m³
Acute/short-term exposure – local effects (inhalation) DNEL: 3.1 mg/m³
Long-term exposure (oral) DNEL: 0.26 mg/kg bw/day
Long-term exposure – systemic effects (inhalation) DNEL: 1.55 mg/m³
Long-term exposure – local effects (inhalation) DNEL: 1.55 mg/m³
Long-term exposure – local effects (dermal) DNEL: 0.5 %

PNEC values:
Water (fresh water): 0.21 µg/l
Water (marine water): 0.042 µg/l
Water (intermittent release): 0.26 µg/l
STP: 0.03 µg/l
Oral: 11.1 mg/kg nourishment
Sediment (marine water): no exposure in sediment.
Soil: no exposure in soil.

8.2. **Exposure controls:**
In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. **Appropriate engineering controls:**
In pursuance of work is proper foresight needed to avoid spilling onto clothes and floors and to avoid contact with eyes and skin.
Provide adequate ventilation.
Provide safety showers and eye-washing facilities on the workplace.

8.2.2. **Individual protection measures, such as personal protective equipment:**
The information regarding personal protective equipment is only for informative purposes. A complete risk assessment is required before the use of the product for the determination of the appropriate personal protective equipment, taking local circumstances into account.

1. **Eye/face protection:** use appropriate, chemical-resistant protective glasses with side protection, or use face protection (EN ISO 16321-1:2022; EN 166).
2. **Skin protection:**
    a. **Hand protection:** use appropriate protective gloves (EN 374). Protective gloves coated in PVC, PVC protective gloves, 1.2 mm thick.
    b. **Other:** use appropriate protective clothing. Closed protective clothing/shoes or other, chemical-resistant protection.
3. **Respiratory protection:** use appropriate respiratory protective device, if necessary (gas mask equipped with filter type B2P3).
4. **Thermal hazards:** no thermal hazards known.

8.2.3. **Environmental exposure controls:**
Perform environmental risk assessment.
The requirements detailed in section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Information on basic physical and chemical properties:**

	Parameter	Value / Test method / Remarks
1.	Physical state	liquid
2.	Colour	greenish yellow
3.	Odour, odour threshold	clear, chlorine odour
4.	Melting point/freezing point	no data*
5.	Boiling point or initial boiling point and boiling range	27 °C, other data: 40 °C (degrades)
6.	Flammability	no data*
7.	Lower and upper explosion limit	no data*
8.	Flash point	no data*
9.	Auto-ignition temperature	no data*
10.	Decomposition temperature	from 27-40 °C
11.	pH	> 10
12.	Kinematic viscosity	no data*
13.	Solubility in water in other solvents	completely miscible with water no data*
14.	Partition coefficient n-octanol/water (log value)	log Pow: -3.42
15.	Vapour pressure	no data*
16.	Density and/or relative density	1.22 (20 °C)
17.	Relative vapour density	no data*
18.	Particle characteristics	no data*

9.2. **Other information:**

9.2.1. **Information with regard to physical hazard classes:**
No further data available or not applicable for the product.

9.2.2. **Other safety characteristics:**
Residual lye content: 0.83 %
Chlorine content: 12.46 weight %
NaOCl content: 13.08 weight %

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. **Reactivity:**
Oxidizing properties; reacts violently with combustible and reducing materials causing fire and explosion hazard. The aqueous solution is a strong base, reacts violently with acids and has a corrosive effect. Attacks metals.

10.2. **Chemical stability:**
Solutions containing more than 10 % active chlorine may slowly release oxygen upon storage, especially in warm conditions (above 18 °C). The stability of the solution decreases with time; degradation is slower on the effect of heat or light or in the presence of contaminants (iron, nickel, copper, cobalt, aluminium, manganese residues). Hazardous reactions may occur.

10.3. **Possibility of hazardous reactions:**
May be corrosive to metals.

10.4. **Conditions to avoid:**
Acidic materials, especially hydrochloric acid, the effects of heat. Keep temperatures between 15 and 25 °C.

10.5. **Incompatible materials:**
Foodstuffs, animal feed, strong acids (degrades violently while releasing chlorine), degrades in the presence of flammable materials, compounds containing nitrogen, certain metals (copper, nickel, cobalt) while oxygen is produced.

10.6. **Hazardous decomposition products:**
Chlorine gas, hypochlorous acid, sodium chlorate.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. **Information on hazard classes as defined in Regulation (EC) No 1272/2008:**
Acute toxicity: Based on available data, the classification criteria are not met.
Skin corrosion/irritation: Causes severe skin burns and eye damage.
Serious eye damage/irritation: Causes serious eye damage.
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.
Reproductive toxicity: Based on available data, the classification criteria are not met.
STOT-single exposure: May cause respiratory irritation.
STOT-repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Based on available data, the classification criteria are not met.

11.1.1. **Summaries of the information derived from the test conducted:**
No data available.

11.1.2. **Relevant toxicological properties:**
Acute toxicity:
LD_{50} (oral, rat): 1100 mg/kg (sodium hypochlorite available as chlorine)
LD_{50} (oral, mouse): 5800 mg/kg
LD_{50} (dermal, rabbit): > 20000 mg/kg
LC_{50} (inhalative, rat): > 10.5 mg/l air/1h

11.1.3. **Information on likely routes of exposure:**
Ingestion, inhalation, skin contact, eye contact.

11.1.4. **Symptoms related to the physical, chemical and toxicological characteristics:**
In case of ingestion, irritation of the mouth, throat and stomach, pain, mental confusion, vomiting, shock, coma and death. Perforation of the oesophagus and the stomach is frequent. Allergic contact dermatitis. Respiratory sensitisation may occur. The ingestion of one glass of water containing NaOCl will cause wheezing. After drinking distilled water, the asthmatic symptoms ceased.
Liquid and mist causes irritation or burns. 5.25 % is slightly irritating for rabbits and guinea pigs.
Liquid and mist can cause serious damage if it is not rinsed out of the eye immediately. 5 % solution irritates the cornea, the iris and the conjunctiva by rabbits and monkeys.
In the presence of acids or on heating, chlorine gas is released, which can cause serious respiratory irritation and lung damage. Tests carried out on volunteers have shown, that sodium hypochlorite above a concentration of 0.5 ppm has and irritant effect on the airways.

11.1.5. **Delayed and immediate effects as well as chronic effects from short and long-term exposure:**
Causes severe skin burns and eye damage.
May cause respiratory irritation.

11.1.6. **Interactive effects:**
No data available.

11.1.7. **Absence of specific data:**
No information.

11.2. **Information on other hazards:**

Endocrine disrupting properties:

Endocrine disrupting property: The mixture does not contain substances classified as endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 in concentrations ≥ 0.1 %.

Other information:

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. **Toxicity:**

Short-term (acute) aquatic toxicity: Very toxic to aquatic life.
Long-term (chronic) aquatic toxicity: Toxic to aquatic life with long lasting effects.
Data referring to sodium hypochlorite:
Sodium hypochlorite is unstable in aqueous solution.
Aquatic Acute 1
LC_{50} (Daphnia magna, acute toxicity, fresh water): 0.141 mg active chlorine/l/48h

Acute toxicity to fish:

LC_{50} (fresh water fish): 0.06 mg/l
LC_{50} (marine water fish): 0.032 mg/l

Chronic toxicity to fish:

NOEC (marine water fish): 0.04 mg/l

Acute toxicity to aquatic invertebrates:

EC_{50} (Daphnia magna, fresh water): 0.141 mg/l/48h
EC_{50} (Crassostrea virginica, marine water): 0.026 mg/l/48h
NOEC (marine water invertebrates): 0.007 mg/l

Toxicity to algae and cyanobacteria:

For calculating PNEC (aquatic) values for fresh and marine water, NOEC 0.0021 mg FAC/l value is used during risk assessment, with is based on a laboratory micro-cosmos study.

Toxicity to fresh water plants except algae:

The examination of a fresh water pot plant (Myriophyllum spicatum) showed the increase of NOEC (during a 4-day exposure) = 0.02 mg/l. 50 % growth inhibition occurs in a 0.1-0.4 mg TRC/l range.

Toxicity to microorganisms:

Respiratory inhibition in activated sludge started with the addition of 0.37 mg/l Cl2 and reached 100 % with the addition of 37 mg/l Cl2. EC_{50} value was determined to be 3 mg/l Cl2.

Sediment toxicity:

Data waiving. Hypochlorite degrades quickly on contact with soil; DT50 is < 1 minute, so its long-term effects are unexpected, therefore, no long-term toxicity tests are necessary related to the sediment organisms. Furthermore, in accordance with column 2, Annex X of REACH regulation, no long-term toxicity tests are necessary related to the sediment organisms, because the results of the chemical safety assessment do not justify the further examination of the substance or the relating decomposition products related to the sediment organisms.

12.2. **Persistence and degradability:**

Not persistent. Degradation: hypochlorite is a highly reactive compound, which reacts quickly with organic materials present in the soil or in the sewage system. In water there is an equilibrium state between hypochlorous acid and hypochlorite at ambient pH. Inorganic materials cannot be examined regarding ready biodegradability.

12.3. **Bioaccumulation potential:**

No data available.

12.4. **Mobility in soil:**

No data available.

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

The mixture does not contain persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) substances in concentrations ≥ 0.1 % in accordance with Annex XIII of Regulation (EC) No 1907/2006.

12.6. **Endocrine disrupting properties:**

Endocrine disrupting property: The mixture does not contain substances classified as endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 in concentrations ≥ 0.1 %.

12.7. **Other adverse effects:**
Phototransformation in air: Half-life in air: 115 days
Phototransformation on land: no available data.
(Sun) light-sensitivity of sodium hypochlorite is high; under actual ambient conditions, half-life is 12 minutes at pH 8 and 60 minutes at pH 5 (HOCl).
Adsorption / Desorption: not applicable.
Ozone depleting potential: As hypochlorous acid contains carbon-carbon double chemical bond or acetylene triple chemical bond, a reaction with ozone is not expected.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. **Waste treatment methods:**
Disposal according to the local regulations.

13.1.1. **Information regarding the disposal of the product:**
Observe all prescriptions of applicable laws and regulations regarding waste. Residues of sodium hypochlorite as well as rinsing water containing sodium hypochlorite should not be discharged into sewage system or water courses or near rivers. Collect spilled sodium hypochlorite into non-ferrous container; absorb small quantities of liquid with appropriate material (vapes, slag, sand, saw dust), place into non-ferrous container together with the contaminated soil and transport for disposal. Prevent any contact with metals and acidic materials. Evaporated sodium hypochlorite must in no case be neutralized. Smaller quantities can be neutralizes with sodium sulphate or hydrogen peroxide.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

13.1.2. **Information regarding the disposal of the packaging:**
Dispose of in accordance with applicable regulations.
Empty packaging can be refilled after a complete emptying. Send containers used for the transport of sodium hypochlorite back to the manufacturer.

13.1.3. **Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.

13.1.4. **Sewage disposal:**
No data available.

13.1.5. **Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

14.1. **UN number or ID number:**
UN 1791

14.2. **UN proper shipping name:**
HYPOCHLORITE SOLUTION

14.3. **Transport hazard class(es):**
Class: 8
Label: 8

14.4. **Packaging group:**
II

14.5. **Environmental hazards:**
Hazardous for the aquatic environment. Avoid release into the environment.
ADR/RID, ADN: Environmentally hazardous: yes.
IMDG: Marine pollutant: yes.

14.6. **Special precautions for user:**
ADR/RID, ADN: Limited quantities: 1L
Excepted quantities: E2
Transport categories: 2
Tunnel restriction code: (E)
Hazard identification number: 80
Special provisions: 521

IMDG: EmS: F-A, S-B
Stowage category: Category B
Segregation: SG20
Properties and notes: Liquid with chlorine odour. In contact with acids, evolves very irritating and corrosive gases. Mildly corrosive to most metals. Causes burns to skin, eyes and mucous membranes.
Segregation group: 8 Hypochlorites

14.7. **Maritime transport in bulk according to IMO instruments:**
Not applicable.

SECTION 15: REGULATORY INFORMATION

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

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 (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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 (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products

The mixture does not contain substances listed on the Candidate List of substances of very high concern (SVHC) for Authorisation under Regulation (EC) No 1907/2006 (REACH) in concentrations ≥ 0.1 %.

15.2. **Chemical safety assessment:** a chemical safety assessment has been carried out within the framework of the substance's REACH registration, but the assessment does not apply to the use of the product as a biocide, since biocidal product use is not subject to REACH regulation.
Nevertheless, identified uses include industrial and professional cleaning: the cleaning and disinfection of industrial sites in food and beverage industry; the general professional cleaning of solid surfaces; disinfection in hospitals; cleaning and disinfection on food processing facilities (kitchens and restaurants; cleaning and disinfection in microbiological laboratories.
Assessment regarding the industrial and professional cleaning in contained in the Exposure Scenarios.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:
The safety data sheet has been revised according to Regulation (EU) 2020/878.
The composition and hazard classification of the mixture did not change compared to the previous version.

This safety data sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:
Previous version of the safety data sheet (29. 10. 2021, version 1).

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Corrosive to metals, Hazard Category 1 – H290	Based on test data
Skin corrosion/irritation, Hazard Category 1B – H314	Based on calculation method
Serious eye damage/eye irritation, Hazard Category 1 – H318	Based on test data
Specific target organ toxicity – Single exposure, Hazard Category 3, Respiratory tract irritation – H335	Based on expert judgement
Hazardous to the aquatic environment – Acute Hazard, Category 1 – H400	Based on calculation method
Hazardous to the aquatic environment – Chronic Hazard, Category 2 – H411	Based on calculation method

Relevant hazard statements (code and full text) of Sections 2 and 3:
H290 – May be corrosive to metals.
H314 – Causes severe skin burns and eye damage.
H315 – Causes skin irritation.
H318 – Causes serious eye damage.
H319 – Causes serious eye irritation.
H335 – May cause respiratory 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.
EUH 031 – Contact with acids liberates toxic gas.
EUH 206 – Warning! Do not use together with other products. May release dangerous gases (chlorine).

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC50: Lethal concentration resulting in 50 % mortality.
LD50: Lethal dose resulting in 50 % mortality (median lethal dose).

LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.
The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.
The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.
Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.
It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

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