

Precautionary Statements Wear protective gloves / protective clothing / eye protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Store locked up. Avoid release to the environment.

Supplemental Hazard Information (EU) Contact with acids liberates toxic gas.

Section 3. Composition

3.1 Substances

Component	CAS No.	EEC No.	REACH No.	Conc w/w	CLP Classification (1272/2008/CE)
Available chlorine	7681-52-9	231-668-3	01-2119488154-34-XXXX	14%	Skin Corr. 1B, Aquatic Acute 1
Sodium hydroxide			01-2119457892-27-XXXX	0.4%	Skin Corr. 1A

Section 4. First Aid

4.1 Description of first aid measures

Eyes Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION URGENTLY.

Skin Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. OBTAIN MEDICAL ATTENTION.

Inhalation Remove from exposure. If material has reacted with an acid to form, chlorine, seek immediate medical assistance.

Ingestion If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

Personal protection for first aiders Wear protective gloves / eye protection.

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

Inhalation may cause nausea, dizziness and headache. Inhalation may cause irritation of mucous membranes, coughing and dyspnoea. Inhalation may cause tissue damage and pneumonia.

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

No further relevant information available.

Section 5. Fire Fighting

5.1 Extinguishing media

Extinguishing Media Consider what other flammable materials are present and act accordingly.

Unsuitable Media Nothing specified.

5.2 Special hazards arising from the substance or mixture

Hazards May evolve toxic fumes if involved in a fire.

5.3 Advice for firefighters

Advice for firefighters Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus.

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Protection Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. If contact with acid is possible, use full protective clothing and breathing apparatus.

6.2 Environmental precautions

Environmental Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

6.3 Methods and material for containment and cleaning up

Major Spillage	Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Wash area down with copious amounts of water.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

Section 7. Storage & Handling

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.
Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.

7.2 Conditions for safe storage, including any incompatibilities

Well ventilated, cool, dry storage . Large quantities must be stored in vented containers.

7.3 Specific end use(s)

See section 1.2.

Section 8. Workplace Exposure & Personal Protection

8.1 Control parameters

Component	CAS No	Concentration	Workplace Exposure Limits			
			Long Term (8hr TWA)		Short Term 15min period	
Available chlorine	7681-52-9	14%	-	-	0.5 ppm	1.5 mg/m-3
Sodium hydroxide		0.4%	-	-	-	2.0 mg/m-3

Exposure data source(s) IOELV: Indicative Occupational Exposure Limit Value.

8.2 Exposure controls

Respiratory Protection	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hand Protection	Use PVC gauntlets.
Eye Protection	Use tightly fitting chemical splash proof glasses or goggles.
Skin Protection	If skin contact or contamination of clothing is likely, protective clothing must be worn.
Special Hazards	No special precautions required.

Section 9. Physical & Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance	Clear very pale yellow / yellow-green coloured solution.
Odour	Faint odour of chlorine.
pH	13 @ 20°C
Boiling Point	110°C
Melting Point	-17°C
Flash Point	Not applicable
Upper Flammable Limit	Not applicable
Lower Flammable Limit	Not applicable
Auto Ignition	Not applicable
Explosive Properties	No.
Oxidising Properties	A strong oxidising agent.
Vapour Pressure	Not applicable
Relative Density	1.2600
Water Solubility	Completely soluble in water.

9.2 Other information

No data available.

Section 10. Stability & Reactivity

10.1	Reactivity	No data available.
10.2	Chemical Stability	Very slowly decomposes with release of oxygen, this is accelerated by elevated temperatures.
10.3	Possibility of hazardous reactions	No data available.
10.4	Conditions to Avoid	Avoid exposure to heat and strong sunlight.
10.5	Incompatible Materials	Acids, ammonium salts, methanol, hydrocarbons, copper, nickel, iron and monel metal.
10.6	Hazardous Decomposition Products	Decomposes to form flammable oxygen and highly toxic chlorine gas.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Eyes	The liquid is extremely irritating to eyes and can cause chemical eye burns. Damage can range from severe irritation and corneal scarring to permanent blindness.
Skin	The liquid will cause burns.
LD50 Skin	Not available
Ingestion	Ingestion will cause severe mouth burns, and if swallowed extensive damage to the oesophagus. Ingestion may lead to formation of very toxic chlorine gas by reaction with stomach contents.
LD50 Oral	2900-3400mg/kg Mouse
Inhalation	If material has reacted with acid to form toxic chlorine gas and this has been inhaled there is a serious risk of brachial an pulmonary oedema. Symptoms may be delayed for 48 hours or more.
LD50 Inhalation	Not available
TCLo	Not available
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.

Section 12. Ecological

12.1	Toxicity	Material will degrade slowly to sodium chloride, sodium chlorate and oxygen. Toxic to aquatic organisms. Very toxic to fish.
	LC50 Algal	Not available
	LC50 Crustacea	Not available
	LC50 Fish	Not available
12.2	Persistence and degradability	No data available.
12.3	Bioaccumulative potential	No data available.
12.4	Mobility in soil	No data available.
12.5	Results of PBT & vPvB assessment	Assessment not required.
12.6	Other adverse effects	None known at present.

Section 13. Disposal Considerations

13.1 Waste treatment methods

Disposal Methods	Dispose of via an authorised waste disposal contractor to an approved waste disposal site, observing all local and national regulations.
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Contaminated Packaging Use a licensed waste disposer.

Section 14. Transport Information

14.1 UN Number	1791
14.2 Proper Shipping Name	Hypochlorite solution
14.3 Transport classes	
UN classification	8
Subsidiary hazard(s)	None
Transport category	3
ADR Hazard ID	80
Tunnel Restriction Code	E
14.4 Packing Group	III
14.5 Environment hazards	See section 12.
14.6 Special precautions for user	No special precautions required.
14.7 Transport in bulk	Not transported in bulk.



Section 15. Regulatory Information

15.1 Safety, health and environment regulations specific for substance/mixture.

Classification, Labeling & Packaging of Substances & Mixtures Regulations (1272/2008/CE)

Classification Skin corrosion/irritation, category 1B; Hazard to aquatic environment, category 1

Signal word Danger

Hazard Pictograms



Hazard Statements H314, H400
Causes severe skin burns and eye damage. Very toxic to aquatic life.

Precautionary Statements P280, P303+P361+P353, P305+P351+P338, P301+P330+P331, P405, P273
Wear protective gloves / protective clothing / eye protection. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do and continue rinsing. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Store locked up. Avoid release to the environment.

Supplemental Hazard Information (EU) EUH031
Contact with acids liberates toxic gas.

15.2 Chemical safety assessment

Assessment not required.

Section 16. Other Information

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment. See sections 11 for toxicological information and section 12 for ecological information.

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