

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. |
|------------------|--|

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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