



LIQUID CHLORINE 10-13%

POPS Group (The POPS Group Pty Ltd as Trustee for The Pool Shop Trust)

Chemwatch Hazard Alert Code: 3

Chemwatch: 63-4453

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 18/08/2016

Print Date: 14/11/2017

L.GHS.AUS.EN

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

Product Identifier

| | |
|-------------------------------|-----------------------|
| Product name | LIQUID CHLORINE |
| Proper shipping name | HYPOCHLORITE SOLUTION |
| Other means of identification | Not Available |

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

| | |
|--------------------------|---|
| Relevant identified uses | Use according to manufacturer's directions. Sanitising Agent. |
|--------------------------|---|

Details of the supplier of the safety data sheet

| | |
|-------------------------|---|
| Registered company name | POPS Group (The POPS Group Pty Ltd as Trustee for The Pool Shops Trust) |
| Address | 10-12 Cairns Street Loganholme QLD 4129 Australia |
| Telephone | +61 7 3209 7884 |
| Fax | +61 7 3209 8635 |
| Website | https://www.poolpro.com.au/ |
| Email | office@poolpro.com.au |

Emergency telephone number

| | |
|-----------------------------------|--|
| Association / Organisation | IXOM |
| Emergency telephone numbers | +61 3 9663 2130 (international) 24 hours |
| Other emergency telephone numbers | +61 1800 033 111 |

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

| | |
|-------------------------------|---|
| Poisons Schedule | S5 |
| Classification ^[1] | Metal Corrosion Category 1, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1, Acute Aquatic Hazard Category 1 |
| Legend: | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI |

Label elements

| | |
|---------------------|--|
| Hazard pictogram(s) | |
|---------------------|--|

| | |
|-------------|---------------|
| SIGNAL WORD | DANGER |
|-------------|---------------|

Hazard statement(s)

| | |
|--------|--|
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H400 | Very toxic to aquatic life. |
| AUH031 | Contact with acid liberates toxic gas |

Supplementary statement(s)

Not Applicable

Precautionary statement(s) Prevention

| | |
|------|--|
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |

Precautionary statement(s) Response

Continued...

Coogee Chemicals Sodium Hypochlorite

| | |
|----------------|--|
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |

Precautionary statement(s) Storage

| | |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

Precautionary statement(s) Disposal

| | |
|------|---|
| P501 | Dispose of contents/container in accordance with local regulations. |
|------|---|

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|-----------|-----------|----------------------------|
| 7681-52-9 | 10-30 | <u>sodium hypochlorite</u> |
| 1310-73-2 | <1 | <u>sodium hydroxide</u> |
| 7732-18-5 | >60 | <u>water</u> |

SECTION 4 FIRST AID MEASURES

Description of first aid measures

| | |
|---------------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately flush body and clothes with large amounts of water, using safety shower if available. ▶ Quickly remove all contaminated clothing, including footwear. ▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre. ▶ Transport to hospital, or doctor. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor. ▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema. ▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs). ▶ As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested. ▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered. <p>This must definitely be left to a doctor or person authorised by him/her. (ICSC13719)</p> |
| Ingestion | <ul style="list-style-type: none"> ▶ For advice, contact a Poisons Information Centre or a doctor at once. ▶ Urgent hospital treatment is likely to be needed. ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Transport to hospital or doctor without delay. |

Indication of any immediate medical attention and special treatment needed

For acute or repeated exposures to hypochlorite solutions:

- ▶ Release of small amounts of hypochlorous acid and acid gases from the stomach following ingestion, is usually too low to cause damage but may be irritating to mucous membranes. Buffering with antacid may be helpful if discomfort is evident.
- ▶ Evaluate as potential caustic exposure.
- ▶ Decontaminate skin and eyes with copious saline irrigation. Check exposed eyes for corneal abrasions with fluorescein staining.
- ▶ Emesis or lavage and catharsis may be indicated for mild caustic exposure.
- ▶ Chlorine exposures require evaluation of acid/base and respiratory status.
- ▶ Inhalation of vapours or mists may result in pulmonary oedema.

ELLENHORN and BARCELOUX: Medical Toxicology.

Excellent warning properties force rapid escape of personnel from chlorine vapour thus most inhalations are mild to moderate. If escape is not possible, exposure to high concentrations for a very short time can result in dyspnea, haemoptysis and cyanosis with later complications being tracheobroncho-pneumonitis and pulmonary oedema. Oxygen, intermittent positive pressure breathing apparatus and aerosolised bronchodilators are of therapeutic value where chlorine inhalation has been light to moderate. Severe inhalation should result in hospitalisation and treatment for a respiratory emergency.

Any chlorine inhalation in an individual with compromised pulmonary function (COPD) should be regarded as a severe inhalation and a respiratory emergency. [CCINFO, Dow 1988]

Effects from exposure to chlorine gas include pulmonary oedema which may be delayed. Observation in hospital for 48 hours is recommended

Diagnosed asthmatics and those people suffering from certain types of chronic bronchitis should receive medical approval before being employed in occupations involving chlorine exposure.

If burn is present, treat as any thermal burn, after decontamination.

for corrosives:

Coogee Chemicals Sodium Hypochlorite

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema .
- ▶ Monitor and treat, where necessary, for shock.
- ▶ Anticipate seizures.
- ▶ Where eyes have been exposed, flush immediately with water and continue to irrigate with normal saline during transport to hospital.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Skin burns should be covered with dry, sterile bandages, following decontamination.
- ▶ **DO NOT attempt neutralisation as exothermic reaction may occur.**

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Consider endoscopy to evaluate oral injury.
- ▶ Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. *EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994*

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|-------------|
| Fire Incompatibility | None known. |
|-----------------------------|-------------|

Advice for firefighters

| | |
|------------------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Non combustible. ▶ Not considered a significant fire risk, however containers may burn. Decomposition may produce toxic fumes of: , hydrogen chloride May emit corrosive fumes. May evolve toxic gases (chlorine) when heated to decomposition. |
| HAZCHEM | 2X |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|--|
| Minor Spills | <ul style="list-style-type: none"> ▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material. ▶ Check regularly for spills and leaks. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. |
| Major Spills | <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

| | |
|----------------------|---|
| Safe handling | ▶ Avoid all personal contact, including inhalation. |
|----------------------|---|

Continued...

Coogee Chemicals Sodium Hypochlorite

| | |
|--------------------------|---|
| | <ul style="list-style-type: none"> ▶ Wear protective clothing when risk of exposure occurs. |
| Other information | <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. For low viscosity materials <ul style="list-style-type: none"> ▶ Drums and jerricans must be of the non-removable head type. ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure. |
| Storage incompatibility | <ul style="list-style-type: none"> ▶ Contact with acids produces toxic fumes Contact with acids produces toxic fumes of chlorine <ul style="list-style-type: none"> ▶ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous Contact with acids, organics, reducing agents (eg. amines), metallic powders and heat sources produces toxic fumes of chlorine. May be decomposed by hot water releasing chlorine fumes. |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**Control parameters****OCCUPATIONAL EXPOSURE LIMITS (OEL)****INGREDIENT DATA**


| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|------------------------------|------------------|------------------|---------------|---------------|---------|---------------|
| Australia Exposure Standards | sodium hydroxide | Sodium hydroxide | Not Available | Not Available | 2 mg/m3 | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---------------------|----------------------------------|---------------|---------------|---------------|
| sodium hypochlorite | Sodium hypochlorite pentahydrate | 13 mg/m3 | 140 mg/m3 | 290 mg/m3 |
| sodium hypochlorite | Sodium hypochlorite | 2 mg/m3 | 54 mg/m3 | 630 mg/m3 |
| sodium hydroxide | Sodium hydroxide | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---------------------|---------------|---------------|
| sodium hypochlorite | Not Available | Not Available |
| sodium hydroxide | 10 mg/m3 | Not Available |
| water | Not Available | Not Available |

MATERIAL DATA**Exposure controls**

| | |
|---|--|
| Appropriate engineering controls | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. |
| Personal protection |  |
| Eye and face protection | <ul style="list-style-type: none"> ▶ Chemical goggles. ▶ Full face shield may be required for supplementary but never for primary protection of eyes. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ PVC Apron. |
| Thermal hazards | Not Available |

Respiratory protection

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Coogee Chemicals Sodium Hypochlorite

Information on basic physical and chemical properties

| | | | |
|---|---|--|----------------|
| Appearance | Clear yellow coloured alkaline liquid with chlorine odour; miscible with water. | | |
| Physical state | Liquid | Relative density (Water = 1) | 1.17-1.22 |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | >11.5 | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | -25 | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | >100 | Molecular weight (g/mol) | Not Applicable |
| Flash point (°C) | Not Applicable | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Applicable | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Applicable | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Applicable | Volatile Component (%vol) | 80-95 |
| Vapour pressure (kPa) | 2.3 | Gas group | Not Available |
| Solubility in water (g/L) | Miscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Applicable |

SECTION 10 STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

| | |
|---------------------|--|
| Inhaled | Chlorine vapour is extremely irritating to the upper respiratory tract and lungs Symptoms of exposure to chlorine include coughing, choking, breathing difficulty, chest pain, headache, vomiting, pulmonary oedema. Inhalation may cause lung congestion, bronchitis and loss of consciousness. |
| Ingestion | The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Accidental ingestion of the material may be damaging to the health of the individual. |
| Skin Contact | The material can produce chemical burns following direct contact with the skin. Skin contact will result in rapid drying, bleaching, leading to chemical burns on prolonged contact [resulting in permanent injury. |
| Eye | The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation. |
| Chronic | Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Reduced respiratory capacity may result from chronic low level exposure to chlorine gas. Chronic poisoning may result in coughing, severe chest pains, sore throat and haemoptysis (bloody sputum). |

| | | |
|---|--|-------------------------------------|
| Coogee Chemicals Sodium Hypochlorite | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| sodium hypochlorite | TOXICITY | IRRITATION |
| | Oral (rat) LD50: >237 mg/kg ^[1] | Eye (rabbit): 10 mg - moderate |
| | | Eye (rabbit): 100 mg - moderate |
| | | Skin (rabbit): 500 mg/24h-moderate |
| sodium hydroxide | TOXICITY | IRRITATION |
| | Not Available | Eye (rabbit): 0.05 mg/24h SEVERE |
| | | Eye (rabbit):1 mg/24h SEVERE |
| | | Eye (rabbit):1 mg/30s rinsed-SEVERE |
| | | Skin (rabbit): 500 mg/24h SEVERE |

Coogee Chemicals Sodium Hypochlorite

Legend: 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

| | |
|---|---|
| SODIUM HYPOCHLORITE | Hypochlorite salts are classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. Most of the data for toxicity of hypochlorites by the oral route are from studies performed with sodium hypochlorite or chlorine gas. In biological systems, characterised by pH values in the range of 6-8, the most abundant active chemical species is (hypochlorous acid) HOCl, in equilibrium with hypochlorite anion (ClO ⁻). as sodium hypochlorite pentahydrate |
| SODIUM HYDROXIDE | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. |
| WATER | No significant acute toxicological data identified in literature search. |
| SODIUM HYPOCHLORITE & SODIUM HYDROXIDE | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. |

| | | | |
|--|---|---------------------------------|---|
| Acute Toxicity | ☒ | Carcinogenicity | ☒ |
| Skin Irritation/Corrosion | ✓ | Reproductivity | ☒ |
| Serious Eye Damage/Irritation | ✓ | STOT - Single Exposure | ☒ |
| Respiratory or Skin sensitisation | ☒ | STOT - Repeated Exposure | ☒ |
| Mutagenicity | ☒ | Aspiration Hazard | ☒ |

Legend: ✗ – Data available but does not fill the criteria for classification
 ✓ – Data available to make classification
 ☒ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| Coogee Chemicals Sodium Hypochlorite | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|--------------------------------------|---------------|--------------------|-------------------------------|---------------|---------------|
| | Not Available | Not Available | Not Available | Not Available | Not Available |
| sodium hypochlorite | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 0.032mg/L | 4 |
| | EC50 | 48 | Crustacea | 0.026mg/L | 2 |
| | EC50 | 72 | Algae or other aquatic plants | 0.0183mg/L | 2 |
| | NOEC | 72 | Algae or other aquatic plants | 0.0054mg/L | 2 |
| sodium hydroxide | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | LC50 | 96 | Fish | 125mg/L | 4 |
| | NOEC | 96 | Fish | 56mg/L | 4 |
| water | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
| | Not Available | Not Available | Not Available | Not Available | Not Available |

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Prevent, by any means available, spillage from entering drains or water courses.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------------|-------------------------|------------------|
| sodium hydroxide | LOW | LOW |
| water | LOW | LOW |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------------|------------------------|
| sodium hydroxide | LOW (LogKOW = -3.8796) |
| water | LOW (LogKOW = -1.38) |

Coogee Chemicals Sodium Hypochlorite

Mobility in soil

| Ingredient | Mobility |
|------------------|------------------|
| sodium hydroxide | LOW (KOC = 14.3) |
| water | LOW (KOC = 14.3) |



SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|------------------------------|--|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. |
|------------------------------|--|

SECTION 14 TRANSPORT INFORMATION

Labels Required

| | |
|------------------|---|
| |  |
| Marine Pollutant |  |
| HAZCHEM | 2X |

Land transport (ADG)

| | | | | | |
|------------------------------|---|--------------------|-----|------------------|----------------|
| UN number | 1791 | | | | |
| UN proper shipping name | HYPOCHLORITE SOLUTION | | | | |
| Transport hazard class(es) | <table border="0"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subrisk</td> <td>Not Applicable</td> </tr> </table> | Class | 8 | Subrisk | Not Applicable |
| Class | 8 | | | | |
| Subrisk | Not Applicable | | | | |
| Packing group | III | | | | |
| Environmental hazard | Environmentally hazardous | | | | |
| Special precautions for user | <table border="0"> <tr> <td>Special provisions</td> <td>223</td> </tr> <tr> <td>Limited quantity</td> <td>5 L</td> </tr> </table> | Special provisions | 223 | Limited quantity | 5 L |
| Special provisions | 223 | | | | |
| Limited quantity | 5 L | | | | |

Air transport (ICAO-IATA / DGR)

| | | | | | | | | | | | | | | | |
|---|--|--------------------|---------|---------------------------------|----------------|-------------------------------|------|--|-----|--|-----|---|------|--|-----|
| UN number | 1791 | | | | | | | | | | | | | | |
| UN proper shipping name | Hypochlorite solution | | | | | | | | | | | | | | |
| Transport hazard class(es) | <table border="0"> <tr> <td>ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>Not Applicable</td> </tr> <tr> <td>ERG Code</td> <td>8L</td> </tr> </table> | ICAO/IATA Class | 8 | ICAO / IATA Subrisk | Not Applicable | ERG Code | 8L | | | | | | | | |
| ICAO/IATA Class | 8 | | | | | | | | | | | | | | |
| ICAO / IATA Subrisk | Not Applicable | | | | | | | | | | | | | | |
| ERG Code | 8L | | | | | | | | | | | | | | |
| Packing group | III | | | | | | | | | | | | | | |
| Environmental hazard | Environmentally hazardous | | | | | | | | | | | | | | |
| Special precautions for user | <table border="0"> <tr> <td>Special provisions</td> <td>A3 A803</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>856</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>60 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>852</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>5 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y841</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>1 L</td> </tr> </table> | Special provisions | A3 A803 | Cargo Only Packing Instructions | 856 | Cargo Only Maximum Qty / Pack | 60 L | Passenger and Cargo Packing Instructions | 852 | Passenger and Cargo Maximum Qty / Pack | 5 L | Passenger and Cargo Limited Quantity Packing Instructions | Y841 | Passenger and Cargo Limited Maximum Qty / Pack | 1 L |
| Special provisions | A3 A803 | | | | | | | | | | | | | | |
| Cargo Only Packing Instructions | 856 | | | | | | | | | | | | | | |
| Cargo Only Maximum Qty / Pack | 60 L | | | | | | | | | | | | | | |
| Passenger and Cargo Packing Instructions | 852 | | | | | | | | | | | | | | |
| Passenger and Cargo Maximum Qty / Pack | 5 L | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Quantity Packing Instructions | Y841 | | | | | | | | | | | | | | |
| Passenger and Cargo Limited Maximum Qty / Pack | 1 L | | | | | | | | | | | | | | |

Sea transport (IMDG-Code / GGVSee)

| | |
|-------------------------|-----------------------|
| UN number | 1791 |
| UN proper shipping name | HYPOCHLORITE SOLUTION |

Coogee Chemicals Sodium Hypochlorite

| | | |
|------------------------------|--------------------|----------------|
| Transport hazard class(es) | IMDG Class | 8 |
| | IMDG Subrisk | Not Applicable |
| Packing group | III | |
| Environmental hazard | Marine Pollutant | |
| Special precautions for user | EMS Number | F-A, S-B |
| | Special provisions | 223 |
| | Limited Quantities | 5 L |

Transport in bulk according to Annex II of MARPOL and the IBC code

| Source | Product name | Pollution Category | Ship Type |
|---|--|--------------------|-----------|
| IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk | Sodium hypochlorite solution (15% or less) | Y | 2 |

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

SODIUM HYPOCHLORITE(7681-52-9) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|---|---|
| Australia Hazardous Substances Information System - Consolidated Lists Australia Inventory of Chemical Substances (AICS) | International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs |
|---|---|

SODIUM HYDROXIDE(1310-73-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| | |
|--|---|
| Australia Exposure Standards Australia Hazardous Substances Information System - Consolidated Lists | Australia Inventory of Chemical Substances (AICS) |
|--|---|

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

| |
|---|
| Australia Inventory of Chemical Substances (AICS) |
|---|

| National Inventory | Status |
|-------------------------------|--|
| Australia - AICS | Y |
| Canada - DSL | Y |
| Canada - NDSL | N (water; sodium hypochlorite; sodium hydroxide) |
| China - IECSC | Y |
| Europe - EINEC / ELINCS / NLP | Y |
| Japan - ENCS | Y |
| Korea - KECI | Y |
| New Zealand - NZIoC | Y |
| Philippines - PICCS | Y |
| USA - TSCA | Y |
| Legend: | Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

| Name | CAS No |
|---------------------|-----------------------|
| sodium hypochlorite | 7681-52-9, 10022-70-5 |
| sodium hydroxide | 1310-73-2, 12200-64-5 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC – TWA: Permissible Concentration-Time Weighted Average
 PC – STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit,
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL: No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value

LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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