



Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name:	Liquid Chlorine
Other Name(s):	SODIUM HYPOCHLORITE SOLUTION (12.5% AVAILABLE CHLORINE)
Recommended use of the chemical and restrictions on use:	Dairy, food and beverage industries : Sanitising processes and equipment. Textile industry: Bleaching agent. Water treatment: Sanitising agent. Available chlorine = 5-6%.
Supplier:	Enviro Chemicals (Aust.) Pty Ltd
ACN:	094 087 493
Street Address:	270-274 Wodville Road, Fairfield East 2165 Australia
Telephone Number:	+61 2 9755 2012
Facsimile:	+61 2 9726 1457
Emergency Telephone:	1 800 033 111 (ALL HOURS)

2. HAZARDS IDENTIFICATION

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

Classification of the substance or mixture:

Skin Corrosion - Sub-category 1C
Eye Damage - Category 1
Acute Aquatic Toxicity - Category 2
Chronic Aquatic Toxicity - Category 2

SIGNAL WORD: CAUTION



Hazard Statement(s):

H314 Causes severe skin burns and eye damage.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

Prevention:

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

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Response:

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363 Wash contaminated clothing before re-use.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310 Immediately call a POISON CENTER or doctor/physician.
P321 Specific treatment (see First Aid Measures on Safety Data Sheet).
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents /container in accordance with local/regional/national/international regulations.

Other Hazards:

AUH031 Contact with acids liberates toxic gas.

Poisons Schedule (SUSMP): S5 Caution.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CASNumber	Proportion	HazardCodes
Water	7732-18-5	>90%	-
Sodiumhypochlorite	7681-52-9	5<6%	H314H400
Sodiumhydroxide	1310-73-2	<1%	H290H314H318

4. FIRST AID MEASURES

For advice, contact a Poisons Information Centre (e.g. phone Australia 131 126; New Zealand 0800 764 766) or a doctor.

Inhalation:

Remove victim from area of exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If patient finds breathing difficult and develops a bluish discolouration of the skin (which suggests a lack of oxygen in the blood - cyanosis), ensure airways are clear of any obstruction and have a qualified person give oxygen through a face mask. Apply artificial respiration if patient is not breathing. Seek immediate medical advice.

Skin Contact:

If spilt on large areas of skin or hair, immediately drench with running water and remove clothing. Continue to wash skin and hair with plenty of water (and soap if material is insoluble) until advised to stop by the Poisons Information Centre or a doctor.

Eye Contact:

Immediately wash in and around the eye area with large amounts of water for at least 15 minutes. Eyelids to be held apart. Remove clothing if contaminated and wash skin. Urgently seek medical assistance. Transport to hospital or medical centre. Continue to wash with large amounts of water until medical help is available.

Ingestion:

Immediately rinse mouth with water. If swallowed, do NOT induce vomiting. Give a glass of water. Seek immediate medical assistance.

Indication of immediate medical attention and special treatment needed:

Treat symptomatically. Can cause corneal burns. Delayed pulmonary oedema may result.

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5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem or Emergency Action Code: 2X

Specific hazards arising from the substance or mixture:

Non-combustible material.

Special protective equipment and precautions for fire-fighters:

Decomposes on heating emitting toxic fumes, including those of chlorine. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

6. ACCIDENTAL RELEASE MEASURES

Emergency procedures/Environmental precautions:

Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions/Protective equipment/Methods and materials for containment and cleaning up:

Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal.

7. HANDLING AND STORAGE

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

Precautions for safe handling:

Avoid skin and eye contact and breathing in vapour, mists and aerosols. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities:

Store in cool place and out of direct sunlight. Store away from foodstuffs. Store away from acids. Store away from incompatible materials described in Section 10. Keep containers closed when not in use - check regularly for leaks.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Chlorine: Peak Limitation = 3 mg/m³ (1 ppm)

Sodium hydroxide: Peak Limitation = 2 mg/m³

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As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

Peak Limitation - a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Appropriate engineering controls:

Ensure ventilation is adequate and that air concentrations of components are controlled below quoted Workplace Exposure Standards. If inhalation risk exists: Use with local exhaust ventilation or while wearing air supplied mask. Keep containers closed when not in use.

Individual protection measures, such as Personal Protective Equipment (PPE):

The selection of PPE is dependant on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

Orica Personal Protection Guide No. 1, 1998: D - OVERALLS, CHEMICAL GOGGLES, FACE SHIELD, GLOVES (Long), APRON, RUBBER BOOTS.



Wear overalls, chemical goggles, face shield, elbow-length impervious gloves, splash apron or equivalent chemical impervious outer garment, and rubber boots. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use.

If risk of inhalation exists, wear air supplied respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Pale Yellow - Green
Odour:	Chlorine
Solubility:	Miscible in water.
Specific Gravity:	1.35 @20° C
Relative Vapour Density (air=1):	Not available
Vapour Pressure (20° C):	Not available
Flash Point (° C):	Not applicable
Flammability Limits (%):	Not applicable
Autoignition Temperature (° C):	Not available
Boiling Point/Range (° C):	Not available
pH:	12.5 (1% w/w)

10. STABILITY AND REACTIVITY

Reactivity: Contact with acids liberates toxic gas.

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Chemical stability:	Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. The amount of available chlorine diminishes over time.
Possibility of hazardous reactions:	Hazardous polymerisation will not occur. Reacts exothermically with acids. Reacts with ammonia, amines and ammonium salts to produce chloramines. Decomposes on heating to produce chlorine gas.
Conditions to avoid:	Avoid contact with foodstuffs. Avoid exposure to heat, sources of ignition, and open flame. Avoid exposure to light. Avoid contact with other chemicals. Avoid contact with acids.
Incompatible materials:	Incompatible with acids, metals, metal salts, peroxides, reducing agents, and ethylene diamine tetraacetic acid. Incompatible with ammonia and ammonium compounds such as amines and ammonium salts.
Hazardous decomposition products:	Chlorine.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Ingestion:	Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.
Eye contact:	A severe eye irritant. Corrosive to eyes; contact can cause corneal burns. Contamination of eyes can result in permanent injury.
Skin contact:	Contact with skin will result in severe irritation. Corrosive to skin - may cause skin burns.
Inhalation:	Breathing in mists or aerosols may produce respiratory irritation. Delayed (up to 48 hours) fluid build up in the lungs may occur.

Acute toxicity: No LD50 data available for the product. For the constituent SODIUM HYPOCHLORITE:
Oral LD50 (mice): 5800 mg/kg

Serious eye damage/irritation: Moderate irritant (rabbit). Standard Draize test
Chronic effects: No information available for the product.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Avoid contaminating waterways. For SODIUM HYPOCHLORITE:
Persistence/degradability:	This material is biodegradable.
Aquatic toxicity:	Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.
48hr LC50 (fish):	0.07 - 5.9 mg/L.

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13. DISPOSAL CONSIDERATIONS

Disposal methods:

Refer to Waste Management Authority. Dispose of material through a licensed waste contractor. Decontamination and destruction of containers should be considered.

14. TRANSPORT INFORMATION

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for Transport by Road and Rail; DANGEROUS GOODS.



UN No: 1791
Transport Hazard Class: 8 Corrosive
Packing Group: III
Proper Shipping Name or Technical Name: HYPOCHLORITE SOLUTION
Hazchem or Emergency Action Code: 2X

Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; DANGEROUS GOODS.

UN No: 1791
Transport Hazard Class: 8 Corrosive
Packing Group: III
Proper Shipping Name or Technical Name: HYPOCHLORITE SOLUTION
IMDG EMS Fire: F-A
IMDG EMS Spill: S-B

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; DANGEROUS GOODS.

UN No: 1791
Transport Hazard Class: 8 Corrosive
Packing Group: III
Proper Shipping Name or Technical Name: HYPOCHLORITE SOLUTION

Technical Name:

15. REGULATORY INFORMATION

Classification:

This material is hazardous according to Safe Work Australia; HAZARDOUS SUBSTANCE.

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Hazard Statement(s):

H314 Causes severe skin burns and eye damage.

H411 Toxic to aquatic life with long lasting effects.

Poisons Schedule (SUSMP): S5 Caution.

All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

'Registry of Toxic Effects of Chemical Substances'. Ed. D. Sweet, US Dept. of Health & Human Services: Cincinnati, 2012.

This safety data sheet has been prepared by Orica Toxicology & SDS Services.

Reason(s) for Issue:

Revised Primary SDS

Alignment to GHS requirements

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Orica Limited cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their Orica representative or Orica Limited at the contact details on page 1.

Orica Limited's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.