

# Coogee Chemicals Chlorine

## Coogee Chemicals Pty Ltd

Chemwatch: 48-4476

Version No: 6.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 3

Issue Date: 20/08/2021

Print Date: 27/10/2022

L.GHS.AUS.EN.E

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

Product name	Coogee Chemicals Chlorine
Chemical Name	chlorine
Synonyms	Product code: 8170; CHLORINE GAS, COOGEE CHLORINE LIQUID, LIQUEFIED COMPRESSED CHLORINE GAS
Proper shipping name	CHLORINE
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Chemical production, Sanitizing agent. The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation.
--------------------------	---

#### Details of the manufacturer or supplier of the safety data sheet

Registered company name	Coogee Chemicals Pty Ltd
Address	Cnr of Patterson and Kwinana Beach Roads Kwinana WA Australia
Telephone	+61 8 9439 8200
Fax	+61 8 9439 8300
Website	<a href="http://www.coogee.com.au">www.coogee.com.au</a>
Email	enquiry@coogee.com.au

#### Emergency telephone number

Association / Organisation	Coogee Chemicals
Emergency telephone numbers	1800 800 655
Other emergency telephone numbers	Not Available


### 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	S7
Classification [1]	Oxidizing Gases Category 1, Gases Under Pressure (Liquefied Gas), Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Inhalation) Category 3, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Hazardous to the Aquatic Environment Acute Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	
Signal word	Danger

#### Hazard statement(s)

H270	May cause or intensify fire; oxidiser.
H280	Contains gas under pressure; may explode if heated.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.

## Coogee Chemicals Chlorine

H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

## Supplementary statement(s)

Not Applicable

## Precautionary statement(s) Prevention

P220	Keep away from clothing and other combustible materials.
P244	Keep valves and fittings free from oil and grease.

## Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P376	In case of fire: Stop leak if safe to do so.

## Precautionary statement(s) Storage

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

## Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
------	--

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
7782-50-5	100	chlorine
<b>Legend:</b> 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available		

## SECTION 4 First aid measures

## Description of first aid measures

Eye Contact	<ul style="list-style-type: none"> <li>▶ If product comes in contact with eyes remove the patient from gas source or contaminated area.</li> <li>▶ Take the patient to the nearest eye wash, shower or other source of clean water.</li> <li>▶ Open the eyelid(s) wide to allow the material to evaporate.</li> <li>▶ Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.</li> <li>▶ The patient may be in great pain and wish to keep the eyes closed. It is important that the material is rinsed from the eyes to prevent further damage.</li> <li>▶ Ensure that the patient looks up, and side to side as the eye is rinsed in order to better reach all parts of the eye(s)</li> <li>▶ Transport to hospital or doctor.</li> <li>▶ Even when no pain persists and vision is good, a doctor should examine the eye as delayed damage may occur.</li> <li>▶ If the patient cannot tolerate light, protect the eyes with a clean, loosely tied bandage.</li> <li>▶ Ensure verbal communication and physical contact with the patient.</li> </ul> <p><b>DO NOT</b> allow the patient to rub the eyes  <b>DO NOT</b> allow the patient to tightly shut the eyes  <b>DO NOT</b> introduce oil or ointment into the eye(s) without medical advice  <b>DO NOT</b> use hot or tepid water.</p>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul> <p>In case of cold burns (frost-bite):</p> <ul style="list-style-type: none"> <li>▶ Move casualty into warmth before thawing the affected part; if feet are affected carry if possible</li> <li>▶ Bathe the affected area immediately in luke-warm water (not more than 35 deg C) for 10 to 15 minutes, immersing if possible and without rubbing</li> <li>▶ <b>DO NOT</b> apply hot water or radiant heat.</li> <li>▶ Apply a clean, dry, light dressing of "fluffed-up" dry gauze bandage</li> <li>▶ If a limb is involved, raise and support this to reduce swelling</li> <li>▶ If an adult is involved and where intense pain occurs provide pain killers such as paracetamol</li> <li>▶ Transport to hospital, or doctor</li> <li>▶ Subsequent blackening of the exposed tissue indicates potential of necrosis, which may require amputation.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>▶ Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>▶ Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>▶ 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.</li> <li>▶ Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b>          (ICSC13719)</p> <ul style="list-style-type: none"> <li>▶ Following exposure to gas, remove the patient from the gas source or contaminated area.</li> <li>▶ NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the</li> </ul>

Continued...

## Coogee Chemicals Chlorine

	<p>safety of the rescuer.</p> <ul style="list-style-type: none"> <li>▶ Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If the patient is not breathing spontaneously, administer rescue breathing.</li> <li>▶ If the patient does not have a pulse, administer CPR.</li> <li>▶ If medical oxygen and appropriately trained personnel are available, administer 100% oxygen.</li> <li>▶ Summon an emergency ambulance. If an ambulance is not available, contact a physician, hospital, or Poison Control Centre for further instruction.</li> <li>▶ Keep the patient warm, comfortable and at rest while awaiting medical care.</li> <li>▶ <b>MONITOR THE BREATHING AND PULSE, CONTINUOUSLY.</b></li> <li>▶ Administer rescue breathing (preferably with a demand-valve resuscitator, bag-valve mask-device, or pocket mask as trained) or CPR if necessary.</li> </ul>
Ingestion	▶ Not considered a normal route of entry.

## Indication of any immediate medical attention and special treatment needed

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, haemophysis 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.

Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation is therefore essential. Immediate administration of an appropriate spray, by a doctor or a person authorised by him/her should be considered.

(ICSC24419/24421

## SECTION 5 Firefighting measures

## Extinguishing media

## FOR SMALL FIRE:

- ▶ USE FLOODING QUANTITIES OF WATER.
- ▶ **DO NOT** use dry chemical, CO<sub>2</sub>, foam or halogenated-type extinguishers.

## Special hazards arising from the substrate or mixture

Fire Incompatibility	▶ Avoid storage with reducing agents.
----------------------	---------------------------------------

## Advice for firefighters

Fire Fighting	<p>Protect from sources of heat, organic materials and lubricants which may self-ignite in combination with chlorine.</p> <p>GENERAL</p> <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul>
Fire/Explosion Hazard	<ul style="list-style-type: none"> <li>▶ The material may provide sufficient oxygen to make the fire fierce and self sustaining.</li> <li>▶ Smothering action may not be effective for established fire.</li> <li>▶ Containers may explode when heated - Ruptured cylinders may rocket</li> <li>▶ May burn but does not ignite easily.</li> <li>▶ Fire exposed cylinders may vent contents through pressure relief devices thereby increasing vapour concentration..</li> </ul> <p>Decomposition may produce toxic fumes of: hydrogen chloride</p> <p><b>Contains low boiling substance:</b> Closed containers may rupture due to pressure buildup under fire conditions.</p>
HAZCHEM	2XE

## 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"> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>▶ Check regularly for spills and leaks.</li> <li>▶ Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used.</li> </ul>
Major Spills	<ul style="list-style-type: none"> <li>▶ Clear area of all unprotected personnel and move upwind.</li> <li>▶ Alert Emergency Authority and advise them of the location and nature of hazard.</li> <li>▶ Remove leaking cylinders to a safe place.</li> <li>▶ Fit vent pipes.</li> <li>▶ <b>DO NOT</b> exert excessive pressure on valve; <b>DO NOT</b> attempt to operate damaged valve.</li> </ul>

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

## SECTION 7 Handling and storage

## Coogee Chemicals Chlorine

## Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> <li>Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature</li> <li>The tubing network design connecting gas cylinders to the delivery system should include appropriate pressure indicators and vacuum or suction lines. <ul style="list-style-type: none"> <li><b>DO NOT</b> transfer gas from one cylinder to another.</li> </ul> </li> </ul>
Other information	Protect from sources of heat, organic materials and lubricants which may self-ignite in combination with chlorine. <ul style="list-style-type: none"> <li>Store in an upright position.</li> <li>Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.</li> <li>Such compounds should be sited and built in accordance with statutory requirements.</li> </ul>

## Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> <li>Cylinder:</li> <li>Ensure the use of equipment rated for cylinder pressure.</li> <li>Ensure the use of compatible materials of construction.</li> </ul>
Storage incompatibility	<ul style="list-style-type: none"> <li>Incidents involving interaction of active oxidants and reducing agents, either by design or accident, are usually very energetic and examples of so-called redox reactions.</li> <li>Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous</li> <li>Avoid storage with reducing agents.</li> <li>Compressed gases may contain a large amount of kinetic energy over and above that potentially available from the energy of reaction produced by the gas in chemical reaction with other substances</li> </ul>

## 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	chlorine	Chlorine	Not Available	Not Available	1 ppm / 3 mg/m3	Not Available


## Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
chlorine	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
chlorine	10 ppm	Not Available

## MATERIAL DATA

## Exposure controls

Appropriate engineering controls	Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard. 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"> <li>Chemical goggles.</li> <li>Full face shield may be required for supplementary but never for primary protection of eyes.</li> </ul>
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none"> <li>Neoprene gloves</li> <li>When handling sealed and suitably insulated cylinders wear cloth or leather gloves.</li> <li>Insulated gloves:</li> </ul> NOTE: Insulated gloves should be loose fitting so that may be removed quickly if liquid is spilled upon them. Insulated gloves are not made to permit hands to be placed in the liquid; they provide only short-term protection from accidental contact with the liquid.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> <li>Overalls.</li> <li>PVC Apron.</li> </ul>

## Respiratory protection

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

76b-p()

- Positive pressure, full face, air-supplied breathing apparatus should be used for work in enclosed spaces if a leak is suspected or the primary containment is to be opened (e.g. for a cylinder change)
- Air-supplied breathing apparatus is required where release of gas from primary containment is either suspected or demonstrated.

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

Appearance	Green to yellow colour liquid with under pressure with slight odour; miscible with water.
------------	---

Continued...

## Coogee Chemicals Chlorine

Physical state	Liquified Gas	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Applicable
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	-100.98	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	-33.97	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)	100
Vapour pressure (kPa)	638.4 @ 20C	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (Not Available%)	Not Available
Vapour density (Air = 1)	~2.2	VOC g/L	Not Available

## SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> </ul>
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	<p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system, in a substantial number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage.</p> <p>Inhalation of the vapour is hazardous and may even be fatal</p> <p>Chlorine vapour is extremely irritating to the upper respiratory tract and lungs</p> <p>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.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant.</p>
Ingestion	<p>Ingestion of liquid may result in burns to the mouth and throat.</p> <p>Overexposure is unlikely in this form.</p>
Skin Contact	<p>Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic).</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Vapourising liquid causes rapid cooling and contact may cause cold burns, frostbite, even through normal gloves. Frozen skin tissues are painless and appear waxy and yellow.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p>
Eye	<p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.</p> <p>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.</p> <p>Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p>
Chronic	<p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Principal route of occupational exposure to the gas is by inhalation.</p> <p>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).</p> <p>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.</p>

Coogee Chemicals Chlorine	TOXICITY	IRRITATION
	Not Available	Not Available
chlorine	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >10000 mg/kg <sup>[1]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Inhalation(Rat) LC50: 143.803 ppm4h <sup>[1]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>
	Oral (Rat) LD50; >237 mg/kg <sup>[1]</sup>	
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	

CHLORINE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after 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 either not available or does not fill the criteria for classification ✓ – Data available to make classification			

SECTION 12 Ecological information

Toxicity

Coogee Chemicals Chlorine	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
chlorine	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.018mg/l	2
	LC50	96h	Fish	0.037mg/l	2
	EC50	96h	Algae or other aquatic plants	~0.1~0.4mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	0.005mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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				

Very toxic to aquatic organisms.  
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.  
**DO NOT** discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations





Waste treatment methods

Product / Packaging disposal	▶ Evaporate residue at an approved site. ▶ Return empty containers to supplier.
------------------------------	--

SECTION 14 Transport information

Labels Required

## Coogee Chemicals Chlorine

	  
Marine Pollutant	
HAZCHEM	2XE

## Land transport (ADG)

UN number	1017				
UN proper shipping name	CHLORINE				
Transport hazard class(es)	<table> <tr> <td>Class</td><td>2.3</td></tr> <tr> <td>Subrisk</td><td>5.1, 8</td></tr> </table>	Class	2.3	Subrisk	5.1, 8
Class	2.3				
Subrisk	5.1, 8				
Packing group	Not Applicable				
Environmental hazard	Environmentally hazardous				
Special precautions for user	<table> <tr> <td>Special provisions</td><td>AU07</td></tr> <tr> <td>Limited quantity</td><td>0</td></tr> </table>	Special provisions	AU07	Limited quantity	0
Special provisions	AU07				
Limited quantity	0				

## Air transport (ICAO-IATA / DGR)

UN number	1017														
UN proper shipping name	Chlorine														
Transport hazard class(es)	<table> <tr> <td>ICAO/IATA Class</td><td>2.3</td></tr> <tr> <td>ICAO / IATA Subrisk</td><td>5.1, 8</td></tr> <tr> <td>ERG Code</td><td>2PX</td></tr> </table>	ICAO/IATA Class	2.3	ICAO / IATA Subrisk	5.1, 8	ERG Code	2PX								
ICAO/IATA Class	2.3														
ICAO / IATA Subrisk	5.1, 8														
ERG Code	2PX														
Packing group	Not Applicable														
Environmental hazard	Environmentally hazardous														
Special precautions for user	<table> <tr> <td>Special provisions</td><td>A2</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>Forbidden</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>Forbidden</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>Forbidden</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>Forbidden</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Forbidden</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>Forbidden</td></tr> </table>	Special provisions	A2	Cargo Only Packing Instructions	Forbidden	Cargo Only Maximum Qty / Pack	Forbidden	Passenger and Cargo Packing Instructions	Forbidden	Passenger and Cargo Maximum Qty / Pack	Forbidden	Passenger and Cargo Limited Quantity Packing Instructions	Forbidden	Passenger and Cargo Limited Maximum Qty / Pack	Forbidden
Special provisions	A2														
Cargo Only Packing Instructions	Forbidden														
Cargo Only Maximum Qty / Pack	Forbidden														
Passenger and Cargo Packing Instructions	Forbidden														
Passenger and Cargo Maximum Qty / Pack	Forbidden														
Passenger and Cargo Limited Quantity Packing Instructions	Forbidden														
Passenger and Cargo Limited Maximum Qty / Pack	Forbidden														

## Sea transport (IMDG-Code / GGVSee)

UN number	1017						
UN proper shipping name	CHLORINE						
Transport hazard class(es)	<table> <tr> <td>IMDG Class</td><td>2.3</td></tr> <tr> <td>IMDG Subrisk</td><td>5.1, 8</td></tr> </table>	IMDG Class	2.3	IMDG Subrisk	5.1, 8		
IMDG Class	2.3						
IMDG Subrisk	5.1, 8						
Packing group	Not Applicable						
Environmental hazard	Marine Pollutant						
Special precautions for user	<table> <tr> <td>EMS Number</td><td>F-C, S-U</td></tr> <tr> <td>Special provisions</td><td>Not Applicable</td></tr> <tr> <td>Limited Quantities</td><td>0</td></tr> </table>	EMS Number	F-C, S-U	Special provisions	Not Applicable	Limited Quantities	0
EMS Number	F-C, S-U						
Special provisions	Not Applicable						
Limited Quantities	0						

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

Not Applicable

## Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
chlorine	Not Available

## Transport in bulk in accordance with the ICG Code

Product name	Ship Type
chlorine	Not Available

Continued...

## SECTION 15 Regulatory information

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

#### chlorine is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7

Australian Inventory of Industrial Chemicals (AIIC)

### National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (chlorine)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (chlorine)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

## SECTION 16 Other information

<b>Revision Date</b>	20/08/2021
<b>Initial Date</b>	31/03/2015

### SDS Version Summary

Version	Date of Update	Sections Updated
5.1	15/04/2021	Classification change due to full database hazard calculation/update.
6.1	20/08/2021	Classification change due to full database hazard calculation/update.

### Other information

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  
ES: Exposure Standard  
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  
AIIC: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory



**Coogee Chemicals Chlorine**

NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.