

## TelChem Duration Calcium Hypochlorite Tablet

Cromag Pty Ltd

Safety Data Sheet according to WHS and ADG requirements

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

#### Product Identifier

<b>Product name</b>	TelChem Duration Calcium Hypochlorite Tablet
<b>Chemical Name</b>	Calcium Hypochlorite
<b>Synonyms</b>	Not Available
<b>Proper shipping name</b>	Calcium hypochlorite, dry or Calcium hypochlorite mixture dry with more than 39% available chlorine (8.8% available oxygen)
<b>Chemical formula</b>	Ca(ClO) <sub>2</sub>
<b>Other means of identification</b>	Not Available

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

<b>Relevant Identified Uses</b>	Water Treatment (disinfection, sanitization, oxidation)
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#### Details of the supplier of the safety data sheet

<b>Company Name</b>	Cromag Pty Ltd trading as Telford Industries and Sigma Chemicals
<b>Address</b>	7 Valentine Street Kewdale WA 6105 Australia
<b>Telephone</b>	+61 8 9353 2053
<b>Website</b>	<a href="http://www.telfordindustries.com.au">www.telfordindustries.com.au</a> / <a href="http://www.sigmachemicals.com.au">www.sigmachemicals.com.au</a>
<b>Email</b>	<a href="mailto:info@telfordindustries.com.au">info@telfordindustries.com.au</a> / <a href="mailto:info@sigmachemicals.com.au">info@sigmachemicals.com.au</a>

#### Emergency telephone number

<b>Association/Organisation</b>	Not Available
<b>Emergency telephone numbers</b>	DFES: 000 (HAZMAT EMERGENCIES)
<b>Other Emergency telephone numbers</b>	POISONS: 13 11 26

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

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

<b>Poisons Schedule</b>	S6
<b>Classification</b>	Oxidizing Solid Category 2, Acute Toxicity (Oral) Category 4, Serious Eye Damage/Irritation Category 1, Acute Aquatic Hazard Category 1, Skin Corrosion/Irritation Category 1B

#### Label Elements

<b>GHS label elements</b>	
<b>SIGNAL WORD</b>	<b>DANGER</b>



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#### Hazard statement(s)

H272	May intensify fire; oxidizer.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

#### Precautionary statement(s) Prevention

P210	Keep away from heat. No smoking.
P220	Keep and store away from clothing, incompatible materials and combustible materials.
P221	Take any precaution to avoid mixing with combustibles/organic material.
P260	Do not breathe dust or mist.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

#### Precautionary statement(s) Response

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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P370 + P378	In case of fire: Use water jets for extinction.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

#### Precautionary statement(s) Storage

P405	Store locked up.
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#### Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
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### SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

#### Substances

CAS No	% [weight]	Name
7778-54-3	> 65	calcium hypochlorite
10043-52-4	0 – 5	calcium chloride
1305-62-0	0 – 4	calcium hydroxide
	balance	Other inert ingredients

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>➤ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>➤ 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.</li> <li>➤ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>➤ Transport to hospital or doctor without delay.</li> <li>➤ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>➤ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>➤ Quickly remove all contaminated clothing, including footwear.</li> <li>➤ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>➤ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>➤ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>➤ Lay patient down. Keep warm and rested.</li> <li>➤ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>➤ 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.</li> <li>➤ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>➤ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>➤ Urgent hospital treatment is likely to be needed.</li> <li>➤ If swallowed do NOT induce vomiting.</li> <li>➤ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>➤ Observe the patient carefully.</li> <li>➤ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>➤ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>➤ Transport to hospital or doctor without delay.</li> </ul>

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

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

## 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.**

#### FOR LARGE FIRE:

- Flood fire area with water from a protected position

### Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>➤ Avoid storage with reducing agents.</li> <li>➤ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous.</li> </ul>
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**Advice for firefighters**

<b>Fire Fighting</b>	<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> <li>➤ Wear full body protective clothing with breathing apparatus.</li> <li>➤ Prevent, by any means available, spillage from entering drains or water course.</li> <li>➤ Fight fire from a safe distance, with adequate cover.</li> <li>➤ Consider evacuation (or protect in place).</li> <li>➤ Use water to control fire and cool adjacent area.</li> <li>➤ Do not approach containers suspected to be hot.</li> <li>➤ Cool fire exposed containers with water spray from a protected location.</li> <li>➤ If safe to do so, remove containers from path of fire.</li> <li>➤ If fire gets out of control withdraw personnel and warn against entry.</li> <li>➤ Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>➤ Will not burn but increases intensity of fire.</li> <li>➤ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>➤ Heat affected containers remain hazardous.</li> <li>➤ Contact with combustibles such as wood, paper, oil or finely divided metal may produce spontaneous combustion or violent decomposition.</li> <li>➤ May emit irritating, poisonous or corrosive fumes.</li> </ul> <p>Decomposition may produce toxic fumes of:</p> <p>Chlorine gas that can be converted to other chlorine compounds.</p>
<b>HAZCHEM</b>	1W

**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**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>➤ Clean up all spills immediately.</li> <li>➤ No smoking, naked lights, ignition sources.</li> <li>➤ Avoid all contact with any organic matter including fuel, solvents, sawdust, paper or cloth and other incompatible materials, as ignition may result.</li> <li>➤ Avoid breathing dust or vapours and all contact with skin and eyes.</li> <li>➤ Control personal contact with the substance, by using protective equipment.</li> <li>➤ DO NOT use sawdust as fire may result.</li> <li>➤ Scoop up solid residues and seal in labelled drums for disposal.</li> <li>➤ Neutralise/decontaminate area.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>➤ DO NOT touch the spill material</li> <li>➤ Clear area of personnel and move upwind.</li> <li>➤ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>➤ May be violently or explosively reactive.</li> <li>➤ Wear full body protective clothing with breathing apparatus.</li> <li>➤ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>➤ No smoking, flames or ignition sources.</li> <li>➤ Increase ventilation.</li> <li>➤ NEVER USE organic absorbents such as sawdust, paper or cloth.</li> <li>➤ Use spark-free and explosion-proof equipment.</li> <li>➤ Collect any recoverable product into labelled containers for possible recycling.</li> <li>➤ Avoid contamination with organic matter to prevent subsequent fire and explosion.</li> <li>➤ DO NOT mix fresh with recovered material.</li> </ul>



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	<ul style="list-style-type: none"> <li>➤ Collect residues and seal in labelled drums for disposal.</li> <li>➤ Wash area and prevent runoff into drains.</li> <li>➤ Decontaminate equipment and launder all protective clothing before storage and re-use.</li> <li>➤ If contamination of drains or waterways occurs advise emergency services.</li> </ul>
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Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>➤ Avoid personal contact and inhalation of dust, mist or vapours.</li> <li>➤ Provide adequate ventilation.</li> <li>➤ Always wear protective equipment and wash off any spillage from clothing.</li> <li>➤ Keep material away from light, heat, flammables or combustibles.</li> <li>➤ Keep cool, dry and away from incompatible materials.</li> <li>➤ Avoid physical damage to containers.</li> <li>➤ DO NOT repack or return unused portions to original containers. Withdraw only sufficient amounts for immediate use.</li> <li>➤ When handling NEVER smoke, eat or drink.</li> <li>➤ Use only good occupational work practice.</li> <li>➤ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>
<b>Other Information</b>	<ul style="list-style-type: none"> <li>➤ Store in original containers.</li> <li>➤ Keep containers securely sealed as supplied.</li> <li>➤ Store in a cool, well ventilated and dry area.</li> <li>➤ Keep containers closed when not in use</li> <li>➤ Store under cover and away from sunlight.</li> <li>➤ Store away from flammable or combustible materials, debris and waste. Contact may cause fire or violent reaction.</li> <li>➤ Store away from incompatible materials and foodstuff containers.</li> <li>➤ DO NOT stack on wooden floors or pallets.</li> </ul>

### Conditions for safe storage, including any incompatibilities

<b>Suitable Container</b>	<ul style="list-style-type: none"> <li>➤ DO NOT repack. Use containers supplied by manufacturer only.</li> <li>➤ PE drums are suitable.</li> </ul>
<b>Storage Incompatibility</b>	<ul style="list-style-type: none"> <li>➤ Presence of rust (iron oxide) or other metal oxides catalyses decomposition of inorganic hypochlorite.</li> <li>➤ Contact with water can cause heating and decomposition giving off chlorine and oxygen gases. Solid hypochlorite in contact with water or moisture may generate sufficient heat to ignite combustible materials. Thermal decomposition can be sustained in the absence of oxygen.</li> <li>➤ Contact with acids produces toxic fumes of chlorine.</li> <li>➤ Anhydrous solid hypochlorite may decompose violently on heating or if subject to friction.</li> <li>➤ Inorganic hypochlorite reacts violently with many incompatible materials including fuels, oils, wood, paper, etc. which become readily ignitable. Avoid contact with peroxides glycerin, lubricating oil, combustibles, amines, solvents, charcoal, metal oxides and salts, copper, mercaptans, sulfur, organic sulfides, turpentine.</li> <li>➤ Contact of hypochlorite with nitromethane, alcohols, glycerol, phenol or diethylene glycol monomethyl ether results in ignition.</li> <li>➤ Explosions following reaction with methanol are attributed to formation of methyl hypochlorite.</li> <li>➤ When finely divided materials such as sugar, wood dust and paper are contaminated with hypochlorite solution they burn more readily when dry.</li> <li>➤ Incompatible with sanitising bowl cleaners containing bisulfites.</li> <li>➤ Avoid any contamination of this material as it is very reactive.</li> <li>➤ Avoid storage with reducing agents.</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	calcium hydroxide	Calcium hydroxide	5 mg/m <sup>3</sup>	Not Available	Not Available	Not Available


### EMERGENCY LIMITS

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
calcium hypochlorite	Calcium hypochlorite; (Calcium oxychloride)	2.6 mg/m <sup>3</sup>	28 mg/m <sup>3</sup>	170 mg/m <sup>3</sup>
calcium hydroxide	Calcium hydroxide	1 mg/m <sup>3</sup>	240 mg/m <sup>3</sup>	1,500 mg/m <sup>3</sup>

Ingredient	Original IDLH	Revised IDLH
calcium hypochlorite	Not Available	Not Available
calcium hydroxide	Not Available	Not Available
water	Not Available	Not Available

### MATERIAL DATA

#### Exposure controls

<b>Appropriate engineering controls</b>	<p>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.</p> <p>Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powdered by mutual friction.</p> <p>Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace. If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered.</p> <p>Such protection might consist of:</p> <p>(a): particle dust respirators, if necessary, combined with an absorption cartridge;</p> <p>(b): filter respirators with absorption cartridge or canister of the right type;</p> <p>(c): fresh-air hoods or masks.</p>
<b>Personal Protection</b>	
<b>Eye and Face protection</b>	<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> <li>➢ Maintain eye wash fountain and quick-drench facilities in work area (AS1336/1337).</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>➢ Wear chemical protective gloves, e.g. PVC.</li> <li>➢ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p>NOTE:</p> <ul style="list-style-type: none"> <li>➢ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>➢ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <ul style="list-style-type: none"> <li>➢ Neoprene gloves</li> <li>➢ DO NOT wear cotton or cotton-backed gloves.</li> <li>➢ DO NOT wear leather gloves.</li> <li>➢ Promptly hose all spills off leather shoes or boots or ensure that such footwear is protected with PVC over-shoes.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>➢ Overalls.</li> <li>➢ PVC Apron.</li> <li>➢ PVC protective suit may be required if exposure severe.</li> </ul>

	<ul style="list-style-type: none"> <li>➤ Eyewash unit.</li> <li>➤ Ensure there is ready access to a safety shower.</li> <li>➤ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) is not recommended as they may produce static electricity.</li> <li>➤ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> <li>➤ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</li> </ul>
<b>Thermal hazards</b>	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)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	300g white bullet-shaped tablets with strong odour of chlorine; miscible with water		
<b>Physical state</b>	Solid	<b>Molecular weight (g/mole)</b>	Not Available
<b>Odour</b>	Chlorine	<b>Evaporation rate</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Flammability</b>	Not Applicable
<b>Relative density (water=1)</b>	1.9	<b>Upper Explosive Limit (%)</b>	Not Applicable
<b>Colour</b>	White	<b>Lower Explosive Limit (%)</b>	Not Applicable
<b>pH (as supplied)</b>	10.5 – 11.5 (1% in water @ 25 °C)	<b>Vapour pressure (kPa)</b>	Not Available
<b>Melting point/Freezing point (°C)</b>	180 decomposes	<b>Solubility in water (g/L)</b>	18% @ 25 °C
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Vapour density (Air = 1)</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>➤ Unstable in the presence of incompatible materials.</li> <li>➤ Product is considered stable under normal handling conditions.</li> <li>➤ Prolonged exposure to heat is not recommended.</li> <li>➤ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

## SECTION 11 TOXICOLOGICAL INFORMATION

### Information on toxicological effects

<b>Inhaled</b>	Chlorine vapour is extremely irritating to the upper respiratory tract and lungs.
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	Symptoms of exposure to chlorine include coughing, choking, breathing difficulty, chest pain, headache, vomiting and pulmonary oedema. Inhalation may cause lung congestion, bronchitis and loss of consciousness. Effects may be delayed. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
<b>Ingestion</b>	Accidental ingestion of the material may be harmful. The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.
<b>Skin Contact</b>	The material can produce chemical burns following direct contact with the skin. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects
<b>Eye</b>	The material can produce chemical burns to the eye following direct contact.
<b>Chronic</b>	Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.

Product Name	TOXICITY	IRRITATION
<b>calcium hypochlorite</b>	Oral (rat) LD50: 850 <sup>[2]</sup>	Not Available
<b>calcium hydroxide</b>	Dermal (rabbit) LD50: >2500 mg/kg <sup>[1]</sup>	Eye (rabbit): 10 mg - SEVERE
	Oral (rat) LD50: 7340 mg/kg <sup>[2]</sup>	

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

<b>calcium hypochlorite</b>	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. <b>Acute toxicity:</b> The acute oral LD50 of calcium hypochlorite was 790 mg/kg in male rats. Inhalation exposures to concentrations of greater than about 500 ppm (10 min or more) may be fatal for rats. Based on human experience and control studies in volunteers, it can be concluded that the acute NOAEL for humans was considered to be 0.5 ppm (1.5 mg/m <sup>3</sup> ). Asthma-like symptoms may continue for months or even years after exposure to the material ceases.
<b>calcium hypochlorite &amp; calcium hydroxide</b>	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. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

<b>Acute Toxicity</b>	✓	<b>Carcinogenicity</b>	⊖
<b>Skin Irritation/Corrosion</b>	✓	<b>Reproductivity</b>	⊖
<b>Serious Eye Damage/Irritation</b>	✓	<b>STOT – single exposure</b>	⊖
<b>Respiratory or Skin sensitisation</b>	⊖	<b>STOT – repeated exposure</b>	⊖
<b>Mutagenicity</b>	⊖	<b>Aspiration Hazard</b>	⊖

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

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
<b>calcium hypochlorite</b>	LC50	96	Fish	0.023mg/L	4
<b>calcium hypochlorite</b>	EC50	48	Crustacean	0.073mg/L	4



calcium hypochlorite	EC50	96	Algae or other aquatic plants	9031.950mg/L	3
calcium hypochlorite	EC50	96	Crustacean	0.023mg/L	4
calcium hypochlorite	NOEC	24	Fish	<0.01mg/L	1
calcium hydroxide	LC50	96	Fish	160mg/L	4
calcium hydroxide	EC50	1.5	Algae or other aquatic plants	66mg/L	4
calcium hydroxide	NOEC	48	Crustacean	33.3mg/L	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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				

**Ecotoxicity**

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 discharge into sewer or waterways.**

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
calcium hypochlorite	LOW	LOW
water	LOW	LOW

**Bio accumulative potential**

Ingredient	Bioaccumulation
calcium hypochlorite	LOW (Log KOW = -0.8694)
water	LOW (Log KOW = -1.38)

**Mobility in Soil**

Ingredient	Mobility
calcium hypochlorite	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"> <li>➢ Containers may still present a chemical hazard/ danger when empty.</li> <li>➢ Return to supplier for reuse/ recycling if possible.</li> <li>Otherwise:                             <ul style="list-style-type: none"> <li>➢ If container can't be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>➢ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>➢ It may be necessary to collect all wash water for treatment before disposal.</li> <li>➢ 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.</li> <li>➢ Treat and neutralise at an approved treatment plant.</li> <li>➢ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> </li> </ul>
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**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

	
Marine Pollutant	
HAZCHEM	1W

**Land transport (ADG)**

UN Number	1748	
UN proper shipping name	Calcium hypochlorite, dry or Calcium hypochlorite mixture dry with more than 39% available chlorine (8.8% available oxygen)	
Transport Hazard class(es)	Class	5.1
	Sub Risk	Not Applicable
Packing group	III	
Environmental Hazard	Not Applicable	
Special precautions for user	Special provisions	314
	Limited quantity	1 kg

**Air transport (ICAO-IATA / DGR)**

UN Number	1748	
UN proper shipping name	Calcium hypochlorite, dry or Calcium hypochlorite mixture dry with more than 39% available chlorine (8.8% available oxygen)	
Transport Hazard class(es)	ICAO/IATA Class	5.1
	ICAO/IATA Sub Risk	Not Applicable
Packing group	III	
Environmental Hazard	Not Applicable	
Special precautions for user	Not Available	

**Sea transport (IMDG-Code / GGVSee)**

UN Number	1748	
UN proper shipping name	Calcium hypochlorite, dry or Calcium hypochlorite mixture dry with more than 39% available chlorine (8.8% available oxygen)	
Transport Hazard class(es)	IMDG Class	5.1
	IMDG Sub Risk	Not Applicable
Packing group	III	
Environmental Hazard	Marine Pollutant	
Special precautions for user	EMS, Fire	F-H
	EMS, Spillage	S-Q

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

Not Applicable

**SECTION 15 REGULATORY INFORMATION**

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



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**CALCIUM HYPOCHLORITE, DRY (7778-54-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

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

**CALCIUM HYDROXIDE (1305-62-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

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

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (calcium hypochlorite)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (water)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	<i>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)</i>

**SECTION 16 OTHER INFORMATION**

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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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Name	CAS No		
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		

**END OF SDS**