

**POOL SYSTEMS**  
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## **MATERIAL SAFETY DATA SHEET**

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**Hazardous according to criteria of Worksafe Australia**

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**Date of Issue : 1<sup>st</sup> January 2012**

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### **1. IDENTIFICATION**

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#### **General**

Product Name : LIFE SPA & HOT TUB ESSENTAILS - LITHIUM

Other Names : LITHIUM HYPOCHLORITE

UN No. : 1471

Dangerous Goods Class : 5.1

Subsidiary Risk : None Allocated

Hazchem Code : 2P

Pack Group : II

EPG : 31

Poisons Schedule : 5

Uses :

Algicide, bactericide, deodorant, potable water purification, disinfectant for swimming pools, fungicide, bleaching agent (paper, textiles).

#### **1.1 Physical Description / Properties**

Appearance : White granular solid with a chlorine odour.

Formula :  $\text{CaCl}_2\text{O}_2$

Boiling Point : N/A deg C

Melting Point : N/A deg C

Vapour Pressure : N/A

Specific Gravity : N/A (water = 1)

Flash Point : N/A

pH : 11.5 (5% soln)

Solubility in water : 180 g/l (25 deg C)

Flammability Limits (as percentage volume in air)

Lower Explosion Limit : N/A

Upper Explosion Limit : N/A

### 1.2 Other Properties

Decomposition temperature : approx 180 deg C

### 1.3 Ingredients

Chemical Entity	CAS No.	Proportions (%)
CALCIUM HYPOCHLORITE	[ 7778-54-3]	65 - 75
SODIUM CHLORIDE	[ 7647-14-5]	10 - 20
WATER	[ 7732-18-5]	0 - 5.5
CALCIUM CHLORATE	[10137-74-3]	0 - 5
CALCIUM CHLORIDE	[10043-52-4]	0 - 5
CALCIUM HYDROXIDE	[ 1305-62-0]	0 - 4
CALCIUM CARBONATE	[ 471-34-1]	0 - 4

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## 2. HEALTH HAZARD INFORMATION

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### 2.1 Health Effects - Acute

#### Swallowed

Swallowing can result in gastrointestinal corrosion causing severe pain, nausea and vomiting. Large doses may be fatal.

## **Eye**

A severe eye irritant.

## **Skin**

Not appreciably irritating to the skin in the dry form. Repeated or prolonged skin contact or contact with moist skin can result in moderate to severe burns.

## **Inhaled**

Dusts and chlorine (decomposition product) are corrosive to the respiratory tract. Confusion, pulmonary oedema, and collapse can result. Chlorine, evolved from decomposition when wet, is a severe respiratory irritant, corrosive and highly toxic. Delayed effects can include shortness of breath, headache, oedema and pneumonia.

## **2.2 Health Effects - Chronic**

No data available

## **2.3 First Aid**

### **Swallowed**

Immediately rinse mouth with water. Give water to drink. DO NOT induce vomiting. Seek immediate medical assistance.

### **Eye**

Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. Seek immediate medical assistance.

### **Skin**

Immediately wash contaminated skin with plenty of water. Remove contaminated clothing and wash before reuse. If swelling, redness, blistering, or irritation occurs seek medical advice.

### **Inhaled**

Remove victim from 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 breathing is laboured and patient cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through face mask. If breathing has stopped apply artificial respiration at once. In event of cardiac arrest, apply external cardiac massage. Seek medical advice.

## **First Aid Facilities**

Ensure an eye bath and safety shower are available and ready for use.

## **2.5 Advice to Doctor**

Treat symptomatically based on judgement of doctor and individual reactions of patient. Delayed effects from exposure to chlorine (decomposition product) can include shortness of breath, headaches, pulmonary oedema, and pneumonia.

## **2.6 Toxicity Data**

Oral LD50 = 850 mg/kg (Rat) Dermal LD50 = not available Inhalation LC50 = not available

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## **3. PRECAUTIONS FOR USE**

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### **3.1 Exposure Standards**

No value assigned for this specific material by the National Occupational Health and Safety Commission (Worksafe Australia). However, exposure standards for the decomposition product exists : Chlorine : TWA 1ppm (3 mg/m<sup>3</sup>) peak limitation. Peak Limitation : a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes. These 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. 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. Odour threshold for chlorine : 0.5 - 2 ppm for previously unexposed individuals.

### **3.2 Engineering Controls**

Use in well ventilated area. Avoid generating and inhaling dusts. Keep container closed when not in use. Ensure adequate ventilation to maintain exposure levels below applicable workplace standards.

### **3.3 Personal Protection**

Overalls, safety shoes, goggles, gloves, dust mask. Avoid skin and eye contact. Wear overalls, chemical goggles and impervious gloves. Avoid generating and inhaling dusts. If dust exists, wear dust mask/respirator meeting the requirements of AS1715 and AS1716. Always wash hands and face thoroughly after handling and before work breaks, eating, drinking, smoking and using toilet facilities. Wash contaminated clothing and other protective equipment before storing or re-using as it constitutes a fire hazard.

### **3.4 Flammability**

Non-combustible, but will support combustion of other material.

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## **SAFE HANDLING INFORMATION**

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### **4.1 Storage / Transport**

This material is a scheduled Poison (S5) and must be stored, maintained and used in accordance with the relevant regulations. Store in a cool, dry place and out of direct sunlight. Store away from combustible materials, foodstuffs, and sources of heat. Keep dry - reacts with water; may lead to drum rupture. Keep containers closed at all times - check regularly for

spills. Ensure that pallets are clean and free from oil. DO NOT return spilled material to original container.

#### **4.2 Packaging / Labelling**

UN No. 2880

Class 5.1

Sub Risk None Allocated

Hazchem Code 2P

Pack Group II

EPG No. 31

Shipping Name CALCIUM HYPOCHLORITE, HYDRATED

Hazard CORROSIVE

#### **Risk Phrases**

R8 Contact with combustible material may cause fire.

R31 Contact with acids liberates toxic gas.

R34 Causes burns.

#### **Safety Phrases**

S2 Keep out of reach of children.

S26 In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre.

S43:CAHYPO65 In case of fire use large quantities of water.

#### **4.3 Spills and Disposal**

##### **Spills**

Clean-up personnel should wear full protective clothing including breathing apparatus in confined areas. Work upwind. Avoid contact with moisture or any other incompatible materials.

Sweep up, avoiding generation of dust, then immediately spread as a thin layer in an uncontaminated, dry, open area to reduce the possibility of local hot spots forming. Gradually hose to drain ensuring large dilution. DO NOT store or transport swept up material. DO NOT return spilled material to original container. DO NOT add small amounts of water to material. Where a spill has occurred in a confined space or an unventilated building/ enclosure and the material is damp and evolving chlorine, the rate of chlorine evolution can be reduced by covering the thinly spread solid with soda ash. For large spills notify the Emergency Services.

## Disposal

Dispose of in accordance with all Local, State and federal regulations at an approved waste disposal facility. Wash to drain with large quantities of water. DO NOT dispose of at waste site without first referring to State Land Waste Management Authority. Empty containers must be decontaminated by thoroughly rinsing with water.

## 4.4 FIRE AND EXPLOSION HAZARD

### Fire / Explosion

Powerful oxidising agent. Not combustible, but will support combustion of other materials. Decomposes violently upon heating liberating oxygen, hence "fueling" any fire, and toxic chlorine gas. Will react with organic materials. Can readily ignite combustible materials. Decomposition can be rapid and violent upon contact with incompatible materials and on heating. Corrosive to most metals in the presence of moisture.

### Extinguishing Media

Fire-fighters should wear full protective clothing including self-contained breathign apparatus. Only large quantities of water should be used as an extinguishing agent. If excess water is not available DO NOT attempt to extinguish the fire; use available water to prevent the spread of fire to adjacent property. A fire in the vicinity of calcium hypochlorite should be extinguished in the most practical manner but avoid contaminating the calcium hypochlorite with fire-fighting agent, including water (decomposes upon contact with water evolving toxic chlorine gas). Once fire is extinguished wash area down with excess water ensuring any traces of calcium hypochlorite are washed away. Ensure drains are not blocked with solid material. Maintenance of excess water during cleanup is essential. Any contaminated combustible material should be removed to a safe open area for controlled burning or further drenching with water to ensure complete decontamination before disposal.

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## 5 OTHER INFORMATION

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### Other Information

No data available

### 5.1 Contact Points

Organisation	Location	Telephone	Ask For
Pool Systems	Brendale Q	07 3889 6722	Technical Officer
Poisons Information Centre	Westmead	131129	
		1800-251525	