



# SAFETY DATA SHEET

## LIQUID LITHIUM POOL AND SPA SANITISER

Issue Date: 30/10/20  
Issued by : BOND CHEMICALS Pty Ltd

### 1. IDENTIFICATION

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**GHS Product Identifier**

LIQUID LITHIUM POOL AND SPA SANITISER

**Company Name**

BOND CHEMICALS Pty Ltd (ABN 491 505 672 67)

**Address**

23 Otterington Grove, Ivanhoe East  
Victoria 3079. Australia

**Telephone**

0429 625 750

**Emergency Contact Name**

Manufacturing Manager, Bond Chemicals Pty Ltd

**E-mail Address**

[maxbradbury6@bigpond.com](mailto:maxbradbury6@bigpond.com)

**Recommended use of the chemical and restrictions on use**

FOR CONTROL OF BACTERIA AND ALGAE IN SWIMMING POOLS and SPAS. Do NOT mix with other chemicals. Do NOT mix with other chlorinating chemicals.

### 2. HAZARD IDENTIFICATION

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**GHS classification of substance/mixture**

This product is classified as a POISON in schedule 3 of Home Swimming Pool and SPA Products Standard, 2014; APVMA.\*

Classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail; 7.6 edition.\*

Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)\* including Work, Health and Safety Regulations, Australia.

Eye Damage/Irritation; Category 1

Skin Corrosion/Irritation; Category 1C

Hazardous to the Aquatic Environment – Acute Hazard; Category 1

### Signal Word (s)

DANGER

### Hazard Statement (s)

AUH031 Contact with acids liberates toxic gas.

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage

H400 Very toxic to aquatic life.

### Precautionary Statement (s)

P102 Keep out of the reach of children

P103 Read label before use.

### Pictogram (s)



### Precautionary Statement – Prevention

P104 Read Safety Data Sheet before use.

P234 Keep only in original container

P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Precautionary Statement – Response

P301+P330+P333 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.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes.

### Precautionary Statement - Storage

Keep locked up when not in use. Store in a corrosion resistant container or in a container with a corrosion resistant liner.

**Precautionary Statement – Disposal**

Dispose of contents/container in accord with State, Territorial or Commonwealth regulations. Dispose of triple rinsed empty containers to plastics recycle system, or general waste disposal system.

**Other Information**

In Australia and New Zealand, the POISONS CENTRE is the Poisons Information Centre; Australia: Telephone 13 11 26; New Zealand Telephone 0800 764 766

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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Ingredients

Name	CAS	Proportion
Water	7732-18-5	70-90 %
Lithium Hypochlorite	1380-33-0	5-30 %
Lithium Hydroxide	1310-65-2	0-1 %

**4. FIRST – AID MEASURES**

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**Inhalation**

Move people from contaminated area immediately, but avoid injury to yourself. Observe patient(s). If patient(s) not breathing, apply artificial respiration. If breathing is difficult, oxygen can be given by a suitably trained/qualified person. Obtain medical attention or transport to a hospital promptly.

**Ingestion**

Never give fluid by mouth or induce vomiting if patient is unconscious or having convulsions. If swallowed do not induce vomiting. If conscious and alert give one glass of water to rinse mouth but do not swallow. Give another glass of water to drink. Obtain medical attention promptly and/or transfer to an emergency hospital.

**Skin**

If skin and/or hair contact occurs, remove contaminated clothing and foot wear and flush skin and hair with running water. Seek medical attention immediately or transfer to an emergency hospital. Wash contaminated clothing thoroughly before re-use.

**Eye**

If in eyes, hold eyelids apart, and flush the eye continuously with running water Remove contact lenses, if fitted, before flushing with water. Continue flushing until advised to stop by the Poisons

Information Centre or a Doctor, or for at least 15 minutes. Promptly contact a Doctor and/or transport to an emergency hospital.

#### **First Aid Facilities**

An eye wash unit, a shower and drinking quality water should be readily accessible in the work area for swimming pool and spa cleaning contractors or be adjacent to the swimming pool or spa in the recreational environment. Mild soap should be available to aid washing of the skin.

#### **Advice to Doctor**

No antidote available. Treat symptomatically and supportively. Chemical burns should be treated by a Doctor. Product is corrosive to tissue, mucous membranes, throat, gastrointestinal tract. If swallowed may cause burns to lips, mouth, upper respiratory tract and digestive tract.

#### **Indication of immediate medical attention and special treatment if necessary**

For advice, contact Poisons Information Centre, Phone Australia 13 11 26; New Zealand: 0800 764 766 or a Doctor.

## **5. FIRE FIGHTING MEASURES**

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#### **Suitable Extinguishing Media**

Use extinguishing media appropriate for the source of the fire. Apply water fog or water spray to keep intact containers cool and for a short period after the fire source is extinguished. DO NOT water fog or water spray to split or damaged containers.

#### **Specific Methods**

Remove sealed containers from the path of the fire if safe to do so. If not, keep fire exposed containers cool with water spray. Operate upwind of the containers and out of the path of the fire.

#### **Specific Hazards Arising from the Chemical**

None expected as the product is neither flammable or combustible. As an oxidizing agent it will greatly increase the burning rate of combustible materials. Sealed containers exposed to heat of a fire may rupture releasing a corrosive solution as a spray, and chlorine from the decomposition of the product.

#### **Hazchem Code**

2X

#### **Precautions in connection with Fire**

Firefighters should wear full protective equipment and other equipment such as self-contained breathing apparatus appropriate to the major source of fire and the potential release of chlorine gas if product containers rupture.

## 6. ACCIDENTAL RELEASE MEASURES

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### Methods and Materials for Containment and Cleaning Up

Remove unnecessary people from spill area. Wear appropriate protective clothing and contain spill with soil, sand or vermiculite to prevent entry into drains, sewers, water courses and water storages. Do NOT use sawdust or other cellulose based materials. Collect spilled material if possible, otherwise soak up in an inert absorbent material and collect in labelled containers for disposal. Residual spilled product can be neutralized with a weak solution of sodium sulphite. Wash residual materials from spill scene/area with plenty of water.

### Environmental Precautions

DO NOT allow entry into water courses, drains or sewers.  
Advise local authorities if spillage is likely to enter or has entered water courses or drains.

## 7. STORAGE AND HANDLING

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### Precautions for Safe Handling

NOTE WELL. Product is a corrosive liquid. Do not get in eyes, on skin or on clothing. Do not breathe vapour, mist or gas. Product will irritate eyes, nose, throat and skin. Discard contaminated footwear. Use clean containers for dispensing. Mix with water only.

### Conditions for safe storage, including any incompatibilities

Store under cover in a dry, clean, cool, well ventilated place away from sunlight, food, food stuffs, strong acids, oxidizing agents. Store in upright containers. Ensure that container is closed when not in use.

### Storage Regulations

Store in accordance with Dangerous Goods (Storage and Handling) regulations of your jurisdiction.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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### Occupational exposure limit values

Lithium Hypochlorite decomposes to chlorine if strongly acidified or heated. Under normal storage and handling conditions no hazardous decomposition products are released. A National Exposure Standard (NES)\* has not been established by the SWA\* for lithium hypochlorite.

For chlorine, the NES is 1ppm, Peak limitation, where a peak limitation is the maximum atmospheric concentration determined over the shortest, analytically practicable period of time not exceeding 15 minutes.

### **Appropriate Engineering Controls**

A system of local and/or general exhaust ventilation is recommended in the workplace to keep exposure levels below the National Exposure Standard for chlorine. For recreational use ensure that ventilation in closed spaces is adequate and maintained to reduce inhalation exposure potential when handling and using this product.

### **Respiratory Protection**

For recreational use, ensure that the product is used in a well-ventilated space. In the workplace if exposure limit is exceeded and engineering controls are not practicable a full face, air-purifying (acid gas) respirator may be used. Where atmospheric concentrations are unknown wear a full face, positive-pressure air supplied respirator. Select and fit approved respirators according to AS/NZS 1715\* and AS/NZS 1716\*.

### **Eye Protection**

Wear approved chemical goggles. In the workplace environment eye protection complying with AS/NZS 1337\* should be worn to protect against splashes and droplets of the product from entering the eye. Guidance to recommended practices for eye protection in the industrial environment is provided in AS/NZS 1336\*. Ensure that the eye wash facility is readily available and accessible in the workplace.

### **Body Protection**

For recreational use wear protective gloves, long sleeves, foot and eye protection to minimize exposure to the corrosive chemical.

In the workplace personnel handling and using this product are recommended to wear long sleeved body covering clothing, protective gloves e.g. PVC coated gloves, eye protection (see above), PVC apron and for some operations 'rubber' or PVC footwear. Selection of protective clothing can be guided by reference to AS/NZS 4501\*.

Remove contaminated clothing promptly. Wash contaminated clothing before re-use.

### **Hygiene Measures**

It is good practice, both in the recreational area and the workplace, to avoid eye and skin contact, and avoid breathing vapour or mists of this product.

In addition it is a good practice to wash face, hands and arms before eating, drinking or smoking after using this product or at the end of a work period.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	CLEAR YELLOW/GREEN LIQUID	Solubility (Water)	SOLUBLE
Odour	CHLORINE LIKE ODOUR	Specific Gravity	1.1 at 20 deg C
Boiling Point	Not determined		
pH	12.0 (1% w/w)	Vapour Pressure	17.5 mm Hg @ 20°
Flash Point	NOT APPLICABLE	Flammability	NOT FLAMMABLE
Auto Ignition Temp	NOT APPLICABLE	Flammable Limit Lower	NOT APPLICABLE
Flammable Limit Upper	NOT APPLICABLE		

## 10. STABILITY AND REACTIVITY

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### Reactivity

Contact with acids liberates toxic chlorine gas

### Chemical Stability

Decomposes slowly at ambient temperature, releasing low concentrations of chlorine. Decomposition is influenced by temperature, exposure to sunlight, and the presence of metals. The amount of available chlorine diminishes over time.

### Conditions to avoid

Sunlight, combustible materials, strong acids and temperatures over 40 deg C

### Incompatible Materials

Incompatible with acids, amines, EDTA, ammonia, ammonium salts, reducing agents, metals, methanol, formic acid. DO NOT mix with different types of chlorinating compounds.

### Hazardous Decomposition Products

Chlorine gas evolved on heating

Possibility of hazardous reactions

Evolves toxic and corrosive gas, chlorine, on contact with acids. Hypochlorous acid fumes if reacted with weak acids and chlorine is evolved if reacted with strong acids such as hydrochloric, sulphuric, or nitric acid. Reacts with aluminium and zinc, generating hydrogen.

### Hazardous Polymerization

Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

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### **Toxicology Information**

There is no specific toxicological information available for this product, which is an alkaline aqueous solution of Lithium Hypochlorite. However toxicity data is available for solid Lithium Hypochlorite as follows:-

Acute oral toxicity (rat):	LD50	555 mg/kg
Acute dermal toxicity (rabbit)	LD50	8,100 mg/kg
Skin irritation:	Non-corrosive.	
Eye Irritation (rabbit):	Severe eye irritation	
Sensitisation:	Not expected to be skin sensitive.	

However the presence of free Lithium Hydroxide is significant due to its severe corrosivity to mucous membranes, eyes and skin.

### **Ingestion**

CORROSIVE LIQUID. Irritating to mucous membranes and other tissues. Will cause severe irritation and potential burns to throat (gullet) and stomach. May cause nausea and vomiting.

### **Inhalation**

Inhalation of mists of product will cause severe irritation of mucous membranes of respiratory tract.

### **Skin**

CORROSIVE LIQUID. Moderate to severe skin irritation on single, or short-term exposure. Prolonged or frequently repeated skin contact may result in a chemical burn.

### **Eye**

CORROSIVE LIQUID. If liquid in eyes, will cause severe irritation and eye burns. Product is corrosive to eye tissue. Risk of serious eye effects. Mist of product may cause eye irritation. May cause permanent injury possibly loss of sight.

### **Chronic Effects**

Prolonged or frequent skin contact/exposure may cause dermatitis.

## **12. ECOLOGICAL INFORMATION**

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### **Ecological information**

There is no specific information for this product.

However, there are very toxic effects due to the presence of lithium hydroxide and lithium hypochlorite.



For a similar alkali, Sodium Hydroxide, aquatic toxicity (mosquito fish): LC50 96 hours: 125 mg/litre; and (water flea): LC50 – EC50 – 48 hours; 34.59-47.13 mg/litre.

The available chlorine of a Lithium Hypochlorite solution is similar to that of sodium hypochlorite.

For Sodium Hypochlorite (fish -pink salmon): LCo-96 hours, 0.023-0.052 mg/litre.

### **Known Harmful Effects on the Environment**

Very toxic to aquatic life.

### **Environmental Protection**

Toxic to aquatic organisms. Avoid contamination of watercourse and water storages, drains, and/or sewers.

Advise local authorities if spill of product is likely to or has entered watercourses, drains and/or sewers.

## **13. DISPOSAL CONSIDERATION**

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### **Waste Disposal**

Dispose of waste materials in accordance with relevant state, territorial or Commonwealth waste disposal regulations.

### **Container Disposal**

Triple rinse 'empty' containers with water. Return rinsed containers to plastic recycle system or include in general waste disposal system. In recreational usage triple rinse containers with pool or spa water before disposal. DO NOT use "empty" or rinsed containers for storage or packaging of other liquids or foodstuffs.

## **14. TRANSPORT INFORMATION**

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### **Transport Information**

Product is a DANGEROUS GOOD (DG), Class 8 – CORROSIVE for transport by road, rail, sea or air. Road and rail should be in accord with the current edition of the ADG code\* and statutory regulations.

Product is incompatible in a transport load containing Class1, Class 4.3, Class 5, Cyanides, Acids, Radioactive goods and is incompatible with food and food packaging in any quantity.

**U.N. Number** 1791

### **UN proper shipping name**

HYPOCHLORITE SOLUTION

### **Transport hazard class (es)**

Class 8

<b>Packing Group</b>	II
<b>Hazchem Code</b>	2X
<b>IERG Number</b>	37

## 15. REGULATION INFORMATION

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### Regulatory information

Product is classified as a DANGEROUS GOOD (see above).

Product is classified as a hazardous chemical – SKIN CORROSION/IRRITATION, as acute hazard according to the Globally Harmonised System for Classification and Labelling of Hazardous Chemicals.\*

However, this product as named, is classified as an agricultural chemical (algicide) and subject to control by the Agricultural Pesticides and Veterinary Medicines Authority (APVMA) of the Australian Federal Government.

### Poisons Schedule

S5

### Packaging and Labelling

Product label as compiled, based on APVMA\* requirements ie Schedule 3 of their Swimming Pool and Spa Products Standard 2007 or 2014, and has gained subsequent approval by that statutory organization.

Label is approved by APVMA for 1L, 2.5L and 5L pack sizes. APVMA Approval Number: 87057/117452

### Australia (ACIS)

Principal active components of this product are included in the Australian Inventory of Chemical Substances (AICS)\*

## 16. OTHER INFORMATION

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### Date of preparation or last revision of SDS

Safety Data Sheet (SDS) issued on 12 February 2020. SDS is prepared in compliance with the National Code of Practice for Preparation of SDS\*.

### References

\*Agricultural and Veterinary Chemicals Code (Listed Chemical products – Home Swimming Pool and Spa Products) Standard 2014. APVMA

\* APVMA = Australian Pesticide and Veterinary Medicine Authority.

\*GHS = Globally Harmonised System for the classification and labelling Hazardous Chemicals. United Nations Publication.

\*ADG = Australian Dangerous Goods Code 7.6 Edition 2019

\*NES = National Exposure Standard = Exposure Standards for Atmospheric Contaminants in the Occupational Environment in Exposure Standard section of HSIS, as amended.

\*HCIS = Hazardous Chemicals Information System, maintained by SWA

- \*SWA = Safe Work Australia
- \*AS = Australian Standard
- \*NZN = New Zealand Standard
- \*AS/NZS 1716: Respiratory protective devices.
- \*AS/NZS 1715: Selection, use and maintenance of respiratory protective devices
- \*AS/NZS 1337: Eye protectors for Industrial Applications
- \*AS/NZS 1336: Recommended practices for eye protection in the Industrial Environment
- \*AS/NZS 4501: Protective Clothing – Protection against Chemicals
- \*National Poisons Standard (Standard for the Uniform Scheduling of Medicines and Poisons,) Therapeutics Goods Authority. Refer to Commlaw website.
- \*AICS = Australian Inventory of Chemical Substances maintained by National Industrial Chemicals Notification and Assessment Scheme.
- \*National Model Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals, Safe Work Australia.

### **Contact Person/Point**

BUSINESS HOURS: Product Information Officer, 0429 625 750

This SDS summarises our best knowledge of the health and safety hazard information of this product and how to safely handle and use the product. Each user must review this SDS in the context of how the product will be handled and used. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

As far as lawfully possible, Bond Chemicals Pty Ltd accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**END OF SDS**