SAFETY DATA SHEET

LIQUID MAGNESIUM

Issue Date: **17/2/23**

Issued by : **BOND CHEMICALS Pty Ltd**

1. IDENTIFICATION

GHS Product Identifier
Magnesium Chloride Hexahydrate, 64% Solution

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

Recommended use of the chemical and restrictions on use
FOR PROVIDING A CHLORIDE SOURCE FOR THE GENERATION OF CHLORINE IN POOLS AND SPAS BY ELECTROLYSIS.

2. HAZARD IDENTIFICATION

GHS classification of substance/mixture
This product is NOT classified as a POISON in SUSMP*
Not Classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail; 7.7 edition.*
Not 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 2. (OECD- eChemPortal)*
Skin Corrosion/Irritation; Category 2 (OECD – eChemPortal)*
Specific Target Organ Toxicity SE3 (OECD – eChemPortal)*

Signal Word (s)
WARNING

Hazard Statement (s)
H315 Causes skin Irritation
H319 Causes serious eye irritation
H335 May cause respiratory irritation

Precautionary Statement (s)
P102 Keep out of the reach of children
P103 Read label before use.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Pictogram (s)

Precautionary Statement – Prevention
P104 Read Safety Data Sheet before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement – Response
P302+P352 IF ON SKIN: Wash with plenty of soap and water
P333+P313 If skin irritation or rash occurs: Get medical advice/attention
P304+P342+P315 IF INHALED: If experiencing respiratory symptoms: Get medical advice attention.

Precautionary Statement - Storage
P405 Store locked up.
P402+P404 Store in dry place. Store in closed container.

Precautionary Statement – Disposal
Dispose of contents/container in accord with State, Territorial or Commonwealth regulations.
Dispose of 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

Ingredients

Name	CAS	Proportion
Water	7732-18-5	70%
Magnesium Chloride (Anhydrous)	7786-30-3	30%

4. FIRST – AID MEASURES

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 patent is unconscious or having convulsions.
If swallowed do not induce vomiting. Give one glass of water to rinse mouth but do not swallow.
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. If swelling, redness, blistering or irritation occurs, seek medical assistance. 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 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.

Advice to Doctor

No antidote available. Treat symptomatically and supportively. Chemical burns should be treated by a Doctor.

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

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. Sealed containers exposed to heat of a fire may rupture releasing a corrosive solution as a spray.

Hazchem Code

Not applicable

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 vapour/ gas if product containers rupture.

6. ACCIDENTAL RELEASE MEASURES

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. Collect spilled material if possible, otherwise soak up in an inert absorbent material and collect in labelled containers for disposal.

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

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, oxidizing agents. Store in upright containers. Ensure that container is closed when not in use.

Storage Regulations

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limit values

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 this product.

Appropriate Engineering Controls

A system of local and/or general exhaust ventilation is recommended in the workplace to keep exposure levels low. 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 natural ventilation should be adequate. 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, 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). 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

Appearance	CLEAR/YELLOW LIQUID	Solubility (Water)	SOLUBLE
Odour	Odourless	Specific Gravity	1.27 at 20 deg C
Boiling Point	Not determined		
pH	6-9	Vapour Pressure	Not determined
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

Reactivity

Very stable product

Chemical Stability

May decomposes at temperatures over 160 deg C, releasing low concentrations of hydrochloric acid and chlorine.

Conditions to avoid

Sunlight, strong acids, oxidisers and temperatures over 160 deg C

Incompatible Materials

May be Incompatible with strong acids, and oxidizing agents.

Hazardous Decomposition Products

Hydrogen Chloride and/or Chlorine gas evolved on heating at high temperatures, >160 deg C.

Possibility of hazardous reactions

None known

Hazardous Polymerization

Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Toxicology Information

There is no specific toxicological information available for this product. However toxicity as follows:-

Acute oral toxicity LD 50:	8100 mg/kg
Acute dermal toxicity	Unknown
Skin irritation:	Category 2 Skin Irritant. (Reversible damage to the skin following exposure of up to 4 hours)
Eye Irritation :	Category 2 Eye irritant. (Human experience showing changes in the eye which are fully reversible within 21 days.)
Specific Target Organ Toxicity	SE3. (This category includes dizziness, drowsiness and respiratory tract irritation (sore throat, cough). These effects whilst adversely altering human function, are short duration after exposure, and do not result in significant alteration of structure or function following recovery.

Ingestion

Irritating to mucous membranes and other tissues. Will cause irritation 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

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

Eye

If liquid in eyes, will cause severe irritation. Mist of product may cause eye irritation and changes to the eye, which are reported to be reversible after 21 days.

Chronic Effects

Prolonged or frequent skin contact/exposure may cause dermatitis.

12. ECOLOGICAL INFORMATION

Ecological information

Test Species	Endpoint	Results (mg/L)	Klimisch score	Reference
Pimephales promelas	96-hr LC50	2119	2	ECHA
Daphnia magna	48-hr LC50	548	2	ECHA
Daphnia magna	48-hr LC50	841	2	ECHA
Ceriodaphnia dubia	48-hr LC50	1328	2	ECHA
Desmodesmus subspicatus	72-hr EC50 NOEC	>100 100	1	ECHA

The 21-day EC10 of magnesium chloride in Daphnia reproduction test is 321 mg/L (ECHA)[KI score=2]

The EC10 value from a chronic Daphnia reproduction study is >0.1 mg/L. The acute LC50 values are >1mg/L in fish, invertebrates and algae. Thus magnesium chloride does not meet the screening criteria for toxicity.

Known Harmful Effects on the Environment
Magnesium Chloride is of low toxicity concern to aquatic life.

Environmental Protection
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

Waste Disposal

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

Container Disposal

Rinse 'empty' containers with water. Return rinsed containers to plastic recycle system or include in general waste disposal system**.** In recreational usage, 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

Transport Information
Product is NOT a DANGEROUS GOOD (ADG7.7).

U.N. Number None

UN proper shipping name
None but use:-
Magnesium Chloride Solution, 30%w/w of anhydrous material.

Transport hazard class (es)

Not hazardous

Packing Group
None
Hazchem Code None
IERG Number None

15. REGULATION INFORMATION

Regulatory information
Product is NOT classified as a DANGEROUS GOOD (see above).
Product is classified as a Category 2– SKIN IRRITANT, (GHS)
Product is classified as a Category 2-EYE IRRITANT, (GHS)
Product is classified as STOT-SE3 (GHS)

Poisons Schedule
Non Poisonous

Packaging and Labelling
Product label as compiled, based on requirements of SWA*.

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

16. OTHER INFORMATION

Date of preparation or last revision of SDS
Safety Data Sheet (SDS) issued on February 17, 2023. 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
*NZS = 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.

*Klimisch,H.J., Andreae,M., and Tillmann, U.,(1997) A systematic approach for evaluating the quality of experimental and toxicological and ecotoxicological data. Regul Toxicol. Pharmacol. 25:1-5
*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.
*ECHA. ECHA REACH database: http://echa.europa.eu/information-on-chemicals/registered-substances

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