

SAFETY DATA SHEET



Revision date: 28-Aug-2024

Revision Number 6

Section 1: Identification

Product identifier

Product Name MAGNESIUM HYDROXIDE LIQUID

Product Code(s) 000034290801

Other means of identification

Synonyms MHL * MHS * MHS 60 * Magnesium hydroxide slurry * EMAG slurry * EMAGMHS * EMAGMHS 60

Recommended use of the chemical and restrictions on use

Recommended use Water treatment chemical. Waste water treatment.

Uses advised against No information available.

Details of manufacturer or importer

Supplier

IXOM Operations Pty Ltd
ABN: 51 600 546 512
Level 8, 1 Nicholson Street
Melbourne 3000
Australia

Telephone Number: +61 3 9906 3000

Emergency telephone number

Emergency telephone number **1 800 033 111 (ALL HOURS)**

Please ensure you refer to the limitations of this Safety Data Sheet as set out in the "Other Information" section at the end of this Data Sheet.

Section 2: Hazard identification

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

GHS Classification

Serious eye damage/eye irritation	Category 2
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Label elements

Exclamation mark



Signal word

WARNING

Hazard statements

H319 - Causes serious eye irritation

Precautionary Statements - Prevention

Wash hands thoroughly after handling.

Wash eyes thoroughly after handling.

Wear protective gloves/clothing and eye/face protection.

Precautionary Statements - Response

Specific treatment (see First aid on this SDS).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

Precautionary Statements - Storage

No storage statements.

Precautionary Statements - Disposal

No disposal statements.

Other hazards which do not result in classification

May be harmful if swallowed.

Section 3: Composition and information on ingredients

Chemical name	CAS No.	Weight-%
Calcium hydroxide	1305-62-0	<3%
Magnesium hydroxide	1309-42-8	>60%
Water	7732-18-5	30-60%
Crystalline silica (Quartz)	14808-60-7	<1%

Section 4: First aid measures**Description of first aid measures****General advice**

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. (Call a physician if symptoms occur).

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water. Call a physician if symptoms occur.

Ingestion

Clean mouth with water. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed**Symptoms**

May cause redness and tearing of the eyes. Irritation.

Effects of Exposure

No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

Section 5: Firefighting measures**Suitable Extinguishing Media**

Suitable extinguishing media Dry chemical, CO2, water spray or regular foam.

Unsuitable extinguishing media No information available.

Specific hazards arising from the chemical

Specific hazards arising from the chemical Non-combustible. Magnesium hydroxide is a commonly used flame retardant and would normally be expected to suppress the heat of a surrounding fire.

Special protective actions for fire-fighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Section 6: Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Personal precautions Avoid contact with skin, eyes and inhalation of vapors. Stop leak if you can do it without risk. Evacuate personnel to safe areas. Do not touch or walk through spilled material. Use personal protective equipment as required. Wash thoroughly after handling.

For emergency responders Use personal protection recommended in Section 8.

Environmental precautions

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Section 7: Handling and storage**Precautions for safe handling**

Advice on safe handling Avoid contact with skin and eyes. Avoid breathing vapors or mists. Use personal protection equipment. Wash thoroughly after handling. Keep out of reach of children.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands and face before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep container

closed when not in use.

Incompatible materials Acids.

Section 8: Exposure controls and personal protection

Control parameters

Exposure Limits No value assigned for this specific material by Safe Work Australia. However, Workplace Exposure Standard(s) for constituent(s):

Chemical name	Australia	New Zealand	ACGIH TLV
Calcium hydroxide 1305-62-0	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³
Crystalline silica (Quartz) 14808-60-7	TWA: 0.05 mg/m ³	TWA: 0.025 mg/m ³	TWA: 0.025 mg/m ³ respirable particulate matter

Chemical name	European Union	United Kingdom	Germany DFG
Calcium hydroxide 1305-62-0	-	TWA: 1 mg/m ³ TWA: 5 mg/m ³ STEL: 4 mg/m ³ STEL: 15 mg/m ³	TWA: 1 mg/m ³ Peak: 2 mg/m ³
Crystalline silica (Quartz) 14808-60-7	-	TWA: 0.1 mg/m ³ STEL: 0.3 mg/m ³	-

Silica Crystalline - Quartz (respirable dust): 8hr TWA = 0.05 mg/m³, Carcinogen Category 1A

As published by Safe Work Australia Workplace Exposure Standards for Airborne Contaminants.

TWA - The time-weighted average airborne concentration of a particular substance when calculated over an eight-hour working day, for a five-day working week.

Carcinogen Category 1A - established human carcinogen. There is sufficient evidence to establish a causal association between human exposure and the development of cancer.

These Workplace 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. These workplace 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.

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Individual protection measures, such as personal protective equipment

The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods, and environmental factors.

OVERALLS, SAFETY SHOES, CHEMICAL GOGGLES, GLOVES.



Eye/face protection	Goggles.
Skin and body protection	Overalls. Boots. Wear suitable protective clothing.
Hand protection	Impervious gloves.
Respiratory protection	If determined by a risk assessment an inhalation risk exists, wear a suitable mist respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.
Environmental exposure controls	No information available.
Thermal hazards	No information available.

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Color	Light Grey
Odor	Earthy
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	10-11	None known
pH (as aqueous solution)	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash point	Not applicable	None known
Evaporation rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	Not applicable	
Lower flammability or explosive limits	Not applicable	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	1.5-1.6	None known
Water solubility	Dispersible	None known
Solubility(ies)	Soluble in ammonium salts and dilute acids	None known
Partition coefficient	No data available	None known
Autoignition temperature	Not applicable	None known
Decomposition temperature	350°C (decomposes to magnesium oxide)	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	<100 cP @ 100/s	None known

Other information

Section 10: Stability and reactivity**Reactivity****Reactivity** Reacts with acids.**Chemical stability****Stability** The shelf-life is 3 months.**Explosion data****Sensitivity to mechanical impact** None.**Sensitivity to static discharge** None.**Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**Hazardous polymerization** Hazardous polymerization does not occur.**Conditions to avoid****Conditions to avoid** Contact with incompatible materials.**Incompatible materials****Incompatible materials** Acids.**Hazardous decomposition products****Hazardous decomposition products** Calcium oxides. Oxides of magnesium. Oxides of silicon.**Section 11: Toxicological information****Information on likely routes of exposure****Product Information** No adverse health effects expected if the chemical is handled in accordance with this Safety Data Sheet and the chemical label. Symptoms or effects that may arise if the chemical is mishandled and overexposure occurs are:**Inhalation** May cause irritation.**Eye contact** Causes serious eye irritation.**Skin contact** May cause irritation.**Ingestion** Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.**Symptoms** May cause redness and tearing of the eyes. Irritation.**Acute toxicity****Numerical measures of toxicity - Product Information**

No information available

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Calcium hydroxide	> 2000 mg/kg (Rat)	> 2500 mg/kg (Rat)	> 6.04 mg/L (Rat) 4 h

Magnesium hydroxide	= 8500 mg/kg (Rat)	-	> 2.1 mg/L (Rat) 4 h
Water	> 90 mL/kg (Rat)	-	-

See section 16 for terms and abbreviations

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	Causes serious eye irritation. Classification is based on mixture calculation methods based on component data.
Respiratory or skin sensitization	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen. Refer to 'Chronic effects' section below.

Chemical name	Australia	European Union	IARC
Crystalline silica (Quartz) - 14808-60-7	Carc. 1A	-	-

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Chronic effects:	<p>The toxicity of crystalline silica is directly proportional to the ability of any particle to reach the lower respiratory tract. Quartz particles with an aerodynamic diameter below 4µm are likely to be most harmful to humans, as they reach the lower respiratory tract and are less readily removed by the lungs.</p> <p>Increases in lung cancer have been attributed to the inhalation of crystalline silica in a number of industries, including; ore mining, quarrying and granite works, ceramics, pottery, refractory brick and diatomaceous earth industries and in foundry workers.</p> <p>The International Agency for Research on Cancer has classified crystalline silica as a Type 1 Carcinogen - Carcinogenic to Humans, based on sufficient evidence in humans and animals.</p> <p>Increasing in vitro and in vivo evidence suggests that lung carcinomas in rats are a result of marked and persistent inflammation and epithelial proliferation.</p> <p>Crystalline silica also causes a range of non-neoplastic pulmonary effects, including; inflammation, silicosis, lymph node fibrosis, airways disease, emphysema and increased permeability of the airspace epithelium.</p>

Section 12: Ecological information**Ecotoxicity****Aquatic ecotoxicity** Keep out of waterways.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Magnesium hydroxide	-	LC50: =511.31 mg/L (96h, Pimephales promelas)	-	-

Terrestrial ecotoxicity There is no data for this product.**Persistence and degradability****Persistence and degradability** No information available.**Bioaccumulative potential****Bioaccumulation** There is no data for this product.**Mobility****Mobility** No information available.**Other adverse effects****Other adverse effects** No information available.**Section 13: Disposal considerations****Waste treatment methods****Waste from residues/unused products** Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal.

See section 8 for more information

Section 14: Transport information**ADG** Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.**IATA** Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air; NON-DANGEROUS GOODS.**IMDG** Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea; NON-DANGEROUS GOODS.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available

Section 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Australia**

Classified as a hazardous substance in accordance with the criteria of Safe Work Australia - Globally Harmonized System (GHS).
Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

See section 8 for national exposure control parameters

Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)

No poisons schedule number allocated

Poison Schedule Number	Not applicable
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Australian Industrial Chemicals Introduction Scheme (AICIS)

Contact supplier for inventory compliance status

Chemical name	Australian Industrial Chemicals Introduction Scheme (AICIS)	Additional information
Calcium hydroxide - 1305-62-0	Present	-
Magnesium hydroxide - 1309-42-8	Present	-
Water - 7732-18-5	Present	-
Crystalline silica (Quartz) - 14808-60-7	Present	-

Illicit Drug Precursors/Reagents

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

International Inventories**AIIC**

All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals.

NZIoC

All the constituents of this material are listed on the New Zealand Inventory of Chemicals.

TSCA

Contact supplier for inventory compliance status.

DSL/NDSL

Contact supplier for inventory compliance status.

EINECS/ELINCS

Contact supplier for inventory compliance status.

ENCS

Contact supplier for inventory compliance status.

IECSC

Contact supplier for inventory compliance status.

KECL

Contact supplier for inventory compliance status.

PICCS

Contact supplier for inventory compliance status.

Legend:**AIIC- Australian Inventory of Industrial Chemicals****NZIoC - New Zealand Inventory of Chemicals****TSCA - United States Toxic Substances Control Act Section 8(b) Inventory****DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List**

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: Other information

Reason(s) For Issue: 5 Yearly Revised Primary SDS

Prepared By This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).

Revision date: 28-Aug-2024

Revision Note:

The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

SVHC: Substances of Very High Concern for Authorization:
PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances
vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances
STOT: Specific Target Organ Toxicity
ATE: Acute Toxicity Estimate
LC50: 50% Lethal Concentration
LD50: 50% Lethal Dose

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
Australian Industrial Chemicals Introduction Scheme (AICIS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Disclaimer

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since IXOM Operations Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their IXOM representative or IXOM Operations Pty Ltd at the contact details on page 1.

IXOM Operations Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.

End of Safety Data Sheet