

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 the supplier of the safety data sheet

#### Supplier

IXOM Operations Pty Ltd (Incorporated in Australia)  
 NZBN: 9429041465226  
 Street Address: 166 Totara Street  
 Mt Maunganui South  
 New Zealand

Telephone Number: +64 9 368 2700  
 Facsimile: +64 9 368 2710

### Emergency telephone number

**Emergency Telephone** 0 800 734 607 (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

Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; NON-DANGEROUS GOODS.

Classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

### GHS Classification

|  |            |
|--|------------|
| <b>Serious eye damage/eye irritation</b> | Category 2 |
|--|------------|

### Label elements



**Signal word**

Warning

**Hazard statements** H319 - Causes serious eye irritation**Precautionary Statements - Prevention**

Keep out of reach of children..

**Precautionary Statements - Response**

Specific treatment (see First aid on this SDS).

**Eyes**

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**

Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.

**Other hazards which do not result in classification**

No information available.

**Section 3: Composition/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**

Remove to fresh air. 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: Fire-fighting 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.

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

**Personal precautions** Avoid contact with skin and eyes. 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.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**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.

**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/personal protection****Control parameters**

**Exposure Limits** No value assigned for this specific material by the New Zealand Workplace Health & Safety Authority. However, Workplace Exposure Standard(s) for constituents:

| Chemical name                             | New Zealand                  | Australia                   | ACGIH TLV  | United Kingdom  |
|---|------------------------------|-----------------------------|--|---|
| Calcium hydroxide<br>1305-62-0            | TWA: 5 mg/m <sup>3</sup>     | TWA: 5 mg/m <sup>3</sup>    | TWA: 5 mg/m <sup>3</sup>   | TWA: 1 mg/m <sup>3</sup><br>TWA: 5 mg/m <sup>3</sup><br>STEL: 4 mg/m <sup>3</sup><br>STEL: 15 mg/m <sup>3</sup> |
| Crystalline silica (Quartz)<br>14808-60-7 | TWA: 0.025 mg/m <sup>3</sup> | TWA: 0.05 mg/m <sup>3</sup> | TWA: 0.025 mg/m <sup>3</sup><br>respirable particulate<br>matter | TWA: 0.1 mg/m <sup>3</sup><br>STEL: 0.3 mg/m <sup>3</sup>   |

Silica-Crystalline a-Quartz: WES-TWA = 0.025 mg/m<sup>3</sup> (respirable dust), confirmed carcinogen (r)

As published by the New Zealand Workplace Health & Safety Authority.

WES - TWA (Workplace Exposure Standard - Time Weighted Average) - The eight-hour, time-weighted average exposure standard is designed to protect the worker from the effects of long-term exposure.

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.

Hand protection

Impervious gloves.

Skin and body protection

Overalls. Boots. Wear suitable protective clothing.

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.

## 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 |

| Property                               | Values                                     | Remarks • Method |
|--|--|------------------|
| pH                                     | 10-11                                      | 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

Particle characteristics

## 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****Hazardous polymerization** Hazardous polymerization does not occur.**Possibility of hazardous reactions** None under normal processing.**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****Acute toxicity****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** Irritation. May cause redness and tearing of the eyes.**Acute toxicity****Numerical measures of toxicity**  
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 )   | -                    | -                       |

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

|   |  |
|---|--|
| <b>Skin corrosion/irritation</b>                | No information available.  |
| <b>Serious eye damage/eye irritation</b>        | Causes serious eye irritation. Classification is based on mixture calculation methods based on component data.   |
| <b>Respiratory or skin sensitization</b>        | No information available.  |
| <b>Germ cell mutagenicity</b>                   | No information available.  |
| <b>Carcinogenicity</b>                          | Refer to 'Chronic effects' section below.  |
| <b>Reproductive toxicity</b>                    | No information available.  |
| <b>STOT - single exposure</b>                   | No information available.  |
| <b>STOT - repeated exposure</b>                 | No information available.  |
| <b>Aspiration hazard</b>                        | No information available.  |
| <b>Chronic effects:</b>                         | <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> |
| <b>Data used to identify the health effects</b> | Refer to Section 16 for Key literature references and sources for data used to compile the SDS.  |

## Section 12: Ecological information

**Ecotoxicity****Aquatic ecotoxicity** Keep out of waterways.

| Chemical name       | Algae/aquatic plants | Fish  | Crustacea |
|---------------------|----------------------|---|-----------|
| Magnesium hydroxide | -                    | LC50: =511.31mg/L (96h,<br>Pimephales promelas) | -         |

**Terrestrial ecotoxicity** There is no data for this product.**Persistence and degradability** No information available.**Bioaccumulative potential****Bioaccumulation** There is no data for this product.**Mobility in soil****Mobility** No information available.**Other adverse effects**

No information available.

**Section 13: Disposal considerations****Waste treatment methods**

**Waste from residues/unused products** Dispose of product in packaging in a way that is consistent with the EPA Consolidation 30 April 2021 of the Hazardous Substances (Disposal) Notice 2017 and the Act. Treat the substance using a method that changes the characteristics or composition of the substance so that the substance is no longer a hazardous substance; or export the substance from New Zealand as waste.

**Contaminated packaging** Empty containers should be taken to an approved waste handling site for recycling or disposal..

**Section 14: Transport information**

**ROAD AND RAIL TRANSPORT** Not classified as a Dangerous Good under NZS 5433 Transport of Dangerous Goods on Land; 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



**Special precautions for user**

Please refer to the applicable dangerous goods regulations for additional information

## Section 15: Regulatory information

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

**EPA New Zealand HSNO approval code or group standard**      HSR002684 - Water Treatment Chemicals (Subsidiary Hazard)

**National regulations**

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

**Certified handlers, tracking and controlled substance license requirements**

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information

Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information

Controlled substance licenses are required to possess certain explosives, vertebrate toxic agents and fumigants. See Part 7 of the Health and Safety at Work Regulation 2017 for more information

### 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

### International Inventories

|                      |   |
|----------------------|---|
| <b>NZIoC</b>         | All the constituents of this material are listed on the New Zealand Inventory of Chemicals.           |
| <b>TSCA</b>          | Contact supplier for inventory compliance status.   |
| <b>DSL/NDSL</b>      | Contact supplier for inventory compliance status.   |
| <b>EINECS/ELINCS</b> | Contact supplier for inventory compliance status.   |
| <b>ENCS</b>          | Contact supplier for inventory compliance status.   |
| <b>IECSC</b>         | Contact supplier for inventory compliance status.   |
| <b>KECL</b>          | Contact supplier for inventory compliance status.   |
| <b>PICCS</b>         | Contact supplier for inventory compliance status.   |
| <b>AIIC</b>          | All the constituents of this material are listed on the Australian Inventory of Industrial Chemicals. |
| <b>TCSI</b>          | Contact supplier for inventory compliance status.   |

**Legend:**

**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

**AIIC- Australian Inventory of Industrial Chemicals**

**TCSI** - Taiwan Chemical Substance Inventory

## Section 16: Other information

**Prepared By** This Safety Data Sheet has been prepared by IXOM Operations Pty Ltd (Toxicology and SDS Services).  
**Revision date:** 28-Aug-2024  
**Reason(s) For Issue:** 5 Yearly Revised Primary SDS

### Revision Note:

\*\*\*Indicates updated data since last publication.

### 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                 |
| **      | Hazard Designation          | +    | Sensitizers                      |
| 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)  
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