# FloMag® PWT (Potable Water Treatment) Magnesium Hydroxide

Safety Data Sheet

according to the Federal Register / Vol. 89, No. 98 / Monday, May 20, 2024 / Rules and Regulations

Version 2.0

Date of issue: 11/15/2024 Revision Date: 05/03/2026 Supersedes: 11/15/2024

## SECTION 1: Identification

### 1.1 GHS Product identifier

| | |
|---|---|
| Product Form: | Mixture |
| Product Name: | FloMag® H PWT |
| Substance Name: | Magnesium hydroxide / Water |
| Chemical Formula: | $Mg(OH)_2$ / $H_2O$ |
| EC no. | 215-170-3 / 231-791-2 |
| CAS no. | 1309-42-8 / 7732-18-5 |

### 1.3 Recommended use of the chemical and restrictions on use

The National Sanitation Foundation (NSF) has certified that FloMag® H PWT conforms to the requirements of NSF Standard 60 for Drinking Water Chemicals – Health Effects pH Adjustment Category, but only for applications where water will be further disinfected. For use in potable water treatment with a max use limit of 150 mg/L.

### 1.4 Supplier's details

| | |
|---|---|
| Name | Martin Marietta |
| Address | 2700 Wycliff Road<br>Suite 320<br>Raleigh, NC 27607<br>USA |
| Telephone | (800) 648 - 7400 |

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200, 2024)

Not classified.

### 2.2 GHS label elements, including precautionary statements

No labeling applicable.

### 2.3 Other hazards which do not result in classification

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

| Component | Identification | Weight % |
|---|---|---|
| Magnesium hydroxide | CAS no.: 1309-42-8<br>EC no.: 215-170-3 | 53 - 62 % |
| Water | CAS no.: 7732-18-5<br>EC no.: 231-791-2 | 38 - 47 % |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

General advice: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

| | |
|---|---|
| If inhaled: | If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| In case of skin contact: | Not expected to be an irritant. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. |
| In case of eye contact: | Rinse immediately with plenty of water. Obtain medical attention if pain, blinking, or redness persists. |
| If swallowed: | Rinse mouth. Do NOT induce vomiting. |

### 4.2 Most important symptoms/effects, acute and delayed

| | |
|---|---|
| Symptoms/effects: | Not expected to present a significant hazard under anticipated conditions of normal use. |
| Symptoms/effects after inhalation: | Inhalation may cause irritation, cough, shortness of breath. |
| Symptoms/effects after skin contact: | None under normal conditions. |
| Symptoms/effects after eye contact: | May case eye irritation. |

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

No special procedures required.

## SECTION 5: Fire-fighting measures

### 5.1 Suitable (and unsuitable) extinguishing media

| | |
|---|---|
| Suitable extinguishing media: | Not combustible. If there is a fire close by, use suitable extinguishing agents: water fog, carbon dioxide, dry powder. Foam. |
| Unsuitable extinguishing media: | None known. |

### 5.2 Specific hazards arising from the chemical

| | |
|---|---|
| Fire hazard: | If magnesium hydroxide is heated to the point of decomposition (>350 °C), it forms magnesium oxide and water. If magnesium oxide is heated to the point of volatilization (> 1700 °C), magnesium oxide fumes may be generated. |
| Explosive hazard: | Product is not explosive. |
| Reactivity: | Reacts with: Incompatible materials. See Section 7. |

### 5.3 Special protective actions for fire-fighters

| | |
|---|---|
| Firefighting instructions: | Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from the fire fighting to enter drains or water courses. |
| Protection during firefighting: | Do not enter fire area without proper protective equipment, including respiratory protection. |

### Further information

No additional risk management measures required.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

| | |
|---|---|
| General measures: | Avoid creating or spreading dust. |
| For non-emergency personnel: | Avoid contact with skin and eyes. Evacuate unnecessary personnel. |

For emergency personnel: Avoid contact with skin and eyes.

### 6.2 Environmental precautions

Prevent entry to sewers and public waters.

### 6.3 Methods and materials for containment and cleaning up

Take up mechanically and collect in suitable container for disposal.

### Reference to other sections

See Section 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work.

Hygiene measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking wand when leaving work.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep only in the original container in a cool, well ventilated place away from: Incompatible materials. Keep container closed when not in use.

Incompatible products: ACID (Strong) - vigorous reaction, heat generated;
MALEIC ANHHYDRIDE - Alkali and other alkaline earth compounds including magnesium compounds, will cause explosive decomposition of maleic anhydride;
PHOSPHORUS - Phosphorus boiled with alkaline hydroxides yields mixed phosphines which may ignite spontaneously with air.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**CAS: 1309-42-8 (EC: 215-170-3)**
Magnesium hydroxide
ACGIH: 10 mg/m$^3$ TLV TWA inhalation (particulate mass);
US/OSHA: 10 mg/m$^3$ PEL inhalation (total dust);
5 mg/m$^3$ PEL inhalation (respirable fraction);
US/OSHA: 15 mppcf PEL inhalation;

### 8.2 Appropriate engineering controls

Avoid creating mist or spray. Avoid splashing. Minimize open transfers open transfers that could cause splashing.

### 8.3 Individual protection measures, such as personal protective equipment (PPE)

**Eye/face protection**

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. Where excessive dust may result, wear goggles.

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment. Use an N95 respirator.

## SECTION 9: Physical and chemical properties

| | |
|---|---|
| Appearance, such as physical state and color | White Slurry |
| Odor | Odorless |

| | |
|---|---|
| Odor threshold | No data available |
| pH | 10 |
| Melting point and freezing point | 350°C / No data available |
| Initial boiling point and boiling range | No data available |
| Flash point | No data available |
| Evaporation rate | No data available |
| Flammability, in the case of solids and gases | Nonflammable |
| Lower and upper explosion limit or lower and upper flammability limit | |
| Vapor pressure | No data available |
| Relative vapor density | No data available |
| Relative density | 2.36 g/cm$^3$ (solids) specific gravity slurry = 1.53 |
| Solubility | Water: 6.9 mg/l |
| Partition coefficient — n-octanol/water (logarithmic value) | |
| Auto-ignition temperature | Does not self-ignite |
| Decomposition temperature | No data available |
| Viscosity | No data available |

### Additional properties

| | |
|---|---|
| Physical state | Liquid |
| Color | White |
| Explosive Properties | Product is not explosive. |

### Further safety characteristics (supplemental)

VOC Content: 0%

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reacts with: Incompatible materials.

### 10.2 Chemical stability

Stable at ambient temperature and under normal conditions of use.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4 Conditions to avoid

Keep/Store away from incompatible materials.

### 10.5 Incompatible materials

Incompatible products: ACID (Strong) - vigorous reaction, heat generated;
MALEIC ANHHYDRIDE - Alkali and other alkaline earth compounds including magnesium compounds, will cause explosive decomposition of maleic anhydride;
PHOSPHORUS - Phosphorus boiled with alkaline hydroxides yields mixed phosphines which may ignite spontaneously with air.

### 10.6 Hazardous decomposition products

If magnesium hydroxide is heated to the point of decomposition (>350°C), it forms magnesium oxide and water. If magnesium oxide is heated to the point of volatilization (>1700°C), magnesium oxide fumes may be generated.

## SECTION 11: Toxicological information

### Information on toxicological effects

**Acute toxicity**

Acute toxicity (oral): Not classified (Based on available data, the classification criteria are not met)

Magnesium hydroxide: LD50 oral rat: >2000 mg/kg OECD Guideline 423

| | |
|---|---|
| Acute toxicity (dermal): | Not classified (Based on available data, the classification criteria are not met) |
| Acute toxicity (inhalation): | Not classified (Based on available data, the classification criteria are not met) |
| Skin corrosion/irritation: | Not classified (Based on available data, the classification criteria are not met) |
| Serious eye damage/irritation: | Not classified (Based on available data, the classification criteria are not met) |
| Respiratory or skin sensitization: | Not classified (Based on available data, the classification criteria are not met) |
| Germ cell mutagenicity: | Not classified (Based on available data, the classification criteria are not met) |
| Carcinogenicity: | Not classified (Based on available data, the classification criteria are not met) |
| Reproductive toxicity: | Not classified (Based on available data, the classification criteria are not met) |
| Aspiration hazard: | Not classified (Based on available data, the classification criteria are not met) |

**Specific target organ toxicity (STOT)**

| | |
|---|---|
| STOT - single exposure: | Not classified (Based on available data, the classification criteria are not met) |
| STOT - repeated exposure: | Not classified (Based on available data, the classification criteria are not met) |

**Additional Information**

| | |
|---|---|
| Likely routes of exposure: | Dermal; Inhalation |
| Symptoms/effects: | Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust. |
| Symptoms after inhalation: | Inhalation may cause irritation, cough, shortness of breath. |
| Symptoms after skin contact: | None under normal conditions. |
| Symptoms after eye contact: | May cause eye irritation. |

## SECTION 12: Ecological information

### Toxicity

LC50 fish 1 (Oncorhynchus mykiss): 1293 mg/l

EC50 crustacea: 284.76 mg/l

LC50 fish 2 (P. promelas): 511.31 mg/l

ErC50 (algae): > 100 mg/l

### Persistence and degradability

Not readily biodegradable.

### Bioaccumulative potential

Not readily biodegradable although it does dissolve.

### Mobility in soil

No additional information available.

## SECTION 13: Disposal considerations

### Disposal methods

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

## SECTION 14: Transport information

### DOT (US)

Not regulated.

### IMDG

Not regulated.

### IATA

Not regulated.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### US Regulations

| Regulation | Applicability |
|---|---|
| California Proposition 65 | **CA WARNING** This product can expose you to Lead, Nickel, and Arsenic compounds, which are known to the State of California to cause cancer and developmental, male or female reproductive toxicity. For more information go to www.P65Warnings.ca.gov. |
| SARA 313 Components | This material [Magnesium hydroxide] does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| SARA 311/312 Hazards | No SARA Hazards for: Magnesium hydroxide. |

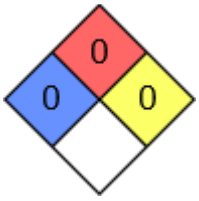
#### International Regulations

| Jurisdiction | List | Comment |
|---|---|---|
| Asia Pacific | Asia - PAC | |
| Australia | Australian Inventory of Chemical Substances (AICS) | CR No: 6315 |
| China | Inventory of Existing Chemical Substance (IECSC) | |
| Japan | Existing and New Chemical Substances (ENCS) | # 1-386; inorganic compounds |
| Korea | Chemical Inventory of Korea (KECI) | KE-22716 |
| New Zealand | Inventory of Chemicals | HSNO approval |
| Philippines | Inventory of Chemicals and Chemical Substances (PICCS) | |
| Europe | EEC International Cosmetics Ingredient Inventory (INCI) | absorbent/buffering/ |
| | EU REACH | Registered |
| | EU Inventory of Existing Commercial Chemical Substances (EINECS) | 215-170-3 |
| | German Water Hazard Class Substance List | Classification: VwVwS |
| | Switzerland Giftliste | G-8166 Toxic Category 4 |
| Canada | Canadian Domestic Substance List (DSL) | |
| United States | DOT Coast Guard Bulk Hazardous Materials | |

| | | |
|---|---|---|
| | EPA Pesticide Inert Ingredients | |
| | FDA Food Substance Generally Recognized as Safe (GRAS) | |
| | FDA Priority-based Assessment of Food Additives (PAFA) | |
| | High Production Volume Chemicals (HPV) | |
| | OSHA Permissible Exposure Limits | 8-hour TWA: total particulates 15 mg/m3 |
| | Toxic Substances Control Act (TSCA) Inventory | |
| | Toxic Inventory Update Rule | |
| | TSCA Section 8A-Preliminary Assessment Information Rule (PAIR) | |
| | High Production Volume Chemicals: ICCA | |
| | HIgh Production Volume Chemicals: OECD | |

### NFPA Rating

**NFPA Rating**




NFPA health hazard: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity 0 - Material that in themselves are normally stable, even under fire conditions.

## SECTION 16: Other information

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Revision date: 05/03/2026

Data sources:

ACGIH 2000
Chemical Inspection & Regulation Service; accessed at http://www.cirs-reach.com/Inventory/Global_Chemicalical_Inventories.html.
Ind. Exposure & Control Techn. for OSHA Regulated Substances - MgO (fume) March, 1969, pp. 1181 - 1184.
Krister Forsberg and S. Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
NIOSH Occupational Health Guide for Chemical Substances - Vol. II September 1978.
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on the classification, labelling, and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC and amending Regulation (EC) No 1907/2006.
TRECS, June 1998
Sax - 8th ED. TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at http://hazmap.nlm.nih.gov.

Abbreviations and acronyms:

ACGIH: American Conference of Government Industrial Hygienists
ATE: Acute Toxicity Estimate

CAS: Chemical Abstract Service number
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System
LD50: Lethal Dose for 50% of test population.
OSHA: Occupational Safety & Health Administration
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average

## 16.1 Further information/disclaimer

Disclaimer: The information contained in this document applies to this specific material as supplied and Martin Marietta believes that the information contained in this SDS is accurate. The suggested precautions and recommendations are based on recognized good work practices and experience as of the date of publication. They are not necessarily all-inclusive or fully adequate in every circumstance as not all use circumstances can be anticipated. It may not be valid for this material if it is used in combination with other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use. Since the actual use of the product described herein is beyond our control, Martin Marietta assumes no liability arising out of the use of the product by others. Appropriate warnings and safe handling procedures should be provided to handlers and users. Also, the suggestions should not be confused with nor followed in violation of applicable laws, regulation, rules or insurance requirement. However, products must not be used in a manner which could result in harm.

## 16.2 Preparation information

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