

# FloMag<sup>®</sup> Magnesium Hydroxide

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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Version: 1.3

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Trade name : FloMag<sup>®</sup> MHP  
Chemical name : Magnesium hydroxide  
CAS-No. : 1309-42-8  
Formula : Mg(OH)<sub>2</sub>  
Other means of identification : Magnesium dihydroxide, Magnesium hydroxide, Magnesium (II) hydroxide, milk of magnesia

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : For use in industrial applications such as industrial and municipal wastewater treatment and silica removal.

#### 1.3. Supplier

Martin Marietta Magnesia Specialties  
1800 Eastlake Road  
Manistee, Michigan 49660 - USA  
T +001 410 780 5500

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC, U.S.: 1-800-424-9300 INTERNATIONAL: +1-703-527-3887 Available 24/7

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

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

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent  
Name : FloMag<sup>®</sup> Magnesium Hydroxide  
CAS-No. : 1309-42-8

Name	Product identifier	%	GHS US classification
Magnesium hydroxide	(CAS-No.) 1309-42-8	98.8	Not classified
Oxides of silicon, iron, aluminum and calcium	(CAS-No.) mixture	1	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

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

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First-aid measures after inhalation	: If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after 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.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust.
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 cause eye irritation.

### 4.3. Immediate medical attention and special treatment, 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 (i.e., >1700 °C), magnesium oxide fumes may be generated.
Explosion hazard	: Product is not explosive.
Reactivity	: Reacts with : Incompatible materials.

### 5.3. Special protective equipment and precautions 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 fire fighting to enter drains or water courses.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other 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.
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#### 6.1.1. For non-emergency personnel

Protective equipment	: Where excessive dust may result, use approved respiratory protection equipment.
Emergency procedures	: Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment	: Where excessive dust may result, use approved respiratory protection equipment.
Emergency procedures	: Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

### 6.3. Methods and material for containment and cleaning up

For containment	: Contain and collect as any solid.
Methods for cleaning up	: Sweep up spilled material without making dust.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Provide good ventilation in process area to prevent formation of dust.
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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 and when leaving work.

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

Storage conditions : Keep container closed when not in use.

Incompatible products : ACID (Strong) - vigorous reaction, heat generated; MALEIC ANHYDRIDE – 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

Inorganic chloride salts (mixture)		
Not applicable		
Inorganic silicates and carbonates (mixture)		
Not applicable		
Magnesium hydroxide (1309-42-8)		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> as Particulates (insoluble or poorly soluble) not otherwise specified 3 mg/m <sup>3</sup> (respirable fraction / fraction respirable)
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (total dust) as inert or nuisance dust not otherwise regulated; 5 mg/m <sup>3</sup> (respirable fraction) as inert or nuisance dust not otherwise regulated
OSHA	OSHA PEL (TWA) (ppm)	15 mppcf
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
Oxides of silicon, iron, aluminum, and calcium (mixture)		
Not applicable		

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Provide local exhaust or general room ventilation to minimize exposure to dust.

### 8.3. Individual protection measures/Personal protective equipment

#### Eye protection:

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. In case of dust production: protective goggles

#### Respiratory protection:

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

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Solid  
Appearance : Powder.  
Color : white  
Odor : odorless  
Odor threshold : No data available  
pH : No data available  
pH solution :  $\geq 10$   
Melting point : 350 °C decomposes  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Relative evaporation rate (butyl acetate=1) : No data available

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Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 2.36 g/cm <sup>3</sup> Theoretical density of Mg(OH) <sub>2</sub>
Solubility	: Water: 6.9 mg/l
Log Pow	: No data available
Auto-ignition temperature	: Does not self-ignite
Decomposition temperature	: > 350 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: No oxidizing properties.

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reacts with: Incompatible materials.

### 10.2. Chemical stability

No additional information available

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

ACID (Strong) - vigorous reaction, heat generated; MALEIC ANHYDRIDE – 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

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

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

#### Magnesium hydroxide (1309-42-8)

LD50 oral rat	> 2000 mg/kg OECD Guideline 423
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)
Specific target organ toxicity – single exposure	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity – repeated exposure	: 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)

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Viscosity, kinematic	: No data available
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/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 cause eye irritation.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Magnesium hydroxide (1309-42-8)	
LC50 fish 1	1293 mg/l Onchorinchus mykiss
EC50 crustacea	284.76 mg/l
LC50 fish 2	511.31 mg/l P. promelas
ErC50 (algae)	> 100 mg/l

#### 12.2. Persistence and degradability

FloMag MHP (1309-42-8)	
Persistence and degradability	Not established.

Magnesium hydroxide (1309-42-8)	
Persistence and degradability	Not readily biodegradable.
Biodegradation	Does not degrade although it does dissolve.

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. 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

#### Department of Transportation (DOT)

In accordance with DOT

Not regulated.

#### Transport by sea

Not regulated.

#### Air transport

Not regulated.

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

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Magnesium Hydroxide (1309-42-8)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard	No
	Delayed (chronic) health hazard	No
	Fire hazard	No
	Sudden release of pressure hazard	No
	Reactive hazard	No
SARA Section 313 - Emission Reporting	Magnesium hydroxide is not hazardous and is not subject to Form R reporting requirements.	

### 15.2. International regulations

Jurisdiction	List	Comment
Asia Pacific	Asia - PAC	
Australia	Australian Inventory of Chemical Substances (AICS)	
China	Inventory of Existing Chemical Substances (IECSC)	
Japan	Existing and New Chemical Substances (ENCS)	# 1-386; inorganic compounds
Korea	KECI (Chemical Inventory of Korea)	KE-22716
New Zealand	Inventory of Chemicals (NZIoC)	HSNO approval
Phillipines	Inventory of Chemicals and Chemical Substances (PICCS)	
Europe	EEC International Cosmetics Ingredients Inventory (INCI)	absorbant/ buffering
	EU REACH pre-registered	
	EU REACH registered	01-2119488756-18-0001
	EU Inventory of Existing Commercial Chemical Substances (EINECS)	215-170-3
	German Water Hazard Class Substance List	Classification: VwVwS
	Switzerland Giftlist 1 (List of Toxic Substances)	G-8166 Toxic Category 4
Canada	Canadian Domesticated Substances List (DSL)	
North America	DOT Coast Guard Bulk Hazardous Materials	
	EPA Pesticide Inert Ingredients (PII)	
	FDA Food Substances 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/ m <sup>3</sup>
	Toxic Substances Control Act (TSCA) Inventory	
	Toxic Inventory Update Rule (IUR)	
	TSCA Section 8A-Preliminary Assessment Information Rule (PAIR)	
High Production Volume Chemicals: ICCA		
High Production Volume Chemicals: OECD		

### 15.3. US State regulations

 **WARNIN :** This product can expose you to Lead and Nickel compounds, which are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## SECTION 16: Other information

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Data sources : ACGIH 2019  
ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cl> European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
European Chemicals Agency (ECHA) Registered Substances list. Accessed at [http://apps.echa.europa.eu/registered/data/dossiers/DISS-9ea79197-1fe4-5688-e044-00144f67d031/AGGR-0e1e1da7-ccae-4cb9-a7d9-45a4191708ed\\_DISS-9ea79197-1fe4-5688-e044-00144f67d031.html#GEN\\_RESULTS\\_HD](http://apps.echa.europa.eu/registered/data/dossiers/DISS-9ea79197-1fe4-5688-e044-00144f67d031/AGGR-0e1e1da7-ccae-4cb9-a7d9-45a4191708ed_DISS-9ea79197-1fe4-5688-e044-00144f67d031.html#GEN_RESULTS_HD)  
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.  
Merck Index, 11<sup>th</sup> edition  
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th 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 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.  
US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>

Other information : None.

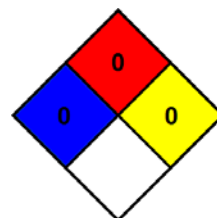
### Abbreviations and acronyms:

ACGIH (American Conference of Government Industrial Hygienists)
CAS (Chemical Abstracts Service) number
EC50: Environmental Concentration associated with a response by 50% of the test population.
GHS: Globally Harmonized System (of Classification and Labeling of Chemicals)
LD50: Lethal Dose for 50% of the test population
OSHA: Occupational Safety & Health Administration
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average
ATE: Acute Toxicity Estimate

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.



### Indication of changes:

Section	Changed item	Change	Comments
15	California Proposition 65 Disclosure	Added	

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*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*