

# CellGuard® 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  
Substance name : CellGuard® Magnesium Hydroxide  
Chemical name : Magnesium hydroxide  
CAS-No. : 1309-42-8  
Formula : Mg(OH)<sub>2</sub>  
Trade name : CellGuard® MH / CellGuard® MH UF  
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 pulp and paper.

#### 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 : CellGuard® 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 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.

### 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.
- Symptoms/effects after ingestion : None under normal conditions.

### 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

- 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.

#### 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

No additional information available

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

- For containment : Contain and collect as any solid.

### 6.4. Reference to other sections

No additional information available

## 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.
- 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.

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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

CellGuard® 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)
<b>Inorganic chloride salts (mixture)</b>		
Not applicable		
<b>Inorganic silicates and carbonates (mixture)</b>		
Not applicable		
<b>Magnesium hydroxide (1309-42-8)</b>		
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
<b>Oxides of silicon, iron, aluminum, and calcium (mixture)</b>		
Not applicable		

#### 8.2. Appropriate engineering controls

No additional information available

#### 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. Where excessive dust may result, wear goggles

##### Respiratory protection:

Where excessive dust may result, use approved respiratory protection 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	: >= 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
Flammability (solid, gas)	: Non flammable.

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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>
Molecular mass	: 58.34 g/mol
Solubility	: Water: 6.9 g/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

Stable under normal conditions

### 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

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
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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)
Viscosity, kinematic	: No data available

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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.
Symptoms/effects after ingestion	: None under normal conditions.

### 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

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

#### 12.3. Bioaccumulative potential

CellGuard® Magnesium Hydroxide (1309-42-8)	
Bioaccumulative potential	Not established.

#### 12.4. Mobility in soil

CellGuard® Magnesium Hydroxide (1309-42-8)	
Ecology - 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.

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### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

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 Giftliste 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=cla> 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.

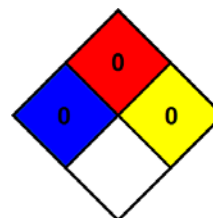
### Abbreviations and acronyms:

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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