

MagChem Magnesium Hydroxide

Safety Data Sheet

according to GHS

Date of issue: 08/04/2014

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Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Trade name : MagChem Magnesium Hydroxide
Chemical name : Magnesium hydroxide
CAS No : 1309-42-8
Product code : MagChem MH-10
MagChem MH-10 UF
MagChem MH-10 LC
MagChem MH-10 ULC
Formula : Mg(OH)₂
Product group : Trade product
Other means of identification : Magnesium dihydroxide, Magnesium hydroxide, Magnesium(II) hydroxide, milk of magnesia

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only
Use of the substance/mixture : MagChem magnesium hydroxide products are used in many industrial applications as a fuel additive and corrosion inhibitor for boilers and gas turbines, a lubrication additive, a mild dental abrasive and pigment, a pH neutralizing and heavy metal precipitating agent in water, wastewater and soil treatment, an additive in explosives, an alkali for fuel gas scrubbing, a binding agent, a viscosity modifier in drilling mud, a fertilizer and many other applications.

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Martin Marietta Magnesia Specialties
1800 Eastlake Road
Manistee, Michigan 49660, USA
Tel: +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: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substance

Substance type : Mono-constituent
Name : MagChem Magnesium Hydroxide
CAS No : 1309-42-8

Name	Product identifier	%	Classification according to GHS
Magnesium hydroxide	(CAS No) 1309-42-8 (EC no) 215-170-3	98.8	Not classified
Oxides of silicon, iron, aluminum, and calcium	(CAS No) mixture	1	Not classified

3.2. Mixture

Not applicable

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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).
First-aid measures after inhalation	: 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	: 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 persist.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust.
Symptoms/injuries after inhalation	: Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after skin contact	: Effects of skin contact may include: skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional medical information found. If you feel unwell, seek medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Not combustible. If there is a fire nearby, use suitable extinguishing agents. Water fog. Carbon dioxide. Dry powder. Foam.
Unsuitable extinguishing media	: None known.

5.2. Special hazards arising from the substance or mixture

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.

5.3. Advice for firefighters

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	: Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	: Do not allow minor leaks or spills to accumulate on walking surfaces. Contain and collect as any solid.
Methods for cleaning up	: On land, sweep or shovel into suitable containers. Minimize generation of dust.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

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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. Provide good ventilation in process area to prevent formation of dust.
- Hygiene measures : Smoking, eating and drinking should be prohibited in areas of storage and use. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

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 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.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium hydroxide (1309-42-8)		
USA - ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ as Particulates (insoluble or poorly soluble) not otherwise specified 3 mg/m ³ (respirable fraction / fraction respirable)
USA - OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³ (total dust) as inert or nuisance dust not otherwise regulated; 5 mg/m ³ (respirable fraction) as inert or nuisance dust not otherwise regulated

8.2. Exposure controls

- Appropriate engineering controls : Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Provide local exhaust ventilation of closed transfer systems to minimize exposures.
- Hand protection : Wear protective gloves. Dust impervious gloves.
- Eye protection : Chemical goggles or safety glasses
- Respiratory protection : **Up to 10 mg/m³:**
(APF = 25) Any supplied-air respirator operated in a continuous-flow mode
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
(APF = 25) Any powered, air-purifying respirator with a high-efficiency particulate filter.
(APF = 50) Any self-contained breathing apparatus with a full facepiece
(APF = 50) Any supplied-air respirator with a full facepiece
Emergency or planned entry into unknown concentrations or IDLH conditions:
(APF = 10,000) Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode
(APF = 10,000) Any supplied-air respirator that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained positive-pressure breathing apparatus
Escape:
(APF = 50) Any air-purifying, full-facepiece respirator with an N100, R100, or P100 filter.
- Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

- Physical state : Solid
- Appearance : Powder.
- Colour : white.
- Odour : Odorless.
- Odour threshold : No data available
- pH : No data available
- pH solution : ≥ 10
- Relative evaporation rate (butyl acetate=1) : No data available
- Melting point : 350 °C decomposes
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Auto-ignition temperature : Does not self-ignite
- Decomposition temperature : > 350 °C

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Flammability (solid, gas)	: Non flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 2.36 g/cm ³
Solubility	: Water: 6.9 mg/l
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: Product is not explosive.
Oxidising properties	: No oxidizing properties.
Explosive limits	: No data available

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 : Not classified

Magnesium hydroxide (1309-42-8)	
LD50 oral rat	> 2000 mg/kg OECD Guideline 423
LC50 inhalation rat (mg/l)	> 2.1 ml/m ³ OECD Guideline 403. No mortality seen at this level.
LC50 inhalation rat (Dust/Mist - mg/l/4h)	> 2.1 mg/l/4h

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

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

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12.2. Persistence and degradability

MagChem Magnesium Hydroxide (1309-42-8)

Persistence and degradability	Not established.
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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. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information : Avoid release to the environment

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

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

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not considered a dangerous good for transport regulations

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

Proper Shipping Name (ADN) : Not applicable

Proper Shipping Name (RID) : Not applicable

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

ADN

Transport hazard class(es) (ADN) : Not applicable

RID

Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

Packing group (ADR) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

Packing group (ADN) : Not applicable

Packing group (RID) : Not applicable

14.5. Environmental hazards

Dangerous for the environment : No

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Marine pollutant : No
Other information : No supplementary information available

14.6. Special precautions for user

14.6.1. Overland transport

14.6.2. Transport by sea

14.6.3. Air transport

14.6.4. Inland waterway transport

Not subject to ADN : No

14.6.5. Rail transport

Carriage prohibited (RID) : No

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

MagChem Magnesium Hydroxide is not on the REACH Candidate List

Contains no substance on the REACH candidate list

MagChem Magnesium Hydroxide is not on the REACH Annex XIV List

Contains no REACH Annex XIV substances

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	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 Weight Average

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Data sources : ACGIH 2010
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
Kristen Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
Merck Index, 11th 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.

SDS EU (REACH Annex II)

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