

Magnesium Hydroxide Slurry

Safety Data Sheet

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

Date of issue: 06/18/2015 Revision date: 03/02/2021 Supersedes: 10/16/2019 Version: 1.2

SECTION 1: Identification

1.1. Identification

Product form : Substance
Substance name : Magnesium Hydroxide Slurry
CAS-No. : 1309-42-8
Formula : Mg(OH)₂

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 classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Name : Magnesium Hydroxide Slurry
CAS-No. : 1309-42-8

| Name | Product identifier | % | GHS classification |
|---------------------|---------------------|---------|--------------------|
| Magnesium hydroxide | (CAS-No.) 1309-42-8 | 53 - 62 | Not classified |
| Water | (CAS-No.) 7732-18-5 | 38 - 47 | Not classified |

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

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.

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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. |
| 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

6.1.1. For non-emergency personnel

Protective equipment : Avoid contact with skin and eyes. Chemical goggles or safety glasses.

6.1.2. For emergency responders

Protective equipment : Avoid contact with skin and eyes. Chemical goggles or safety glasses. Wear suitable gloves.

6.2. Environmental precautions

Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up mechanically (sweeping, shoveling) and collect in suitable container for disposal.

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 : 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 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. |

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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 ³) | 10 mg/m ³ as Particulates (insoluble or poorly soluble) not otherwise specified 3 mg/m ³ (respirable fraction / fraction respirable) |
| 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 |
| OSHA | OSHA PEL (TWA) (ppm) | 15 mppcf |
| OSHA | Regulatory reference (US-OSHA) | OSHA Annotated Table Z-3 Mineral Dusts |
| Water (7732-18-5) | | |
| Not applicable | | |

8.2. Appropriate engineering controls

Appropriate engineering controls : Avoid creating mist or spray. Avoid splashing.

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

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 | : Liquid |
| Appearance | : White slurry. |
| Color | : white |
| Odor | : odorless |
| Odor threshold | : No data available |
| pH | : 10 |
| 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. |
| 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 ³ (solids) specific gravity slurry = 1.53 |
| Molecular mass | : 58.34 g/mol |
| Solubility | : Water: 6.9 mg/l |
| Log Pow | : No data available |

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| | |
|---------------------------|-----------------------------|
| 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 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

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

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.

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 (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) |

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) |
| 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) |
| Aspiration hazard | : Not classified (Based on available data, the classification criteria are not met) |
| Viscosity, kinematic | : No data available |
| Likely routes of exposure | : dermal. |
| 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 cause eye irritation. |

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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 Slurry (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

| 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. | |

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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 ³ |
| | 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.

SECTION 16: Other information

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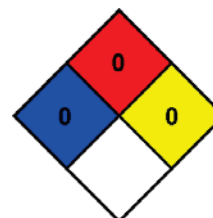
Data sources : ACGIH 2019
ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla> European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
European 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
Krister 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.

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 | |

SDS Prepared by: The Redstone Group
6077 Frantz Rd.
Suite 206
Dublin, Ohio, USA 43017
614.923.7472
www.redstonegrp.com

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.