

**MAGNESIUM HYDRIDE**

Safety Data Sheet INMG040

Date of issue: 01/06/2015

Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Substance
 Physical state : Solid
 Substance name : MAGNESIUM HYDRIDE
 Product code : INMG040
 Formula : H₂Mg
 Synonyms : HYDROGENATED MAGNESIUM
 Chemical family : METAL COMPOUND

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

Use of the substance/mixture : Chemical intermediate
 For research use only

1.3. Details of the supplier of the safety data sheet**GELEST, INC.**

11 East Steel Road
 Morrisville, PA 19067

USA

T 215-547-1015 - F 215-547-2484 - (M-F): 8:00 AM - 5:30 PM EST

info@gelest.com - www.gelest.com
1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International)

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification (GHS-US)**

Water-react. 1 H260

Full text of H-phrases: see section 16

2.2. Label elements**GHS-US labeling**

Hazard pictograms (GHS-US) :



GHS02

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H260 - In contact with water releases flammable gases which may ignite spontaneously

Precautionary statements (GHS-US) :

: P280 - Wear protective gloves/protective clothing/eye protection/face protection

P223 - Do not allow contact with water

P231+P232 - Handle under inert gas. Protect from moisture

P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages

P370+P378 - In case of fire: Use dry extinguishing powder, sand to extinguish

P402+P404 - Store in a dry place. Store in a closed container

P501 - Dispose of contents/container to licensed waste disposal facility.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients**3.1. Substance**

Substance type : Mono-constituent
 Name : MAGNESIUM HYDRIDE
 CAS No : 7693-27-8
 EC no : 231-705-3

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Name	Product identifier	%	Classification (GHS-US)
Magnesium dihydride	(CAS No) 7693-27-8	> 97	Water-react. 1, H260

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Remove contaminated clothing and shoes. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If possible show this sheet; if not available show packaging or label.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If you feel unwell, seek medical advice.
First-aid measures after skin contact	: Wash with plenty of soap and water.
First-aid measures after eye contact	: Immediately flush eyes thoroughly with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Get medical advice/attention.

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

Symptoms/injuries after inhalation	: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry powder. Sand.
Unsuitable extinguishing media	: Water-based extinguishing media should not be used.

5.2. Special hazards arising from the substance or mixture

No additional information available

5.3. Advice for firefighters

Firefighting instructions	: Exercise caution when fighting any chemical fire.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
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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

Methods for cleaning up	: Clean up any spills as soon as possible, using an absorbent material to collect it. Sweep or shovel spills into appropriate container for disposal.
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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	: Avoid contact with skin and eyes. Do not breathe dust. Provide local exhaust or general room ventilation to minimize exposure to dust.
Hygiene measures	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container tightly closed.
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Incompatible materials	: Oxidizing agent.
Storage area	: Store in a well-ventilated place. Store away from heat.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls	: Provide local exhaust or general room ventilation.
Personal protective equipment	: Avoid all unnecessary exposure. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hand protection	: Neoprene or nitrile rubber gloves.
Eye protection	: Chemical goggles. Contact lenses should not be worn.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified dust and mist (orange cartridge) respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Coarse. Powder.
Molecular mass	: 26.32 g/mol
Color	: Gray.
Odor	: No data available
Odor threshold	: No data available
Refractive index	: 1.45
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: > 300 °C (decomposes)
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 110 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: > 6
Relative density	: 1.45
Solubility	: Insoluble in water. Reacts with water.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable when stored away from moisture in sealed containers.

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10.3. Possibility of hazardous reactions

Decomposes at temperatures exceeding 250°C. Material decomposes slowly in contact with moist air or with water liberating hydrogen. Reacts violently with acids.

10.4. Conditions to avoid

Moisture.

10.5. Incompatible materials

Oxidizing agent.

10.6. Hazardous decomposition products

Hydrogen. Magnesium oxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: 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
Symptoms/injuries after inhalation	: May cause irritation to the respiratory tract.
Symptoms/injuries after skin contact	: May cause skin irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
Reason for classification	: Expert judgment

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Landfill. Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to licensed waste disposal facility.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

UN-No.(DOT)	: 2010
DOT NA no.	UN2010

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Magnesium hydride
Department of Transportation (DOT) Hazard Classes	: 4.3 - Class 4.3 - Dangerous when wet material 49 CFR 173.124

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Hazard labels (DOT) : 4.3 - Dangerous when wet



Packing group (DOT) : I - Great Danger

DOT Packaging Exceptions (49 CFR 173.xxx) : None

DOT Packaging Non Bulk (49 CFR 173.xxx) : 211

DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Transport by sea

DOT Vessel Stowage Location : E - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length, but is prohibited from carriage on passenger vessels in which the limiting number of passengers is exceeded.

DOT Vessel Stowage Other : 52 - Stow "separated from" acids

Air transport

DOT Quantity Limitations Passenger aircraft/rail : Forbidden
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 15 kg
CFR 175.75)

SECTION 15: Regulatory information

15.1. US Federal regulations

MAGNESIUM HYDRIDE (7693-27-8)

TSCA Exemption/Exclusion

CAUTION: This material is supplied for research and development purposes subject to the R&D exemption under TSCA, 40 CFR 720.36, and must meet the requirements of the exemption, including supervision by a "technically qualified individual" as defined by 40 CFR 720.3(ee). The use of this material for "commercial purposes" as defined by 40 CFR 720.3(r) is not permitted in the United States.

Magnesium dihydride (7693-27-8)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

Magnesium dihydride (7693-27-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Korean ECL (Existing Chemicals List)

15.3. US State regulations

MAGNESIUM HYDRIDE(7693-27-8)

U.S. - California - Proposition 65 - Carcinogens List	No
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

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U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
No	No	No	No	

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SECTION 16: Other information

Abbreviations and acronyms

: Abbreviations: ND: Not Determined, No Data; NA: Not Applicable; LD: Lethal Dose; LC: Lethal Concentration; ATE: Acute Toxicity Estimates; H: hour; °: °C unless otherwise stated; mm: millimeters Hg, torr; PEL: permissible exposure level; TWA: time weighted average; TLV: threshold limit value; TG: Test Guideline; NIOSH: National Institute for Occupational Safety and Health; IARC: International Agency for Research on Cancer; NTP: National Toxicology Program; HMIS: Hazardous Material Information System; CAS No.: Chemical Abstract Service Registration Number; EC No.: European Commission Registration Number; EC Index No.: European Commission Index Number; OECD: The Organisation for Economic Co-operation and Development.

Full text of H-phrases::

Water-react. 1	Substances and mixtures which in contact with water emit flammable gases Category 1
H260	In contact with water releases flammable gases which may ignite spontaneously

HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given
Flammability : 3 Serious Hazard
Physical : 2 Moderate Hazard

Prepared by safety and environmental affairs.

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SDS US (GHS HazCom 2012) - Custom

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

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