



SAFETY DATA SHEET

MATERION

1. Identification

Product identifier Magnesium Powder

Other means of identification

SDS number 2HR
Materion Code 2HR
CAS number 7439-95-4
Synonyms MAGNESIUM

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name Materion Advanced Chemicals Inc.
Address 407 N 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Telephone 414.212.0290
E-mail advancedmaterials@materion.com
Contact person Laura Hamilton
Emergency phone number Chemtrec 800.424.9300

2. Hazard(s) identification

Physical hazards

Flammable solids	Category 1
Pyrophoric solids	Category 1
Self-heating substances and mixtures	Category 1
Substances and mixtures which, in contact with water, emit flammable gases	Category 1

Health hazards Not classified.

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Danger

Hazard statement Catches fire spontaneously if exposed to air. In contact with water releases flammable gases which may ignite spontaneously.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not allow contact with air. Do not allow contact with water. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Protect from moisture. Keep cool. Protect from sunlight. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/eye protection/face protection.

Response	Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Store in a dry place. Store in a closed container. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Maintain air gap between stacks/pallets. Store away from other materials. Store contents under appropriate liquid or inert gas.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	For further information, please contact the Product Stewardship Department at +1.800.862.4118.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Magnesium Powder	MAGNESIUM	7439-95-4	100

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Remove contaminated clothing. Wash off with soap and plenty of water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Do not rub eyes. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.
Most important symptoms/effects, acute and delayed	Irritation of eyes and mucous membranes.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
General information	If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Foam. Dry chemical powder. Dry sand. Carbon dioxide (CO ₂). Dry chemical, soda ash, lime or DRY sand.
Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Spontaneously flammable in air. In contact with water releases flammable gases which may ignite spontaneously. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Do not get water inside container. Water runoff can cause environmental damage.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Catches fire spontaneously if exposed to air. Flammable solid. Self-heating; may catch fire. In contact with water releases flammable gases which may ignite spontaneously.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not get water on spilled substance or inside containers. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Neutralize with lime or soda ash. Collect spillage. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use.

Environmental precautions Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Do not allow contact with air. Open container carefully and only in a dry, oxygen-free or inert atmosphere. Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Keep cool. Avoid contact with skin. Avoid contact with eyes. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store in a dry place. Store away from other materials. Never allow product to get in contact with water during storage. Maintain air gap between stacks/pallets. Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits This substance has no PEL, TLV, or other recommended exposure limit.

Biological limit values No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls Ventilate as needed to control airborne dust. Use explosion-proof ventilation equipment if airborne dust levels are high.

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear eye/face protection. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other Wear suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Solid.
Color	Not available.
Odor	Not available.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	1203.8 °F (651 °C)
Initial boiling point and boiling range	2012 °F (1100 °C)
Flash point	932.0 °F (500.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Flammable solid.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.0000001 kPa (77 °F (25 °C))
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	883 °F (472.78 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.74 g/cm ³ estimated at 20 °C
Dynamic viscosity	1.25 mPa.s
Explosive properties	Not explosive.
Kinematic viscosity	0.7193 mm ² /s estimated
Molecular formula	Mg
Molecular weight	24.3 g/mol
Oxidizing properties	Not oxidizing.
Specific gravity	1.74 at 20 °C
Surface tension	563 mN/m (68 °F (20 °C))

10. Stability and reactivity

Reactivity	In contact with water releases flammable gas.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Exposure to moisture. Exposure to air. Contact with water liberates flammable gas. Moisture. Contact with incompatible materials.
Incompatible materials	Air. Strong oxidizing agents. Combustible material.
Hazardous decomposition products	Hydrogen chloride.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Due to lack of data the classification is not possible.

Symptoms related to the physical, chemical and toxicological characteristics Irritant effects.

Information on toxicological effects

Acute toxicity	May cause respiratory irritation.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Due to lack of data the classification is not possible.
Skin sensitization	Due to lack of data the classification is not possible.
Germ cell mutagenicity	Due to lack of data the classification is not possible.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)	Not regulated.
US. National Toxicology Program (NTP) Report on Carcinogens	Not listed.

Reproductive toxicity	Due to lack of data the classification is not possible.
Specific target organ toxicity - single exposure	Respiratory tract irritation.
Specific target organ toxicity - repeated exposure	Due to lack of data the classification is not possible.
Aspiration hazard	Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity	Accumulation in aquatic organisms is expected. May cause long lasting harmful effects to aquatic life. Contains a substance which causes risk of hazardous effects to the environment.
Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Consult authorities before disposal. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1418
UN proper shipping name	TOXIC, FLAMMABLE, WATER REACTIVE (Magnesium powder)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Label(s)	4.3, 4.2
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A19, B56, IB8, IP4, T1, TP33
Packaging non bulk	213
Packaging bulk	241

IATA

UN number	UN1418
UN proper shipping name	TOXIC, FLAMMABLE, WATER REACTIVE (Magnesium powder)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Packing group	II
Environmental hazards	No.
Special precautions for user	Not available.
Other information	
Passenger and cargo aircraft	Allowed with restrictions.
Cargo aircraft only	Allowed with restrictions.

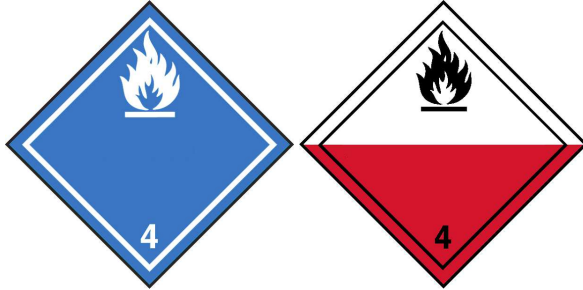
IMDG

UN number	UN1418
UN proper shipping name	TOXIC, FLAMMABLE, WATER REACTIVE (Magnesium powder)
Transport hazard class(es)	
Class	4.3
Subsidiary risk	4.2
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	Not available.
Special precautions for user	Not available.

DOT



IATA; IMDG



15. Regulatory information

US federal regulations

CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical

Yes

Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)
Pyrophoric (liquid or solid)
Self-heating
In contact with water emits flammable gas

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

16. Other information, including date of preparation or last revision

Issue date 11-17-2017

Revision date 05-20-2020

Version # 04

Disclaimer Materion Advanced Chemicals Inc. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. This document has been prepared using data from sources considered to be technically reliable and the information is believed to be correct. Materion makes no warranties, expressed or implied, as to the accuracy of the information contained herein. Materion cannot anticipate all conditions under which this information and its products may be used and the actual conditions of use are beyond its control. The user is responsible to evaluate all available information when using this product for any particular use and to comply with all Federal, State, Provincial and Local laws, statutes and regulations.