



SAFETY DATA SHEET

MATERION

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

1.1. Product identifier

Name of the substance Magnesium Powder
Identification number 012-002-00-9 (Index number)
Synonyms Magnesium
Document number 2HR
Materion Code 2HR
Issue date 17-November-2017
Version number 03
Revision date 06-March-2018
Supersedes date 29-November-2017

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

Identified uses Not available.
Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name Materion Advanced Chemicals Inc.
Address 407 N. 13th Street
1316 W. St. Paul Avenue
Milwaukee, WI 53233
United States
Division Milwaukee
Telephone 414.212.0257
e-mail advancedmaterials@materion.com
Contact person Noreen Atkinson

1.4. Emergency telephone number

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable solids	Category 1	
Pyrophoric solids	Category 1	
Self-heating substances and mixtures	Category 1	H251 - Self-heating: may catch fire.
Substances and mixtures which, in contact with water, emit flammable gases	Category 1	

Hazard summary

Self-heating: may catch fire. In contact with water releases flammable gases. The material as sold in solid form is generally not considered hazardous. However, if the process involves grinding, melting, cutting or any other process that causes a release of dust or fumes, hazardous levels of airborne particulate could be generated.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Magnesium Powder

Hazard pictograms



Signal word

Danger

Hazard statements

H251 Self-heating: may catch fire.
H261 In contact with water releases flammable gases.

Precautionary statements

Prevention

P223 Do not allow contact with water.
P223 Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231 + P232 Handle under inert gas. Protect from moisture.
P235 + P410 Keep cool. Protect from sunlight.
P280 Wear protective gloves/eye protection/face protection.

Response

P335 + P334 Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.
P370 + P378 In case of fire: Use appropriate media to extinguish.

Storage

P402 + P404 Store in a dry place. Store in a closed container.
P407 Maintain air gap between stacks/pallets.
P420 Store away from other materials.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information For further information, please contact the Product Stewardship Department at +1.800.862.4118.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Magnesium Powder	100	7439-95-4 231-104-6	-	012-002-00-9	
Classification:	Self-heat. 1;H251, Water-React. 2;H261				T

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.
DSD: Directive 67/548/EEC.
M: M-factor
vPvB: very persistent and very bioaccumulative substance.
PBT: persistent, bioaccumulative and toxic substance.
#: This substance has been assigned Community workplace exposure limit(s).

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Get medical attention if irritation develops and persists.
Eye contact Rinse with water. Get medical attention if irritation develops and persists.
Ingestion Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed Direct contact with eyes may cause temporary irritation.

4.3. Indication of any immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards Self-heating: may catch fire. In contact with water releases flammable gases.

5.1. Extinguishing media

Suitable extinguishing media Powder. Dry sand.

Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising from the substance or mixture	In contact with water releases flammable gases.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Wear suitable protective equipment.
Special firefighting procedures	Do not get water inside container.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
For emergency responders	Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up Do not get water on spilled substance or inside containers. Stop the flow of material, if this is without risk. Following product recovery, flush area with water.

6.4. Reference to other sections For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling Keep away from any possible contact with water, because of violent reaction and possible flash fire. Handle under inert gas. Keep cool. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. 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.

7.3. Specific end use(s) Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Recommended monitoring procedures	Follow standard monitoring procedures.
Derived no effect levels (DNELs)	Not available.
Predicted no effect concentrations (PNECs)	Not available.

8.2. Exposure controls

Appropriate engineering controls General ventilation normally adequate.

Individual protection measures, such as personal protective equipment

General information	Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the 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. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.
Respiratory protection	Respiratory protection not required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

Hygiene measures Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Environmental exposure controls Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state Solid.

Form Solid.

Colour Not available.

Odour Not available.

Odour threshold Not available.

pH Not available.

Melting point/freezing point 651 °C (1203,8 °F)

Initial boiling point and boiling range 1100 °C (2012 °F)

Flash point 500,0 °C (932,0 °F)

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) Not available.

Flammability limit - upper (%) Not available.

Vapour pressure < 0,0000001 kPa at 25 °C

Vapour density Not available.

Relative density Not available.

Solubility(ies)

Solubility (water) Not available.

Partition coefficient (n-octanol/water) Not available.

Auto-ignition temperature 472,78 °C (883 °F)

Decomposition temperature Not available.

Viscosity Not available.

Explosive properties Not explosive.

Oxidising properties Not oxidising.

9.2. Other information

Density 1,74 g/cm³ estimated at 20 °C

Dynamic viscosity 1,25 mPa.s

Kinematic viscosity 0,7193 mm²/s estimated

Molecular formula Mg

Molecular weight 24,3 g/mol

Specific gravity 1,74 at 20 °C

Surface tension 563 mN/m (20 °C (68 °F))

SECTION 10: Stability and reactivity

10.1. Reactivity Keep away from combustible material. Not available.

10.2. Chemical stability Material is stable under normal conditions.

10.3. Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid Exposure to moisture. Contact with water liberates flammable gas. Moisture. Heat. Contact with incompatible materials.

10.5. Incompatible materials Combustible material. None known.

10.6. Hazardous decomposition products Hydrogen chloride.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation Due to lack of data the classification is not possible.

Skin contact Due to lack of data the classification is not possible.

Eye contact Due to lack of data the classification is not possible.

Ingestion Due to lack of data the classification is not possible.

Symptoms Exposure may cause temporary irritation, redness, or discomfort.

11.1. Information on toxicological effects

Acute toxicity No data available.

Skin corrosion/irritation Due to partial or complete lack of data the classification is not possible.

Serious eye damage/eye irritation Due to partial or complete lack of data the classification is not possible.

Respiratory sensitisation Due to partial or complete lack of data the classification is not possible.

Skin sensitisation Due to partial or complete lack of data the classification is not possible.

Germ cell mutagenicity Due to partial or complete lack of data the classification is not possible.

Carcinogenicity Due to partial or complete lack of data the classification is not possible.

Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

Reproductive toxicity Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - repeated exposure Due to partial or complete lack of data the classification is not possible.

Aspiration hazard Due to partial or complete lack of data the classification is not possible.

Mixture versus substance information No information available.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential No data available.

Partition coefficient n-octanol/water (log Kow) Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. 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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste 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.

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

Disposal methods/information 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.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN1418
14.2. UN proper shipping name MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER
14.3. Transport hazard class(es)
Class 4.3
Subsidiary risk 4.2
Label(s) 4.3
+4.2
Hazard No. (ADR) 423
Tunnel restriction code E
14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN1418
14.2. UN proper shipping name MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER
14.3. Transport hazard class(es)
Class 4.3
Subsidiary risk 4.2
Label(s) 4.3+4.2
14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN1418
14.2. UN proper shipping name MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER
14.3. Transport hazard class(es)
Class 4.3
Subsidiary risk 4.2
Label(s) 4.3+4.2
14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number UN1418
14.2. UN proper shipping name Magnesium alloys powder
14.3. Transport hazard class(es)
Class 4.3
Subsidiary risk 4.2
14.4. Packing group III
14.5. Environmental hazards No.
ERG Code 4SW
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.
Other information
Passenger and cargo aircraft Allowed with restrictions.

Cargo aircraft only Allowed with restrictions.

IMDG

- 14.1. UN number** UN1418
14.2. UN proper shipping name MAGNESIUM POWDER or MAGNESIUM ALLOYS POWDER
14.3. Transport hazard class(es)
Class 4.3
Subsidiary risk 4.2
14.4. Packing group III
14.5. Environmental hazards
Marine pollutant No.
EmS F-G, S-O
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended
Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended
Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended
Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended
Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended
Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Magnesium Powder (CAS 7439-95-4)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Magnesium Powder (CAS 7439-95-4)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

Information on evaluation method leading to the classification of mixture

Not applicable.

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.