

MATERIAL SAFETY DATA SHEET, IN ACCORDANCE TO 1907/2006/EEC



Date of issue :30/04/2013

Section 1. Product Name and Company Identification

Product Name: **Magnesium powder** **Contact Information:** **SFM SA**
(Société pour la Fabrication du Magnésium)
Rue des Sablons 9
1926 Martigny, Switzerland

Product Reference:

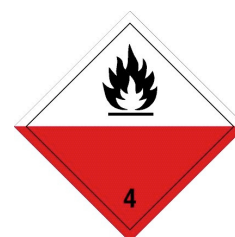
Emergency Tel. No. : SOS: +41 (0)27 721 88 88 **Tel. :** +41 (0)27 721 7590
Fax : +41 (0)27 721 7595
Email : admin@sfm-magnesium.ch

Section 2. Composition and Details of Components

Material Characterisation:	Magnesium powder
EINECS-No.:	231-104-6
CAS-No.:	7439-95-4
EG-No.:	012-002-00-9
UN-No.:	1418
Chemical Symbol:	Mg
Molecular Weight:	24.30
Conc. (% by weight):	> 99
Appearance and Odour :	Silver grey metallic powder, odourless
Phrase R	11 – 15 – 17
SGH	H “hazard statement”
SGH	P “precautionary statement”

Section 3. Hazards Identification

FLAMMABLE SOLID. DANGEROUS WHEN WET. HIGHLY REACTIVE. MAY IGNITE SPONTANEOUSLY ON CONTACT WITH WATER OR DAMP MATERIALS. MAY CAUSE IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. MAY EXPLODE UNDER DUST FORM.



Inhalation: Inhalation of dusts or fumes may irritate the respiratory tract and may cause metal fume fever. Symptoms may include coughing, chest pain and fever.

Ingestion: Magnesium metal does not have well characterised toxicity. May cause abdominal pain and diarrhoea.

Skin Contact: Particles embedded in the skin may cause eruptions. Molten magnesium may cause serious skin burns.

Eye Contact: High concentrations if dust may cause mechanical irritation. Magnesium generates an intense bright white light when burning which can cause eye injury.

Chronic Exposure: na.

Exposure: generates an intense flame (> 2000°C) and important fume which may irritate the respiratory tract and may cause fever.

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Section 4. First Aid Measures

- Inhalation:** Remove to fresh air. Get medical attention for any breathing difficulties.
- Ingestion:** If swallowed, DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Skin contact:** Remove any contaminated clothing. Wash skin with soap and water.
- Eye contact:** Flush eyes with water, lifting upper and lower eyelids. If irritation develops or persists get medical attention.
- Exposure:** in case of fume inhalation, remove to fresh air. Contact the medical staff.
Flames: do not expose unshielded body parts. Do not look at the flame directly without ocular protection. May cause irreversible eye injury

Section 5. Fire Fighting Measures

- Suitable Extinguishers:** Metal extinguishing powders such as G-1 graphite powder, Met-L-X powder, powdered or dry sand.
- Unsuitable Extinguishers:** Foam, chlorinated products or water to extinguish magnesium fires. **NEVER USE WATER.** The use of water on molten magnesium will produce hydrogen gas and may cause an explosion.
- Protective Equipment:** In the event of a fire, wear full protective clothing and NIOSH-approved self contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode. Fire fighters should protect their eyes and skin from flying particles. In order to prevent eye injury, do not look directly at magnesium fires.
- General Information:** Magnesium when heated above 350°C may auto-ignite. Magnesium in finely divided form will react violently with oxidising agents. Magnesium in contact with moisture or acids will generate hydrogen which is highly dangerous fire or explosion hazard. Powdered magnesium dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosive concentration is 30 gr/m³.

Section 6. Accidental Release Measures

- General Spillage:** Remove all sources of ignition. Do not smoke. Ventilate the area of the spill or leak. Wear appropriate personal protective equipment as specified in Section 8. Collect the spilled material and transfer it to a clean, dry metal covered container for recovery or disposal. **Do not use water in the cleaning process.**
- Spillage Involving Water:** If the spilled material has come into contact with water: **PROCEED WITH CAUTION.** Hydrogen may generate a fire or an explosion. Evacuate the area, put on fire fighting protective, check and let dry.

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Section 7. Storage and Handling

- Storage:** Only store in the original package. Store in a cool, dry, ventilated and covered area. Store away from oxidisers, chlorine, bromine, iodine, acids and all possible sources of ignition.
- Handling:** Use only non-sparking tools and equipment. When transferring this material dust clouds can be generated: observe all ATEX precautions.

Section 8. Exposure Limits and Personal Protection Equipment

- Ventilation:** A system for local exhaust is recommended. Prevent dispersion of Mg dust into the general work area.
- Personal Respirators:** FFP2 or upper masks for handling.
- Skin Protection:** Wear impervious protective clothing, including boots, gloves and/or overalls as appropriate to prevent contact with skin.
- Eye Protection:** Use chemically resistance safety glasses or goggles. Maintain eye wash fountain and quick-drench facility at work place.
- General Measures:** Wear conductive equipment in order to avoid risk of ignition through electrostatic discharge

Section 9. Physical and Chemical Properties

Physical state:	Powder / solid
Appearance:	Metallic silver powder
Odour:	None
pH value	n.a.
Boiling point/boiling range	n.a.
Melting point/melting range	Abt. 650°C
Flashpoint:	550°C
Ignitable:	Yes
Ignition temperature:	> 300°C to 500°C
Lower (LEL):	Abt. 20g/cm ³
Upper (UEL):	Abt. 6kg/cm ³
Vapour pressure:	n.a.
Density:	1.74g/cm ³
Bulk density:	0.5 – 1.0g/cm ³
Water solubility	Reacts with water
Viscosity:	n.a.

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Section 10. Stability and Reactivity

- Thermal decomposition:** Burns at temperatures above 500°C to form magnesium oxides. Flame temperature can reach over 2000 °C.
- Dangerous reactions:** Magnesium reacts with water and can produce an explosive mixture. Contact with water or moist air may produce flammable gas. The accumulation of fine dust in contact with air, may be dangerous and cause powder explosion. React violently with acids, bases and oxidising agents.
- Dangerous decomposition products:** Hydrogen, Mg nitride (yellow colour).
- Additional directions:** Prevent dust cloud formation - dust explosion hazard.

Section 11. Toxicological Information

- | | |
|--------------------------------------|---|
| Acute toxicity: | Not applicable |
| Acute toxicity by inhalation: | Not applicable |
| Skin irritation: | Not applicable |
| Eye irritation: | Not applicable |
| Sensitisation: | Not applicable |
| Genetic changing effects: | Not applicable |
| Reproduction toxicity: | Not applicable |
| Carcinogenic: | Not applicable |
| Experience from practise: | None |
| General remarks: | No toxicological data. Magnesium is classed as non toxic. No toxic or chronic effects are known. Product is not classed as an irritant. |

Section 12. Ecological Information

- | | |
|---|---|
| Degradation according to law on detergent (WRMG): | Not applicable |
| Toxicity to marine life: | Non determined |
| Behaviour in sewage plants: | R15/H260 : contact with water liberates highly flammable gases |
| Contain according to 76/464/EWG, Regulation, heavy metals and the following compounds: | No dangerous components known |
| AOX value: | Non determined |
| BOD value: | Non determined |
| General directions: | No ecological data. No harmful effects on the environment are known |

Section 13. Direction for Product Waste Disposal

Waste material that cannot be saved for recovery or recycling should be handled as hazardous waste and sent to an approved waste facility. Processing, use or contamination of this product may change the waste management options. Dispose of containers and unused materials in accordance with local and national regulation.

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Section 14. Transport Information

Land transport ADR/RID & GGVS/GGVE regulations

No. 4.3



No. 4.2



Class:	4.3	WSII
Danger No.:	423	
UN No.:	1418	
Transport Documents:	1418 Magnesium powder Class 4.3 WSII ADR	
Packing	Steel drums 1A2 Max. 400kg net.	
Danger:	4.3, Dangerous When Wet 4.2, Spontaneously Combustible Solid	
Inscriptions:	UN1418	

Ship transport IMDG/GGVSEE regulations

Class:	4.3
UN No.:	1418
Packing group	II
EMS No.:	4.3 – 06
MFAG:	None
Marine pollutant:	No
Proper shipping name:	Magnesium powder

Air transport ICAO/IATA-DGR

Class:	4.3
UN/ID No.:	1418
Packing group:	II
Correct technical name:	Magnesium powder

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Section 15. Regulatory Information

Classification: The product is sorted and marked according to the community directives and GefStoffV:

Symbol of danger: F – Highly Flammable



In accordance with the Globally Harmonised System of Classification and Labelling of Chemicals

Container Markings: Magnesium powder EINECS: 231-104-6 CEE-Marking

R-phrases:
R11 "Highly Flammable"
R15 / H260 "In contact with water liberates highly flammable gases"
R17 / H250 "Catches fire spontaneously if exposed to air"

S-phrases:
S 2 "Keep away from children"
S 7/8 "Keep container tightly closed and dry"
S 43.3 "In case of fire, use dry sand. Never use water"

EU rules: 1967/548 (2008/58, 30. ATP/31. ATP) ; 1991/689 (2001/118) ; 1999/13 ; 2004/42 ; 648/2004 ; 1907/2006

DGR rules: ADR (2009) ; IMDG-Code (34. Amdt.) ; IATA-DGR (2009)

Employment restriction acc. to Gefstovffv: Observe the employment restrictions.

Regulation in case of disarrangement, limit: Yes

TA-Air-Class: 5.2.1

Water/spring hazard class: 1, according to WwVwS of 17.05.1999

Class/No/name of waste: 353 08 waste containing magnesium

Section 16. Miscellaneous Information

The information above is believed to be accurate and represents the best information currently available to us. However we make no warranty of merchantability or any other warranty, express or implied, with respect to such information and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall SFM SA be liable for any claims, losses or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if SFM SA has been advised of the possibility of such damages.