

## SAFETY DATA SHEET

according to Commission Regulation (EU) 2020/878 as amended

# Magnesium according to Grignard

Creation date	09th September 2019	Version	4.0
Revision date	02nd April 2026		

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

**1.1. Product identifier**  
 Magnesium according to Grignard substance  
 Substance / mixture  
 Chemical name  
 Index number  
 EC (EINECS) number  
 Registration number  
 Other substance name

Magnesium according to Grignard substance  
 magnesium, powder or turnings  
 012-002-00-9  
 231-104-6  
 01-2119537203-49-0012

Magnesium, powder or turnings

**1.2. Relevant identified uses of the substance or mixture and uses advised against**  
**Substance's intended use**

Chemical production, analytical chemistry, laboratory synthesis, industrial applications.

**Substance uses advised against**

The product should not be used in ways other than those referred in Section 1.

**1.3. Details of the supplier of the safety data sheet**

**Supplier**

Name or trade name	Ing. Petr Švec - PENTA s.r.o.
Address	Radiová 1122/1, Praha 10, 102 00 Czech Republic
Identification number (CRN)	02096013
VAT number	CZ02096013
Phone	+420 226 060 681
Email	info@pentachemicals.eu
Web address	www.pentachemicals.eu

**Competent person responsible for the safety data sheet**

Name	Ing. Petr Švec - PENTA s.r.o.
Email	info@pentachemicals.eu

**1.4. Emergency telephone number**

European emergency number: 112 112

### SECTION 2: Hazards identification

**2.1. Classification of the substance or mixture**

**Classification of the substance in accordance with Regulation (EC) No 1272/2008**

The substance is classified as dangerous.

Flam. Sol. 1, H228  
 Self-heat. 2, H252  
 Water-react. 2, H261

**Most serious adverse physico-chemical effects**

Flammable solid. Self-heating in large quantities; may catch fire. In contact with water releases flammable gases.

**2.2. Label elements**

**Hazard pictogram**



**Signal word**

Danger

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### Dangerous substance

magnesium, powder or turnings  
(Index: 012-002-00-9; EC: 231-104-6)

### Hazard statements

H228	Flammable solid.
H252	Self-heating in large quantities; may catch fire.
H261	In contact with water releases flammable gases.

### Precautionary statements

P370+P378	In case of fire: Use carbon dioxide to extinguish.
P402+P404	Store in a dry place. Store in a closed container.
P420	Store separately.

### 2.3. Other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended. Does not contain any PMT or vPvM components. Dust may form explosive mixture with air.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 012-002-00-9 EC: 231-104-6 Registration number: 01-2119537203-49-0012	<b>substance main component</b> magnesium, powder or turnings	≥99	Flam. Sol. 1, H228 Self-heat. 2, H252 Water-react. 2, H261	1

#### Notes

- Note T: This substance may be marketed in a form which does not have the physical hazards as indicated by the classification in the entry in Part 3. If the results of the relevant method or methods in accordance with Part 2 of Annex I of this Regulation show that the specific form of substance marketed does not exhibit this physical property or these physical hazards, the substance shall be classified in accordance with the result or results of this test or these tests. Relevant information, including reference to the relevant test method(s) shall be included in the safety data sheet.*

Full text of all classifications and hazard statements is given in the section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

#### If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

#### If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists.

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### If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. Rinsing should continue at least for 10 minutes.

### If swallowed

Rinse out the mouth with clean water. In the event of issues, find medical help.

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

##### If inhaled

Not expected.

##### If on skin

Not expected.

##### If in eyes

Not expected.

##### If swallowed

Not expected.

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

Symptomatic treatment.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

##### Suitable extinguishing media

not available

##### Unsuitable extinguishing media

Water - full jet.

#### 5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

#### 5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

The substance is flammable. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8.

#### 6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

#### 6.3. Methods and material for containment and cleaning up

Place the product mechanically in an appropriate manner. Dispose of the collected material according to the instructions in the section 13.

#### 6.4. Reference to other sections

See the Section 7, 8 and 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use of antistatic clothes and footwear is recommended. No smoking. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

#### 7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Protect from sunlight. Store separately. Keep cool. Maintain air gap between stacks or pallets.

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**7.3. Specific end use(s)**  
not available

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

none

**8.2. Exposure controls**

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

**Eye/face protection**



Protective goggles.

**Skin protection**



Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Other protection: Protective antistatic clothing made of natural fibres (cotton) or synthetic fibres resistant to elevated temperatures. Antistatic footwear. Contaminated skin should be washed thoroughly.

Glove material	Thickness	Breakthrough time	Class
Butyl rubber (IIR)	≥ 0.3 mm	>480 min	6

**Respiratory protection**

It is not needed.

**Thermal hazard**

Not available.

**Environmental exposure controls**

Observe usual measures for protection of the environment, see Section 6.2.

**SECTION 9: Physical and chemical properties**

**9.1. Information on basic physical and chemical properties**

Physical state	solid
Colour	grey
Odour	without fragrance
Melting point/freezing point	648 °C
Boiling point or initial boiling point and boiling range	data not available
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Solubility in water	data not available

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Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	0.00013 kPa at 20 °C
Density and/or relative density	
Density	1.74 g/cm <sup>3</sup> at 20 °C
Relative vapour density	data not available
Particle characteristics	data not available

### 9.2. Other information

not available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The substance is flammable.

### 10.2. Chemical stability

The product is stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Violent reaction with water.

### 10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

### 10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

### 10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

No toxicological data is available for the substance.

#### Acute toxicity

No data available for the substance. Based on available data the classification criteria are not met.

#### Skin corrosion/irritation

No data available for the substance. Based on available data the classification criteria are not met.

#### Serious eye damage/irritation

No data available for the substance. Based on available data the classification criteria are not met.

#### Respiratory or skin sensitisation

No data available for the substance. Based on available data the classification criteria are not met.

#### Germ cell mutagenicity

No data available for the substance. Based on available data the classification criteria are not met.

#### Carcinogenicity

No data available for the substance. Based on available data the classification criteria are not met.

#### Reproductive toxicity

No data available for the substance. Based on available data the classification criteria are not met.

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### Toxicity for specific target organ - single exposure

No data available for the substance. Based on available data the classification criteria are not met.

### Toxicity for specific target organ - repeated exposure

No data available for the substance. Based on available data the classification criteria are not met.

### Aspiration hazard

No data available for the substance. Based on available data the classification criteria are not met.

## 11.2. Information on other hazards

### Endocrine disrupting properties

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption for humans.

### Other information

not available

## SECTION 12: Ecological information

### 12.1. Toxicity

No data available for the substance. Based on available data the classification criteria are not met.

### 12.2. Persistence and degradability

No data available for the substance.

### 12.3. Bioaccumulative potential

No data available for the substance.

### 12.4. Mobility in soil

Based on available data the classification criteria are not met. Does not contain any PMT or vPvM components.

### 12.5. Results of PBT and vPvB assessment

Based on available data the classification criteria are not met. Does not contain any PBT or vPvB components. Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

### 12.6. Endocrine disrupting properties

Based on available data the classification criteria are not met. Does not contain any components that may cause endocrine disruption in the environment.

### 12.7. Other adverse effects

Not available.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Perfectly cleaned containers can be submitted for recycling.

### Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

## SECTION 14: Transport information

### 14.1. UN number or ID number

UN 1869

### 14.2. UN proper shipping name

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**14.3. Transport hazard class(es)**

4.1 Flammable solids, self-reactive substances, polymerizing substances and solid desensitized explosives

**14.4. Packing group**

III

**14.5. Environmental hazards**

not relevant

**14.6. Special precautions for user**

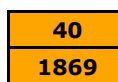
not available

**14.7. Maritime transport in bulk according to IMO instruments**

not relevant

**Additional information**

Hazard identification No.



UN number

Classification code

F3

Safety signs

4.1



Tunnel restriction code

(E)

**Air transport - ICAO/IATA**

Packaging instructions passenger

446

Cargo packaging instructions

449

**Marine transport - IMDG**

EmS (emergency plan)

F-G, S-G

**SECTION 15: Regulatory information**

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

**15.2. Chemical safety assessment**

A chemical safety assessment has not been carried out.

**SECTION 16: Other information**

**A list of standard risk phrases used in the safety data sheet**

H228	Flammable solid.
H252	Self-heating in large quantities; may catch fire.
H261	In contact with water releases flammable gases.

**Guidelines for safe handling used in the safety data sheet**

P370+P378	In case of fire: Use carbon dioxide to extinguish.
P402+P404	Store in a dry place. Store in a closed container.
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#### Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

#### Key to abbreviations and acronyms used in the safety data sheet

ADR	Agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency Response Procedures for Ships Carrying Dangerous Goods
EU	European Union
EuPCS	European Product Categorisation System
Flam. Sol.	Flammable solid
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
log Kow	Octanol-water partition coefficient
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
PMT	Persistent, mobile and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulation concerning the International Carriage of Dangerous Goods by Rail
Self-heat.	Self-heating substance or mixture
UN number	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative
vPvM	Very persistent and very mobile
Water-react.	Substance or mixture which in contact with water emits flammable gas

#### Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

#### Recommended restrictions of use

not available

#### Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.  
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

#### The changes (which information has been added, deleted or modified)

The version 4.0 replaces the SDS version from Thursday, 17 October 2024. Changes were made in sections 2, 11, 12, 13, 15 and 16.

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**More information**

Classification procedure - calculation method.

**Statement**

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.