SAFETY DATA SHEET

Magnesium powder ≥99.9%, <75 µm, Extra pure

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Trade name:	Magnesium powder ≥99.9%, <75 µm, Extra pure
Product no.:	MG434
Other means of identification:	Index No.: 012-002-00-9 EC No.: 231-104-6 CAS No.: 7439-95-4

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

Relevant identified uses of the substance or mixture:	Industrial purposes, Laboratory use
Uses advised against :	None known.

1.3. Details of the supplier of the safety data sheet

Company and address:	**Laboratoriumdiscounter** Zandvoortstraat 75 1976BN Ijmuiden Netherlands Tel: +31 255 700 210 www.laboratoriumdiscounter.nl/en/
E-mail:	info@laboratoriumdiscounter.nl
Revision:	10/03/2023
SDS Version:	1.0

1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service).
See section 4 “First aid measures”.

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Flam. Sol. 1; H228, Flammable solid.
Water-react. 2; H261, In contact with water releases flammable gases.

2.2. Label elements

Hazard pictogram(s):

Signal word:	Danger
Hazard statement(s):	Flammable solid. (H228) In contact with water releases flammable gases. (H261)

Safety statement(s):

General:	Keep out of reach of children. (P102)
Prevention:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210) Handle and store contents under inert gas. Protect from moisture. (P231+P232) Wear eye protection/protective gloves/protective clothing. (P280)
Response:	IF ON SKIN: Brush off loose particles from skin. Immerse in cool water. (P302+P335+P334_special) In case of fire: Use powder/carbon dioxide to extinguish. (P370+P378)
Storage:	Store in a dry place. Store in a closed container. (P402+P404)
Disposal:	-
Hazardous substances:	None known.
Additional labelling:	Not applicable.

2.3. Other hazards

Additional warnings: Dust from flammable solids can be explosive, even if they are not hazardous substances.
This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.
This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Product/substance	Identifiers	% w/w	Classification	Note
magnesium, powder or turnings	CAS No.: 7439-95-4 EC No.: 231-104-6 UK-REACH: Index No.: 012-002-00-9	95-100%	Flam. Sol. 1, H228 Water-react. 2, H261	

3.2. Mixtures

Not applicable. This product is a substance.

See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

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SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General information:	In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.
Inhalation:	Upon breathing difficulties or irritation of the respiratory tract: Bring the person into fresh air and stay with him/her.
Skin contact:	Remove contaminated clothing and shoes immediately. Ensure to wash exposed skin thoroughly with water and soap. Skin cleanser can be used. DO NOT use solvents or thinners.
Eye contact:	Upon irritation of the eye: Remove contact lenses and open eyes widely. Flush eyes with water or saline water (20-30 °C) for at least 5 minutes. Seek medical assistance and continue flushing during transport.
Ingestion:	If the person is conscious, rinse the mouth with water and stay with the person. Never give the person anything to drink. In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the person lean forward with head down to avoid inhalation of or choking on vomited material.
Burns:	Rinse with water until pain stops then continue to rinse for 30 minutes.

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

None known.

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

None known.

Information to medics

Bring this safety data sheet or the label from this product.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Dry powder (Class D), sodium chloride (granulate) or dry sand.
Unsuitable extinguishing media: DO NOT USE WATER!

5.2. Special hazards arising from the substance or mixture

Fire will result in dense smoke. Exposure to combustion products may harm your health. Closed containers, which are exposed to fire, should be cooled with water. Do not allow fire-extinguishing water to enter the sewage system and nearby surface waters.
If the product is exposed to high temperatures, e.g. in the event of fire, dangerous decomposition compounds are produced. These are:
Some metal oxides

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing to prevent contact. Upon direct exposure contact The National Poisons Information Service (dial 111, 24 h service) in order to obtain further advice.
Hazchem Code: 4W

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Remove flammable materials if conditions allow it. Ensure sufficient ventilation.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc.

6.3. Methods and material for containment and cleaning up

Cleaning up the material must be done only with squeegees or soft natural bristle brushes. Scoops used to pick up the material must be conductive and non-sparking. Synthetic bristle brushes and plastic or other non-conductive scoops must not be used, since they tend to accumulate strong static charges.
Limit spillage and collect using granular absorbent or similar materials, and dispose of it in accordance with the regulations on dangerous waste.
Collect spills carefully. Moist the material with water in order to prevent the formation and propagation of dust.
Wherever possible cleaning should be performed with normal cleaning agents. Avoid use of solvents.

6.4. Reference to other sections

See section 13 “Disposal considerations” on handling of waste.
See section 8 "Exposure controls/personal protection" for protective measures.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Keep all containers sealed except when opened for removal of material. Reseal containers immediately after each use to prevent contamination or, in the case of pastes, loss of solvent.
Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.
Smoking, drinking and consumption of food is not allowed in the work area.
See section 8 "Exposure controls/personal protection" for information on personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
Keep all containers sealed except when opened for removal of material. Reseal containers immediately after each use to prevent contamination or, in the case of pastes, loss of solvent.
The use of an inert gas to replace air can greatly increase the safety of many operations, particularly where it may be impossible to ensure that all sources of ignition are eliminated.
Powder trickling out onto the floor or onto other containers must be prevented.

Must be stored in a cool and well-ventilated area, away from possible sources of ignition. Store in a dry place. Store in a closed container.

Recommended storage material:	Keep only in original packaging.
Storage temperature:	Room temperature 15 to 25°C
Incompatible materials:	Water

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

No substances are listed in the national list of substances with an occupational exposure limit.

DNEL

magnesium, powder or turnings

Duration:	Route of exposure:	DNEL:
Long term – Local effects - General population	Dermal	1.25 mg/cm²
Long term – Local effects - Workers	Dermal	2.5 mg/cm²
Long term – Systemic effects - General population	Dermal	2.5 mg/kg bw/day
Long term – Systemic effects - Workers	Dermal	5 mg/kg bw/day
Short term – Local effects - General population	Dermal	1.25 mg/cm²
Short term – Local effects - Workers	Dermal	2.5 mg/cm²
Short term – Systemic effects - General population	Dermal	40 mg/kg bw/day
Short term – Systemic effects - Workers	Dermal	80 mg/kg bw/day
Long term – Local effects - General population	Inhalation	5 mg/m³
Long term – Local effects - Workers	Inhalation	10 mg/m³
Long term – Systemic effects - General population	Inhalation	5 mg/m³
Long term – Systemic effects - Workers	Inhalation	10 mg/m³
Short term – Local effects - General population	Inhalation	5 mg/m³
Short term – Local effects - Workers	Inhalation	10 mg/m³
Short term – Systemic effects - General population	Inhalation	5 mg/m³
Short term – Systemic effects - Workers	Inhalation	10 mg/m³
Long term – Systemic effects - General population	Oral	3.6 mg/kg bw/day
Short term – Systemic effects - General population	Oral	100 mg/kg bw/day

PNEC

magnesium, powder or turnings

Route of exposure:	Duration of Exposure:	PNEC:
Air		10 mg/m³
Freshwater		410-2000 µg/L
Freshwater sediment		87.8-268 mg/kg
Intermittent release (freshwater)		1.4-2 mg/L
Marine water		410-26500 µg/L

Marine water sediment		8.78-268 mg/kg
Predators		212 mg/kg
Sewage treatment plant		10.8 mg/L
Soil		28.7-268 mg/kg

8.2. Exposure controls

Control is unnecessary if the product is used as intended.

General recommendations: When transferring the materials, dust clouds should be kept at an absolute minimum. Handling should be slow and deliberate. The materials should be transferred from one container to another using a non-sparking, conductive metal scoop.
When mixing the material with other dry ingredients, frictional heat should be avoided. The best type of mixer for a dry mixing operation is one that contains no moving parts, but rather affects a tumbling action, such as a conical blender.
Introduction of an inert atmosphere in the blender is highly recommended since dust clouds are generated. All equipment must be well grounded.
Smoking, drinking and consumption of food is not allowed in the work area.

Exposure scenarios: There are no exposure scenarios implemented for this product.

Exposure limits: Occupational exposure limits have not been defined for the substances in this product.

Appropriate technical measures: All electrical wiring, -lights and -equipment must meet minimum safety requirements of the workplace and equipment used in explosive atmosphere as described by national regulations and/or standards.

Hygiene measures: In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

Measures to avoid environmental exposure: No specific requirements.

Individual protection measures, such as personal protective equipment

Generally: Work clothing should be made of smooth, closely woven fire resistant/fire retardant fabrics which tend not to accumulate static electric charges. Trousers should have no cuffs where the material might accumulate. Pockets, if present, should be designed in such a way as to eliminate the accumulation of dust.
Use only UKCA marked protective equipment.

Respiratory Equipment:

Type	Class	Colour	Standards	
S/SL	P1	White	EN149	

Skin protection:

Recommended	Type/Category	Standards	
Dedicated work clothing should be worn.	-	-	

Hand protection:

Material	Glove thickness (mm)	Breakthrough time (min.)	Standards	
Nitrile	0,2	> 480	EN374-2, EN374-3, EN388	

Eye protection:

Type	Standards	
Safety glasses with side shields.	EN166	

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state:	Powder
Colour:	Silver, Gray
Odour / Odour threshold:	Testing not relevant or not possible due to the nature of the product.
pH:	Testing not relevant or not possible due to the nature of the product.
Density (g/cm³):	1.75
Kinematic viscosity:	Does not apply to solids.
Particle characteristics:	Particle size: <75 µm

Phase changes

Melting point/Freezing point (°C):	650
Softening point/range (waxes and pastes) (°C):	Does not apply to solids.
Boiling point (°C):	1095
Vapour pressure:	3.72 hPa (650 °C)
Relative vapour density:	Does not apply to solids.
Decomposition temperature (°C):	Testing not relevant or not possible due to the nature of the product.

Data on fire and explosion hazards

Flash point (°C):	Does not apply to solids.
Flammability (°C):	The material is ignitiable.
Auto-ignition temperature (°C):	Testing not relevant or not possible due to the nature of the product.
Lower and upper explosion limit (% v/v):	Does not apply to solids.

Solubility

Solubility in water:	0,006 g /l
n-octanol/water coefficient:	Testing not relevant or not possible due to the nature of the product.
Solubility in fat (g/L):	Testing not relevant or not possible due to the nature of the product.

9.2. Other information

Other physical and chemical parameters:	No data available.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
No data available.

10.2. Chemical stability
The product is stable under the conditions, noted in section 7 “Handling and storage”.

10.3. Possibility of hazardous reactions
In contact with water releases flammable gases.

10.4. Conditions to avoid
Avoid static electricity.

10.5. Incompatible materials
Water

10.6. Hazardous decomposition products
The product is not degraded when used as specified in section 1.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 as retained and amended in UK law

Acute toxicity
Based on available data, the classification criteria are not met.

Skin corrosion/irritation
Based on available data, the classification criteria are not met.

Serious eye damage/irritation
Based on available data, the classification criteria are not met.

Respiratory sensitisation
Based on available data, the classification criteria are not met.

Skin sensitisation
Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity
Based on available data, the classification criteria are not met.

Reproductive toxicity
Based on available data, the classification criteria are not met.

STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Long term effects
None known.

Endocrine disrupting properties
Not applicable.

Other information
None known.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
No data available.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. Endocrine disrupting properties
Not applicable.

12.7. Other adverse effects
None known.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods
Product is covered by the regulations on hazardous waste.
HP 3 - Flammable
Dispose of contents/container to an approved waste disposal plant.
Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law.

EWC code
Not applicable.

Specific labelling
Not applicable.

Contaminated packing
Packaging containing residues of the product must be disposed of similarly to the product.

SECTION 14: TRANSPORT INFORMATION

	14.1 UN / ID	14.2 UN proper shipping name	14.3 Hazard class(es)	14.4 PG*	14.5 Env**	Other information:
ADR	UN1418	MAGNESIUM POWDER	Class: 4.3 Labels: 4.3+4.2 Classification code: WS 	II	No	Limited quantities: 0 Tunnel restriction code: (D/E) See below for additional information.
IMDG	UN1418	MAGNESIUM POWDER	Class: 4.3 Labels: 4.3+4.2 Classification code: WS 	II	No	Limited quantities: 0 EmS: F-G S-O See below for additional information.
IATA	UN1418	MAGNESIUM POWDER	Class: 4.3 Labels: 4.3+4.2 Classification code: WS 	II	No	See below for additional information.

* Packing group

** Environmental hazards

Additional information
ADR / See Table A, Section 3.2.1 for any information on special provisions, requirements, or warnings in connection with transport. See section 5.4.3, for instructions in writing regarding mitigation of damages in relation to incidents or accidents during transport.
IMDG / See section 3.2.1, for any information on special provisions, requirements, or warnings in connection with transport.
IATA / See Table 4.2 for any information on special provisions, requirements, or warnings in connection with transport.
This product is within scope of the regulations of transport of dangerous goods.
Hazchem Code: 4W

14.6. Special precautions for user
Not applicable.

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15: REGULATORY INFORMATION

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

Restrictions for application:	No special.
Demands for specific education:	No specific requirements.
SEVESO - Categories / dangerous substances:	Not applicable.
Regulation on explosives precursors:	magnesium, powder or turnings (Annex II)
Additional information:	Tactile warning.
Sources:	Regulation (EU) No 1357/2014 of 18 December 2014 on waste as retained and amended in UK law. Council Regulation (EC) No 2019/1148 on explosives precursors as retained and amended in UK law. Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP) as retained and amended in UK law. Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as retained and amended in UK law.

15.2. Chemical safety assessment

No

SECTION 16: OTHER INFORMATION

Full text of H-phrases as mentioned in section 3

H228, Flammable solid.
H261, In contact with water releases flammable gases.

Abbreviations and acronyms

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
CAS = Chemical Abstracts Service
CE = Conformité Européenne
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
EINECS = European Inventory of Existing Commercial chemical Substances

ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IARC = International Agency for Research on Cancer (IARC)
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
SCL = A specific concentration limit
SVHC = Substances of Very High Concern
STOT-RE = Specific Target Organ Toxicity - Repeated Exposure
STOT-SE = Specific Target Organ Toxicity - Single Exposure
TWA = Time weighted average
UN = United Nations
UVBC = Unknown or variable composition, complex reaction products or of biological materials
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Additional information

The classification of the mixture in regard to physical hazards has been based on experimental data.

The safety data sheet is validated by

Laboratoriumdiscounter

Other

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.
The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.
It is recommended to hand over this safety data sheet to the actual user of the product.
Information in this safety data sheet cannot be used as a product specification.
Country-language: GB-en