SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Revision Date 19.02.2013 Version 7.6

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

1.1 Product identifier

Catalogue No.	818506
Product name	Magnesium powder (particle size < 0.1 mm) for synthesis
REACH Registration Number	A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses	Chemical for synthesis For additional information on uses please refer to the Merck Chemicals portal (www.merck-chemicals.com).

1.3 Details of the supplier of the safety data sheet

Company	Merck KGaA * 64271 Darmstadt * Germany * Phone:+49 6151 72-0
Responsible Department	LS-QHC * e-mail: prodsafe@merckgroup.com

1.4 Emergency telephone number

Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Pyrophoric solid, Category 1, H250
Substances, which in contact with water, emit flammable gases, Category 1, H260

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)

F	Highly flammable	R15 - 17

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms

Signal word
Danger

Hazard statements
H260 In contact with water releases flammable gases which may ignite spontaneously.

H250 Catches fire spontaneously if exposed to air.

Precautionary statements
Prevention
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Response
P370 + P378 In case of fire: Use metal fire powder for extinction.
Storage
P402 + P404 Store in a dry place. Store in a closed container.

Reduced labelling (≤125 ml)
Hazard pictograms

Signal word
Danger

Hazard statements
H250 Catches fire spontaneously if exposed to air.

Precautionary statements
P370 + P378 In case of fire: Use metal fire powder for extinction.

Index-No. 012-001-00-3

Labelling (67/548/EEC or 1999/45/EC)

Symbol(s)	F	Highly flammable
R-phrase(s)	15-17	Contact with water liberates extremely flammable gases. Spontaneously flammable in air.
S-phrase(s)	7/8-43	Keep container tightly closed and dry. In case of fire, use fire-fighting equipment on basis class D.
EC-No.	231-104-6	EC Label

Reduced labelling (≤125 ml)

Symbol(s)	F	Highly flammable

2.3 Other hazards
None known.

SECTION 3. Composition/information on ingredients
3.1 Substance

Formula	Mg (Hill)
CAS-No.	7439-95-4
Index-No.	012-001-00-3
EC-No.	231-104-6
Molar mass	24,31 g/mol

For the full text of the H-Statements mentioned in this Section, see Section 16.

Remarks No dangerous ingredients according to Regulation (EC) No. 1907/2006

3.2 Mixture
not applicable

SECTION 4. First aid measures

4.1 Description of first aid measures
After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
irritant effects, Stomach/intestinal disorders

4.3 Indication of any immediate medical attention and special treatment needed
No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media
Special powder against metal fire, Sand, Cement

Unsuitable extinguishing media
Water, Foam, Carbon dioxide (CO_2)

5.2 Special hazards arising from the substance or mixture
Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire.
Risk of dust explosion.
Caution! in contact with water product releases:
Hydrogen, Risk of explosion.
Potential for spontaneous combustion.

5.3 Advice for firefighters
Special protective equipment for firefighters
In the event of fire, wear self-contained breathing apparatus.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Avoid substance contact. Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2 Environmental precautions
Do not empty into drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up
Observe possible material restrictions (see sections 7 and 10).
Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections
Indications about waste treatment see section 13.

SECTION 7. Handling and storage
7.1 Precautions for safe handling
Advice on safe handling
Keep workplace dry. Do not allow product to come into contact with water.

Observe label precautions.

Hygiene measures
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Tightly closed. Dry. Keep away from heat and sources of ignition.

Store at +15°C to +25°C.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection
8.1 Control parameters

8.2 Exposure controls

Engineering measures
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures
Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye/face protection
Safety glasses

Hand protection

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm

Break through time: > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).
The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.
This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Other protective equipment
protective clothing

Respiratory protection
required when dusts are generated.
Recommended Filter type: Filter P 1 (acc. to DIN 3181) for solid particles of inert substances
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls
Do not empty into drains.
Risk of explosion.

SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	solid
Colour	light grey
Odour	odourless
Odour Threshold	No information available.
pH	No information available.
Melting point	651 °C
Boiling point/boiling range	1.107 °C at 1.013 hPa
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.

Vapour pressure	0,00013 hPa at 325 °C
Relative vapor density	No information available.
Relative density	1,74 g/cm³ at 20 °C
Water solubility	at 20 °C (slow decomposition)
Partition coefficient: n-octanol/water	not applicable
Auto-ignition temperature	Catches fire spontaneously if exposed to air.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Oxidizing properties	none

9.2 Other data

Ignition temperature	> 450 °C
Particle size	Particle size ca.0,06 - 0,3 mm

SECTION 10. Stability and reactivity

10.1 Reactivity

Self-ignition possible due to air moisture.
Risk of dust explosion.

10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3 Possibility of hazardous reactions

Risk of ignition or formation of inflammable gases or vapours with:

Water, Peroxides, Cyanides, halogens, carbides, halogen-halogen compounds, hydrogen iodide, carbon dioxide, nitrogen dioxide, hydrogen peroxide

Halogenated hydrocarbon, heat

Nitric acid, heat

Risk of explosion with:

Generates dangerous gases or fumes in contact with:

Ammonium salts, metallic oxides, alkalines, Alcohols, Halogenated compounds, sulfur, Acids, Oxidizing agents, sulfates, phosphates, silicon compounds, perchlorates, nitrates, chlorates, Potassium carbonate, ferric oxide, Chloroform, calcium carbonate, halogen compounds

10.4 Conditions to avoid

Exposure to moisture.

10.5 Incompatible materials
no information available

10.6 Hazardous decomposition products
in the event of fire: See section 5.

SECTION 11. Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity
Symptoms: Stomach/intestinal disorders

Acute inhalation toxicity

Symptoms: Irritation symptoms in the respiratory tract.

Acute dermal toxicity

Symptoms: Tendency of poor wound-healing after penetration of the substance.

Skin irritation
This information is not available.

Eye irritation
Possible damages: slight irritation

Sensitisation
This information is not available.

Germ cell mutagenicity
This information is not available.

Carcinogenicity
This information is not available.

Reproductive toxicity
This information is not available.

Teratogenicity
This information is not available.

Specific target organ toxicity - single exposure
This information is not available.

Specific target organ toxicity - repeated exposure
This information is not available.

Aspiration hazard
This information is not available.

11.2 Further information
After uptake of large quantities:
lack of appetite, change in weight
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

12.1 Toxicity
No information available.

12.2 Persistence and degradability

Biodegradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water
not applicable

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects

Additional ecological information
Harmful effect due to pH shift.
No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13. Disposal considerations

Waste treatment methods
See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 UN number	UN 1418
14.2 Proper shipping name	MAGNESIUM POWDER
14.3 Class	4.3 (4.2)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

Inland waterway transport (ADN)

Not relevant

Air transport (IATA)

14.1 UN number	UN 1418
14.2 Proper shipping name	MAGNESIUM POWDER
14.3 Class	4.3 (4.2)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
IATA (Passenger)	**Not permitted for transport**

Sea transport (IMDG)

14.1 UN number	UN 1418
14.2 Proper shipping name	MAGNESIUM POWDER
14.3 Class	4.3 (4.2)
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
EmS	F-G S-O

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not relevant

SECTION 15. Regulatory information

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

EU regulations

Major Accident Hazard	96/82/EC
Legislation	Directive 96/82/EC does not apply
Occupational restrictions	Take note of Dir 94/33/EC on the protection of young people at work.

National legislation

Storage class	4.2

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H250	Catches fire spontaneously if exposed to air.
H260	In contact with water releases flammable gases which may ignite spontaneously.

Full text of R-phrases referred to under sections 2 and 3

R15	Contact with water liberates extremely flammable gases.
R17	Spontaneously flammable in air.

Training advice
Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet
Used abbreviations and acronyms can be looked up at www.wikipedia.org.

Regional representation
This information is given on the authorised Safety Data Sheet for your country.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.