

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Revision Date 06/16/2018

Version 1.4

SECTION 1. Identification**Product identifier**

Product number	845042
Product name	Magnesium turnings acc. to Grignard Msynth®plus
CAS-No.	7439-95-4

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

Identified uses	Pharmaceutical production, Chemical for synthesis
-----------------	---

Details of the supplier of the safety data sheet

Company	Millipore (Canada) Ltd 109 Woodbine Downs Blvd. Unit 5 Etobicoke Ontario M9W 6Y1 Canada General Inquiries: +1 800-645-5476 Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
---------	---

Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
----------------------------	--

SECTION 2. Hazards identification**GHS Classification**

Flammable solid, Category 1, H228
Self-heating substances, Category 2, H252
Substances and mixtures which in contact with water emit flammable gases, Category 2, H261
For the full text of the H-Statements mentioned in this Section, see Section 16.

GHS-Labeling*Hazard pictograms*

Signal Word
Danger

Hazard Statements

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

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P335 + P334 Brush off loose particles from skin. Immerse in cool water/ wrap in wet bandages.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P402 + P404 Store in a dry place. Store in a closed container.

P407 Maintain air gap between stacks/ pallets.

P410 Protect from sunlight.

P413 Store bulk masses greater than .? kg/ .? lbs at temperatures not exceeding .? °C/ .? °F.

P420 Store away from other materials.

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. Composition/information on ingredients

Formula

Mg Mg (Hill)

Molar mass

24.31 g/mol

Remarks

WHMIS hazardous composition: No ingredients are hazardous according to the CPR criteria.

SECTION 4. First aid measures

Description of first-aid measures

Inhalation

After inhalation: fresh air.

Skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

Eye contact

After eye contact: rinse out with plenty of water.

Ingestion

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

We have no description of any toxic symptoms.

Indication of any immediate medical attention and special treatment needed

No information available.

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

SECTION 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Special powder against metal fire, Cover with dry sand or cement.

Unsuitable extinguishing media

Water, Foam

Special hazards arising from the substance or mixture

Combustible.

Development of hazardous combustion gases or vapors possible in the event of fire.

Risk of dust explosion.

May not get in touch with:

Water

Caution! in contact with water product releases:

Hydrogen

Advice for firefighters

Special protective equipment for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Further information

none

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

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.

SECTION 7. Handling and storage

Precautions for safe handling

Keep workplace dry. Do not allow product to come into contact with water.

Observe label precautions.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

Conditions for safe storage, including any incompatibilities

Dry. Tightly closed. Keep away from heat and sources of ignition.

Store below +30°C (+86°F).

SECTION 8. Exposure controls/personal protection

Exposure limit(s)

Contains no substances with occupational exposure limit values.

Engineering measures

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

Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

Hygiene measures

Change contaminated clothing. Wash hands after working with substance.

Eye/face protection

Safety glasses

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Other protective equipment:

protective clothing

Respiratory protection

required when dusts are generated.

SECTION 9. Physical and chemical properties

Physical state	shavings
Color	metallic
Odor	odorless
Odor Threshold	Not applicable
pH	No information available.
Melting point	1204 °F (651 °C)
Boiling point/boiling range	2,025 °F (1,107 °C) at 1,013 hPa

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 1.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	1.75 g/cm ³ at 68 °F (20 °C)
Relative density	No information available.
Water solubility	at 68 °F (20 °C) (slow decomposition)
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	Self-heating in large quantities; may catch fire.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	> 842 °F (> 450 °C)

SECTION 10. Stability and reactivity

Reactivity

Risk of dust explosion.

Chemical stability

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

Possibility of hazardous reactions

Risk of ignition or formation of flammable gases or vapors with:

Oxidizing agents, alkalines, Halogenated hydrocarbon, halogens, Alcohols, nitrates, acids, Water

Conditions to avoid

Exposure to moisture.

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

Incompatible materials

no information available

Hazardous decomposition products

no information available

SECTION 11. Toxicological information

Information on toxicological effects

Likely route of exposure

Eye contact, Skin contact, Ingestion

Acute oral toxicity

LD50 Rat: > 2,000 mg/kg

OECD Test Guideline 423 The value is given in analogy to the following substances: magnesium chloride hexahydrate

Acute inhalation toxicity

Symptoms: slight mucosal irritations

Skin irritation

human

Result: No irritation

Human Skin Model Test

The value is given in analogy to the following substances: magnesium chloride hexahydrate

Eye irritation

Rabbit

Result: No eye irritation

OECD Test Guideline 405

The value is given in analogy to the following substances: magnesium chloride hexahydrate

Sensitization

Human experience human

Result: negative

Maximization Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

The value is given in analogy to the following substances: magnesium chloride hexahydrate

Genotoxicity in vitro

Ames test

Bacillus subtilis

Result: negative

(Lit.)

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

Mutagenicity (mammal cell test): chromosome aberration.

Human lymphocytes

Result: negative

Method: OECD Test Guideline 473

The value is given in analogy to the following substances: magnesium chloride hexahydrate

In vitro mammalian cell gene mutation test

MOUSE LYMPHOMA TEST

Result: negative

Method: OECD Test Guideline 476

The value is given in analogy to the following substances: magnesium chloride

Specific target organ systemic toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ systemic toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

Regarding the available data the classification criteria are not fulfilled.

Carcinogenicity

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Further information

After uptake of large quantities:

Metal-fume fever after inhalation of large quantities.

Nausea, Vomiting, Diarrhea

Systemic effects:

drop in blood pressure, Cardiac irregularities, muscular weakness, paralysis symptoms,

Tiredness

After absorption of large quantities:

respiratory paralysis, cardiovascular disorders

No toxic effects are to be expected when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Ecotoxicity

No information available.

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number
Product name

845042
Magnesium turnings acc. to Grignard Msynth@plus

Version 1.4

Persistence and degradability

Biodegradability

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

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

SECTION 14. Transport information

Land transport (DOT)

UN number	UN 1869
Proper shipping name	MAGNESIUM
Class	4.1
Packing group	III
Environmentally hazardous	--

Air transport (IATA)

UN number	UN 1869
Proper shipping name	MAGNESIUM
Class	4.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

Sea transport (IMDG)

UN number	UN 1869
Proper shipping name	MAGNESIUM
Class	4.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-G S-G

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

SECTION 15. Regulatory information

United States of America

Canada

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

SECTION 16. Other information

Training advice

Provide adequate information, instruction and training for operators.

Labeling

Hazard pictograms



Signal Word

Danger

Hazard Statements

H228 Flammable solid.

H252 Self-heating in large quantities; may catch fire.

H261 In contact with water releases flammable gas.

Precautionary Statements

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Response

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

Storage

P402 + P404 Store in a dry place. Store in a closed container.

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.

Revision Date 06/16/2018

SAFETY DATA SHEET

according to the Global Harmonized System (and with all of the information required by the HPR)

Product number

845042

Version 1.4

Product name

Magnesium turnings acc. to Grignard Msynth@plus

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.