

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 10.12.2018

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

1.1 Product identifiers

Product name : Magnesium

Product Number : 5323

Brand : Better Equipped

Index-No. : 012-001-00-3

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

CAS-No. : 7439-95-4

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not for sale to the general public

1.3 Details of the supplier of the safety data sheet

Company : Better Equipped,
Wrenbury Business Park,
Wrenbury Road,
Wrenbury,
Nantwich, Cheshire,
CW5 8EB, UK

Telephone +44 (0) 800 9707142

Fax +44 (0) 800 066 4443

E-mail address sales@betterequipped.co.uk

1.4 Emergency telephone number

Emergency Phone # +44 (0)1270 781238

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Substances, which in contact with water, emit flammable gases (Category 1), H260

Pyrophoric solids (Category 1), H250

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

H250

Catches fire spontaneously if exposed to air.

H260

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

Precautionary statement(s)

P222

P223

P231 + P232

P370 + P378

P422

Supplemental Hazard
Statements

Do not allow contact with air.

Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Handle under inert gas. Protect from moisture.

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

Store contents under inert gas.

none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	Mg
Molecular weight	:	24.31 g/mol
CAS-No.	:	7439-95-4
EC-No.	:	231-104-6
Index-No.	:	012-001-00-3
Concentration	:	>99%
CLP Classification (1272/2008/CE)	:	Pyr. Sol. 1,Waterreact.1

No components need to be disclosed according to the applicable regulations.

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

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove contaminated clothing. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Dry powder Dry sand

Unsuitable extinguishing media

Do NOT use water jet.

5.2 Special hazards arising from the substance or mixture

This substance is water reactive.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

- 6.1.1 For non-emergency personnel

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

- 6.1.2 For emergency responders

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition
- No smoking.

7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.
- Wash hands after use.
- Remove contaminated clothing.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Never allow product to get in contact with water during storage.

Air and moisture sensitive. Store under inert gas.

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

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.1.2 The relevant DNELs and PNECs for the substance/s for the exposure scenarios:

DNEL's. The derived no- or minimum effect level (DN(M)EL) is the level of exposure above which a human should not be exposed to a substance. Please note that when more than one summary is provided, DN(M)EL values may refer to constituents of the substance and not to the substance as a whole.

Data for WORKERS

INHALATION Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 10 mg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 10 mg/m ³	repeated dose toxicity
Local Effects		
Long-term:	(DNEL) 10 mg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 10 mg/m ³	repeated dose toxicity
DERMAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 5 mg/kg bw/day	repeated dose toxicity
Acute /short term:	(DNEL) 80 mg/kg bw/day	acute toxicity
Local Effects		
Long-term:	(DNEL) 2.5 mg/cm ²	acute toxicity
Acute /short term:	(DNEL) 2.5 mg/cm ²	acute toxicity
EYE Exposure		
No hazard identified		

Data for the GENERAL POPULATION

INHALATION Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 5 mg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 5 mg/m ³	repeated dose toxicity
Local Effects		

Long-term:	(DNEL) 5 mg/m ³	repeated dose toxicity
Acute /short term:	(DNEL) 5 mg/m ³	repeated dose toxicity
DERMAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 2.5 mg/kg bw/day	repeated dose toxicity
Acute /short term:	(DNEL) 40 mg/kg bw/day	acute toxicity
Local Effects		
Long-term:	(DNEL) 1.25 mg/cm ²	repeated dose toxicity
Acute /short term:	(DNEL) 1.25 mg/cm ²	acute toxicity
ORAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 3.6 mg/kg bw/day	repeated dose toxicity
Acute /short term:	(DNEL) 100 mg/kg bw/day	repeated dose toxicity
EYE Exposure		
No hazard identified		

PNEC's. The Predicted No-Effect Concentration (PNEC) value is the concentration of a substance below which adverse effects in the environment are not expected to occur. Please note that when more than one summary is provided, PNEC values may refer to constituents of the substance and not to the substance as a whole.

Hazard for Aquatic Organisms	
Freshwater	410 - 2 000 µg/L (2)
Intermittent releases (freshwater)	1.4 - 2 mg/L (2)
Marine water	410 - 26 500 µg/L (2)
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	10.8 mg/L (2)
Sediment (freshwater)	87.8 - 268 mg/kg sediment dw (2)
Sediment (marine water)	8.78 - 268 mg/kg sediment dw (2)
Hazard for Air	
Air	10 mg/m ³ (1)
Hazard for Terrestrial Organism	
Soil	28.7 - 268 mg/kg soil dw (2)
Hazard for Predators	

Secondary poisoning

212 mg/kg food (1)

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Protective gloves against thermal risks

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties
9.1 Information on basic physical and chemical properties

a)	Appearance	Form: chips
b)	Odour	No data available
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	Melting point/range: 648 °C - lit.
f)	Initial boiling point and boiling range	1,090 °C - lit.
g)	Flash point	Not applicable
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	May form combustible dust concentrations in air.
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	1 hPa at 621 °C
l)	Vapour density	No data available
m)	Relative density	1.74 g/cm ³ at 25 °C
n)	Water solubility	No data available
o)	Partition coefficient: n- octanol/water	No data available
p)	Auto-ignition temperature	The substance or mixture is classified as self heating with the category 1.
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity
10.1 Reactivity

None based on data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Exposure to moisture

10.5 Incompatible materials

Acids, Strong oxidizing agents, Acid chlorides, Halogens

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Magnesium oxide

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information**11.1 Information on toxicological effects****Acute toxicity**Oral

LD50 2 000 mg/kg bw (rat)

Interpretations of results - Not classified

Inhalation

LC50 (4 h) 2.1 mg/L air (rat)

Interpretations of results - Practically nontoxic

Dermal

LD50 2 000 mg/kg bw (rat)

Interpretations of results - Not classified

other routes

LD50 174 - 206 mg/kg bw (rat)

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

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

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: OM2100000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, chills, Fever, fatigue, muscle pain, joint pain, rash, Anorexia.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

12.1 Toxicity

Short-term toxicity to fish

LC50 (4 days) 541 - 6 271.455 mg/L

LC50 (48 h) 708.8 - 2 800 mg/L

LC50 (24 h) 898 - 935 mg/L

Long-term toxicity to fish

NOEC (30 days) 123.312 - 325.394 mg/L

Short-term toxicity to aquatic invertebrates

LC50 (4 days) 23.159 g/L

LC50 (48 h) 140 - 10 381 mg/L

LC50 (24 h) 324 - 476.5 mg/L

NOEC (48 h) 740 - 9 433 mg/L

Long-term toxicity to aquatic invertebrates

NOEC (30 days) 110.378 - 4 288.534 mg/L

EC10 (21 days) 82 - 321 mg/L

EC50 (21 days) 125 mg/L

LC50 (21 days) 190 mg/L

Toxicity to aquatic algae and cyanobacteria

EC50 (72 h) 12 - 100 mg/L

NOEC (72 h) 12 - 100 mg/L

EC10 (72 h) 20 - 99.2 mg/L

EC20 (72 h) 20 - 99.2 mg/L

Toxicity to aquatic plants other than algae

EC50 (5 days) 1.098 - 1.149 g/L

EC50 (4 days) 222.37 mg/L

NOEC (30 days) 55.352 mg/L

Toxicity to microorganisms

EC50 (3 h) 108 mg/L

EC10 (3 h) 108 mg/L

Sediment toxicity

EC50 (4 days) 158.13 mg/kg sediment dw

EC50 (48 h) 164.82 mg/kg sediment dw

EC50 (24 h) 302.79 mg/kg sediment dw

LC50 (14 days) 84.55 mg/kg sediment dw

LC50 (24 h) 4 389.5 mg/kg sediment dw

Toxicity to terrestrial macroorganisms except arthropods

EC50 (4 days) 158.13 mg/kg soil dw

EC50 (48 h) 164.82 mg/kg soil dw

LC50 (14 days) 84.55 mg/kg soil ww

LC50 (24 h) 302.79 - 4 389.5 mg/kg soil dw

Toxicity to terrestrial arthropods

NOEC (63 days) 286.8 - 1 420.33 mg/kg soil dw

Toxicity to terrestrial plants

NOEC (30 days) 55.352 mg/kg soil dw

EC50 (4 days) 222.37 mg/kg soil dw

EC50 (30 min) 12.152 g/kg soil dw

Toxicity to soil microorganisms

EC10 (24 h) 5 g/kg soil dw

Toxicity to birds

LC50 (14 days) 2 000 mg/kg bw/day

NOEL (14 days) 200 - 250 mg/kg bw/day

Toxicity to mammals

NOEC (1.995 years) 6 356.14 mg/kg diet

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 substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. Unused product may be returned and reused, in addition to disposal.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information**14.1 UN number**

ADR/RID: 1869

IMDG: 1869

IATA: 1869

14.2 UN proper shipping name

ADR/RID: MAGNESIUM

IMDG: MAGNESIUM

IATA: Magnesium

14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

N/A

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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.

Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.1, 1.2, 4.1, 5.1, 6.1, 7.1, 8.1, 8.2, 11, 12, 13, 14.7, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.



Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Better Equipped and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.
