

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 04.12.2018

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

1.1 Product identifiers

Product name : Magnesium Ribbon
Product Number : 0023
Brand : Better Equipped
Index-No. : 012-002-00-9
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

Flammable solids (Category 1), H228
Self-Heat (Category 1), H252
Water-react (Category 2), H261

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)
H228 Flammable solid.

H252	Self heating substance or mixture
H261	In contact with water releases flammable gases which may ignite spontaneously
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P223	Do not allow contact with water.
P231+P232	Handle under inert gas. Protect from moisture.
P420	Store away from other materials.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental Hazard Statements: 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

Name	:	Magnesium Ribbon
Formula	:	H2Mg
CAS-No.	:	7439-95-4
EC-No.	:	231-104-6
Index-No.	:	012-002-00-9
Concentration	:	> 99.0 %
CLP Classification (1272/2008/CE)	:	Flam. Sol. 1
	:	Self-Heat 1
	:	Water-react 2

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

For the full text of the H-Statements and R-Phrases 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. Keep warm and at rest. If conscious place in a sitting position. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Remove contaminated clothing immediately and wash before re-use. Consult a physician if discomfort persists.

In case of eye contact

Flush eyes with water thoroughly. Hold eye open to irrigate and repeat irrigation for 10 minutes. Obtain medical attention.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water, and spit, repeat this two or three times, then drink plenty of 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 chemical powder.

Unsuitable extinguishing media

Water – Do Not Allow Water to come Into Contact.

5.2 Special hazards arising from the substance or mixture

May evolve toxic fumes if involved in a fire. Reacts with water to form extremely flammable gas.

5.3 Advice for firefighters

Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and self-contained breathing apparatus.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures****- 6.1.1 For non-emergency personnel**

Personal Protection Ensure no contact with water, acids or other aqueous solutions is possible.

- 6.1.2 For emergency responders

Personal Protection Ensure no contact with water, acids or other aqueous solutions is possible.

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. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.

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 brush and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See section 8.2 for information on protective equipment and section 13 for information on disposal.

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

.Avoid contact with water, acids or other aqueous solutions.

7.1.2 Advice on general occupational hygiene:

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

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place protected against moisture and water. Keep well protected from ingress of water and well separated from acids

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

Component	CAS-No.	Value	Control parameters	Basis
	7439-95-4	>99%		

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. Wear gloves and avoid contact with skin. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 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 antistatic 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

Presents no significant inhalation health hazard.

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: Metallic ribbon
b)	Odour	Silver-grey
c)	Odour Threshold	Odourless
d)	pH	No data available
e)	Melting point/freezing point	No data available
f)	Initial boiling point and boiling range	Melting point/range: 651 °C
g)	Flash point	1100 °C
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	No data available
k)	Vapour pressure	No data available
l)	Vapour density	No data available
m)	Relative density	No data available
n)	Water solubility	1.7380
o)	Partition coefficient: n- octanol/water	Reacts with water evolving a flammable gas.
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No
t)	Oxidizing properties	No

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under recommended storage conditions but spontaneously flammable in air above 220c.

10.3 Possibility of hazardous reactions

No data available.

10.4 Conditions to avoid

Avoid contact with water.

10.5 Incompatible materials

Contact with water gives off flammable hydrogen gas. Forms explosive compounds with ammonia, acetylene compounds, azides and ethylene oxide. Halogenated alkane solvents e.g. dichloromethane, Strong oxidizing agents.

10.6 Hazardous decomposition products

Decomposes to give off highly irritant fumes.

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) [1]

Interpretations of results - Not classified

other routes

LD50 174 - 206 mg/kg bw (rat)

Skin corrosion/irritation

No significant hazard to skin.

Serious eye damage/eye irritation

Dust is irritating to the eye.

Respiratory or skin sensitisation

Presents no significant health hazard.

Germ cell mutagenicity

Not considered to be a mutagen.

Carcinogenicity

Not considered to be a carcinogen.

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

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Use a licensed disposal company. 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:

IATA:

14.2 UN proper shipping name

ADR/RID: Magnesium Ribbon

IMDG: Magnesium Ribbon

IATA: Magnesium Ribbon

Special Provisions: "Flammable solid" label required.

14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

14.4 Packaging group

ADR/RID: II

IMDG: III

IATA: III

14.5 Environmental hazards

See section 12

14.6 Special precautions for user

No bulk transport allowed.

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

N/A

SECTION 15: Regulatory information

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

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

No data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment is not required.

SECTION 16: Other information

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

H228	Flammable solid.
H252	Self heating substance or mixture
H261	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, 2.1, 2.2, 3.1, 6.1, 6.3, 7.1, 8.1, 11.1, 12.1, 13.1, 14.7, 15.1, 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.
