

MATERIAL SAFETY DATA SHEET

According to EC Regulation 1907/2006 (Reach), Regulation EU No. 453/2010

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1. Identification of the Substance/Preparation and of the Company/Undertaking

Identification of the substance or preparation

MSDS Ref. No.: 4486.01.20
Product Name: Step Hi-Mag

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

Recommended Use

Fertilizer. Restricted to professional users.

Uses advised against

Consumer use.

Company/undertaking identification

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2. Hazards Identification

Classification

Indication of danger:

The product is classified and labelled in accordance with Directive 1999/45/EC.

R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

3. Composition/information on Ingredients

Chemical nature of the preparation

Ingredients	CAS-No	Weight %	EC-No.	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Magnesium sulphate anhydrous, MgSO4	7487-88-9	> 25%	231-298-2	NE	no data available	Exempt

Iron Oxide, Fe ₂ O ₃	1309-37-1	10 - 25%	215-168-2	NE	no data available	01-2119457614-35
Magnesium oxide, MgO	1309-48-4	10 - 25%	215-171-9	NE	no data available	Exempt
Manganese sulphate, MnSO ₄ +1H ₂ O	7785-87-7	5 - 10%	232-08-99	N;R51/53 Xn;R48/20/22	STOT RE 2 (H373) Aquatic Chronic 2 (H411)	01-2119456624-35
Manganese Oxide, MnO	1344-43-0	1 - 5%	215-202-6	NE	no data available	01-2119446291-44
Copper Oxide, CuO	1317-38-0	0.1 - 1%	215-269-1	Xn;R20/22	Acute Tox. 4 (H302) Acute Tox. 4 (H332)	01-2119502447-44
Copper sulphate anh; CuSO ₄	7758-98-7	< 0.1%	231-847-6	N;R50/53 Xi;R36/38 Xn;R22	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119520566-40
Iron sulphate, FeSO ₄ +1H ₂ O	7720-78-7	< 0.1%	231-753-5	Xn; R22 Xi; R36/38	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302)	01-2119513203-57

NE = Non-Established.

For the full text of the R phrases mentioned in this Section, see Section 16
Full text of H- and EUH-phrases: see section 16

4. First aid measures

4.1. Description of first aid measures

- General advice:** If you feel unwell, seek medical advice (show the label where possible).
- Ingestion:** In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision. If swallowed, seek medical advice immediately and show this container or label.
- Inhalation:** If not breathing, give artificial respiration.
- Skin contact:** If a person feels unwell or symptoms of skin irritation appear, consult a physician.
- Eye contact:** If eye irritation persists, consult a specialist.
- Protection of first-aiders:** Low hazard for usual industrial or commercial handling.
- Notes to physician:** Artificial respiration and/or oxygen may be necessary.

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

None under normal processing

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

None under normal processing

5. Fire-fighting measures

Suitable extinguishing media:

Use dry chemical, CO₂, water spray or "alcohol" foam. Coordinate fire extinguishing measures to fire in surrounding area.***

Unsuitable extinguishing media:

High volume water jet.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:

Thermal decomposition can lead to release of irritating gases and vapours. Danger of toxic gases in smoke in case of fire.***

Special protective equipment for firefighters:

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

6. Accidental release measures

Personal Precautions:

Avoid dust formation. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

Environmental Precautions:

Keep away from living quarters. Do not allow material to contaminate ground water system. Prevent product from entering drains.

Methods for cleaning up:

Shovel or sweep up.

7. Handling and Storage

Handling:

Technical measures/precautions:

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice:

When using do not eat or drink. Handle in accordance with good industrial hygiene and safety practice.

Storage:

Technical measures/storage conditions:

For quality reasons: Keep out of reach of direct sunlight, store under dry conditions, partly used bags should be closed well. Keep at temperatures between 0 °C and 40 °C.

Incompatible products:

No information available

Specific use(s):

Fertilizer.

8. Exposure Controls/Personal Protection

Engineering measures to reduce exposure:

Ensure adequate ventilation.

Occupational exposure controls

Personal Protective Equipment

Respiratory Protection:

Effective dust mask.

Hand protection:

Rubber gloves.

Eye/face Protection

Tightly fitting safety goggles.

Skin and body protection:

Wear normal, light working clothing.

Hygiene measures

Wash hands before stopping and immediately after handling. When using, do not eat, drink or smoke.

Exposure Limit ValuesIron Oxide, Fe₂O₃

ACGIH:

5 mg/m³ TWA

OSHA:

10 mg/m³ TWA

Australia TWA

15 mg/m³ TWA Rouge5 mg/m³ TWA Rouge

Austria - MAKs

5 mg/m³ TWA fume10 mg/m³ TWA inhalable dust

Belgium - 8 Hr TWA

5 mg/m³ TWA10 mg/m³ TWA

Czech Republic OEL

2 ppm TWA Fe

5 mg/m³ TWA Fe

Finland - Occupational Exposure Limits - 8 hour

10.0 mg/m³ TWA

France INRS (VME)

5 mg/m³ TWA Fe5 mg/m³ TWA

Norway - 8 h:

3 mg/m³ TWA Fe

Portugal - TWAs

5 mg/m³ TWA

Spain - Valores Limite Ambientales - VLE

5 mg/m³ TWA

Sweden - OEL - 8 Hour

3.5 mg/m³ LLV Fe

UK EH40 WEL:

1 mg/m³ TWA (total)Magnesium oxide, MgO

ACGIH:

10 mg/m³ TWA

OSHA:

15 mg/m³ TWA

Australia TWA

10 mg/m³ TWA fume

Austria - MAKs

6 mg/m³

Belgium - 8 Hr TWA

10 mg/m³

Czech Republic OEL

5 mg/m³ TWA

France - Valeurs Limites d'exposition (VLE)

10 mg/m³

France INRS (VME)

10 mg/m³ TWA

Netherlands - OEL - MACs:

10 mg/m³

Norway - 8 h:

10 mg/m³

Portugal - TWAs

10 mg/m³ TWA

Spain - Valores Limite Ambientales - VLE

10 mg/m³ TWA

UK EH40 WEL:

10 mg/m³Manganese sulphate, MnSO₄·1H₂O

Belgium - 8 Hr TWA

0.2 mg/m³

Finland - Occupational Exposure Limits - 8 hour

0.5 mg/m³

Netherlands - OEL - MACs:

1 mg/m³

Norway - 8 h:

2.5 mg/m³

Sweden - OEL - 8 Hour

0.2 mg/m³ LLV (totalt)

UK EH40 WEL:

5 mg/m³Manganese Oxide, MnO

Finland - Occupational Exposure Limits - 8 hour

0.2 mg/m³ TWA Mn

Norway - 8 h:

0.1 mg/m³ TWA (Inhalable)1 mg/m³ TWA (Respirable)

Sweden - OEL - 8 Hour

0.2 mg/m³ LLV (totalt)Copper Oxide, CuO

Finland - Occupational Exposure Limits - 8 hour

1 mg/m³ TWA Cu

Sweden - OEL - 8 Hour

1 mg/m³ LLV (totalt)

UK EH40 WEL:

1 mg/m³ TWA (total)Copper sulphate anh; CuSO₄

Australia TWA

N.A.

Finland - Occupational Exposure Limits - 8 hour

1 mg/m³ TWA Cu

Netherlands - OEL - MACs:

0.1 mg/kg TWA

Iron sulphate, FeSO₄·1H₂O

Belgium - 8 Hr TWA

1 mg/m³

Finland - Occupational Exposure Limits - 8 hour

1 mg/m³

Netherlands - OEL - MACs:

1 mg/m³

Norway - 8 h:

0.01 mg/m³

UK EH40 WEL:

LTEL (8 hr TWA) 1 mg/m³STEL (15 min) 2mg/m³

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Physical state	Solid
Appearance:	granulate
Color:	grey, brown
Odor:	not applicable

Important Health Safety and Environmental Information

Melting point/range:	No information available
Vapour pressure	No information available
Vapour density	No information available
Explosive properties:	Doesn't present explosion hazard
Flammability (solid, gas):	Non-flammable

OTHER INFORMATION

pH:	No information available
Bulk density:	+/- 1350 kg/m ³
Viscosity	not applicable

10. Stability and Reactivity

Chemical stability	Stable under recommended storage conditions
Conditions to Avoid	Burning produces obnoxious and toxic fumes.
Incompatible Materials	Strong oxidizing agents. Acids and bases. Strong reducing agents. Flammable materials.
Incompatible Materials	Keep away from heat and sources of ignition.
Hazardous Decomposition Products	No decomposition if stored normally.
Hazardous reactions	The product itself does not burn.

11. Toxicological Information

Component Information

Manganese sulphate, MnSO₄+1H₂O

LD50/oral/rat = 9 g/kg

Copper sulphate anh; CuSO₄

LD50/oral/rat = 960 mg/kg

Iron sulphate, FeSO₄+1H₂O

LD50/oral/rat = 1389 mg/kg

Product Information

Local effects

Skin effects: May cause skin irritation in susceptible persons.

Eye effects: May cause eye irritation with susceptible persons.

Inhalation May cause sensitization by inhalation.

Ingestion: HARMFUL IF SWALLOWED.

Component	Exclude this non-hazardous chemical from toxicity and ecotoxicity calculations for LD/LC/EC50
Magnesium sulphate anhydrous, MgSO ₄ 7487-88-9 (> 25%)	1
Magnesium oxide, MgO 1309-48-4 (10 - 25%)	1

12. Ecological Information

Product Information

Aquatic toxicity:	HARMFUL TO AQUATIC ORGANISMS.
ecotoxicity	MAY CAUSE LONG-TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT
Persistence and degradability	No persistent or cumulative effects were observed
Bioaccumulative potential	Does not bioaccumulate
Mobility in soil	No information available

Component Information

Manganese sulphate, MnSO₄+1H₂O

Ecotoxicity effects

EC50/48h/daphnia => 100 mg/l

Iron sulphate, FeSO₄+1H₂O

Ecotoxicity effects

EC50/48h/daphnia =>100mg/l1

Do not apply directly to lakes, streams, or ponds.

13. Disposal Considerations

Waste Disposal Methods:	Dispose of in accordance with local regulations.***
Contaminated packaging:	Empty containers can be landfilled, when in compliance with the local regulations.

14. Transport Information

Product Information

Physical state: solid

ADR/RID

UN-No: Not classified for transport

IATA

UN-No: Not classified for transport

IMO / IMDG

UN-No:

Not classified for transport

15. Regulatory information

Indication of danger:

The product is classified and labelled in accordance with Directive 1999/45/EC.

In accordance with local and national regulations

ICPE (FR):

Classified installation: article 1273

16. OTHER INFORMATION

Text of R Phrases mentioned in Section 3

R22 - Harmful if swallowed

R20/22 - Harmful by inhalation and if swallowed

R36/38 - Irritating to eyes and skin

R48/20/22 - Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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

H302 - Harmful if swallowed

H411 - Toxic to aquatic life with long lasting effects

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

Reason for revision:

*** Indicates changes since the last revision. This version replaces all previous versions

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26-Jun-2013

Prepared by:

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End of Safety Data Sheet