



SAFETY DATA SHEET MANTLE

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

1.1. Product identifier

Product name MANTLE
Product number PHP003/5

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

Identified uses Foliar micronutrient fertiliser

1.3. Details of the supplier of the safety data sheet

Supplier Headland Amenity Ltd
1 Burr Elm Court
Main Street
Caldecote
Cambridge
Cambridgeshire
CB23 7NU
Tel. +44 (0)1223 491090
sds.enquiries@headlandamenity.com

Contact person Wendy Johnson

1.4. Emergency telephone number

Emergency telephone +44 (0)1223 491090 (9.00 - 5.00 GMT Mon-Fri)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Eye Dam. 1 - H318 STOT RE 2 - H373
Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram



Signal word Danger

Hazard statements
H318 Causes serious eye damage.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements	<p>P260 Do not breathe dust.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves, protective clothing and eye protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER/ doctor.</p> <p>P314 Get medical advice/ attention if you feel unwell.</p> <p>P391 Collect spillage.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p>
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Contains MANGANESE SULPHATE, ZINC SULPHATE HEXAHYDRATE

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

MANGANESE SULPHATE	50-70%
CAS number: 7785-87-7	EC number: 232-089-9
Classification STOT RE 2 - H373 Aquatic Chronic 2 - H411	Classification (67/548/EEC or 1999/45/EC) Xn; R48/20/21/22. N; R51/53
ZINC SULPHATE HEXAHYDRATE	10-30%
CAS number: 13986-24-8	EC number: 231-793-3
M factor (Acute) = 1	M factor (Chronic) = 1
Classification Acute Tox. 4 - H302 Eye Dam. 1 - H318 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove affected person from source of contamination. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Continue to rinse for at least 15 minutes.

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

Inhalation	There may be irritation of the throat with a feeling of tightness in the chest.
Ingestion	There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.
Skin contact	Skin contact may cause redness and irritation.

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Eye contact There may be pain and redness. Profuse watering of the eyes. May cause blurred vision and serious eye damage.

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

Specific treatments Eye bathing equipment should be available on the premises.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding environment.

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products Toxic gases or vapours.

5.3. Advice for firefighters

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid generation of dust. Treat the spilled material according to the instructions in the clean-up section. Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Avoid discharge into drains and the aquatic environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Place waste in labelled, sealed containers.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid any direct contact with the substance. Provide adequate ventilation. Avoid generation and spreading of dust.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

MANGANESE SULPHATE

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Long-term exposure limit (8-hour TWA): WEL 0.5 mg/m³ respirable dust
WEL = Workplace Exposure Limit

MANGANESE SULPHATE (CAS: 7785-87-7)

DNEL	Workers - Dermal; systemic effects: 0.00414 mg/kg/day Workers - Inhalation; systemic effects: 0.2 mg/m ³ Consumer - Dermal; systemic effects: 0.0021 mg/kg/day Consumer - Inhalation; systemic effects: 0.043 mg/m ³
PNEC	- Fresh water; 0.0128 mg/l - Marine water; 0.0004 mg/l - Sediment (Freshwater); 0.0114 mg/kg - Sediment (Marinewater); 0.0014 mg/kg - Soil; 25.1 mg/kg - STP; 56 mg/l

ZINC SULPHATE HEXAHYDRATE (CAS: 13986-24-8)

DNEL	Workers - Inhalation; systemic effects: 1 mg/m ³ Workers - Dermal; systemic effects: 8.3 mg/kg Consumer - Oral; systemic effects: 0.83 mg/kg Consumer - Dermal; systemic effects: 8.3 mg/kg
PNEC	- Fresh water; 0.0206 mg/l - Marine water; 0.0061 mg/l - Sediment (Freshwater); 235.6 mg/kg - Sediment (Marinewater); 113 mg/kg - Soil; 106.8 mg/kg - STP; 0.0052 mg/l

8.2. Exposure controls

Appropriate engineering controls	Provide adequate ventilation.
Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Ensure eye bath is available.
Hand protection	Wear protective gloves.
Other skin and body protection	Wear protective clothing.
Respiratory protection	Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid.
Colour	Brown.
pH	No information available.
Melting point	No information available.
Initial boiling point and range	No information available.
Flash point	No information available.

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Evaporation rate	No information available.
Vapour pressure	No information available.
Relative density	No information available.
Solubility(ies)	No information available.
Partition coefficient	No information available.
Viscosity	No information available.
Oxidising properties	Not known.

9.2. Other information

Other information	No other relevant information available.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable under recommended transport or storage conditions.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid heat.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents. Strong acids.
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10.6. Hazardous decomposition products

Hazardous decomposition products	In combustion emits toxic fumes.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg)	3,333.33
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Inhalation	There may be irritation of the throat with a feeling of tightness in the chest.
Ingestion	There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.
Skin contact	There may be irritation and redness at the site of contact.
Eye contact	There may be pain and redness. Profuse watering of the eyes. May cause blurred vision and serious eye damage.

SECTION 12: Ecological Information

12.1. Toxicity

12.2. Persistence and degradability

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Persistence and degradability The product is biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient No information available.

12.4. Mobility in soil

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Dispose of waste product or used containers in accordance with local regulations Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

Disposal methods Dispose of waste product or used containers in accordance with local regulations

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3077

UN No. (IMDG) 3077

UN No. (ICAO) 3077

UN No. (ADN) 3077

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE SULPHATE, ZINC SULPHATE HEXAHYDRATE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE SULPHATE, ZINC SULPHATE HEXAHYDRATE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE SULPHATE, ZINC SULPHATE HEXAHYDRATE)

Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CONTAINS MANGANESE SULPHATE, ZINC SULPHATE HEXAHYDRATE)

14.3. Transport hazard class(es)

ADR/RID class 9

ADR/RID classification code M7

ADR/RID label 9

IMDG class 9

ICAO class/division 9

ADN class 9

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Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	2Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

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

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	This is first issue.
Revision date	01/11/2016
Revision	1
SDS number	20452

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Hazard statements in full

H302 Harmful if swallowed.

H318 Causes serious eye damage.

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.

H411 Toxic to aquatic life with long lasting effects.