

## Section 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Product name:** FIELDER MANGANESE TRIO ST

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

**Use of substance / mixture:** Use as a horticultural / amenity fertiliser

### 1.3. Details of the supplier of the safety data sheet

**Company name:** Fielder Ltd

The Paddocks

Longden

Shrewsbury

Shropshire

SY5 8EX

United Kingdom

**Tel:** 01743 860924

**Fax:** 01743 860977

**Email:** fielderag@farming.co.uk

### 1.4. Emergency telephone number

**Emergency tel:** 01743 860924

(office hours only)

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification under CLP:** Aquatic Chronic 2: H411; Eye Irrit. 2: H319; STOT RE 2: H373

**Most important adverse effects:** Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

### 2.2. Label elements

**Label elements:**

**Hazard statements:** H319: Causes serious eye irritation.

H373: May cause damage to organs through prolonged or repeated exposure.

H411: Toxic to aquatic life with long lasting effects.

**Hazard pictograms:** GHS07: Exclamation mark

GHS08: Health hazard

GHS09: Environmental



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**Signal words:** Warning

**Precautionary statements:** P260: Do not breathe dust/fumes/gas/mist/vapours/spray.  
P264: Wash hands thoroughly after handling.  
P273: Avoid release to the environment.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P314: Get medical advice/attention if you feel unwell.

**2.3. Other hazards**

**PBT:** This product is not identified as a PBT/vPvB substance.

**Section 3: Composition/information on ingredients**

**3.2. Mixtures**

**Hazardous ingredients:**

MANGANESE SULPHATE - REACH registered number(s): 01-2119456624-35

EINECS	CAS	PBT / WEL	CLP Classification	Percent
232-089-9	7785-87-7	-	STOT RE 2: H373; Aquatic Chronic 2: H411	10-30%

COPPER SULPHATE

231-847-6	7758-98-7	-	Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-10%
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ZINC SULPHATE HEXAHYDRATE - REACH registered number(s): 01-2119474684-27

231-793-3	13986-24-8	-	Acute Tox. 4: H302; Eye Dam. 1: H318; Aquatic Chronic 1: H410; Aquatic Acute 1: H400	1-10%
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**Section 4: First aid measures**

**4.1. Description of first aid measures**

**Skin contact:** Wash immediately with plenty of soap and water.

**Eye contact:** Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.

**Ingestion:** Wash out mouth with water.

**Inhalation:** Not applicable.

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

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

[cont...]

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**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

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

**Immediate / special treatment:** Not applicable.

**Section 5: Fire-fighting measures**

**5.1. Extinguishing media**

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

**5.2. Special hazards arising from the substance or mixture**

**Exposure hazards:** In combustion emits toxic fumes.

**5.3. Advice for fire-fighters**

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

**Section 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**Personal precautions:** Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Turn leaking containers leak-side up to prevent the escape of liquid.

**6.2. Environmental precautions**

**Environmental precautions:** Do not discharge into drains or rivers. Contain the spillage using bunding.

**6.3. Methods and material for containment and cleaning up**

**Clean-up procedures:** Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

**6.4. Reference to other sections**

**Reference to other sections:** Refer to section 8 of SDS.

**Section 7: Handling and storage**

**7.1. Precautions for safe handling**

**Handling requirements:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage conditions:** Store in a cool, well ventilated area. Keep container tightly closed.

**7.3. Specific end use(s)**

**Specific end use(s):** No data available.

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**Section 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Hazardous ingredients:**

**MANGANESE SULPHATE**

**Workplace exposure limits:**

**Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
EU	0.5 mg/m <sup>3</sup>	-	-	-

**COPPER SULPHATE**

UK	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>	-	-
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**DNEL/PNEC Values**

**Hazardous ingredients:**

**MANGANESE SULPHATE**

Type	Exposure	Value	Population	Effect
DNEL	Dermal	4.14ug/kg/day	Workers	Systemic
DNEL	Inhalation	0.2mg/m <sup>3</sup>	Workers	Systemic
DNEL	Dermal	2.1ug/kg/day	Consumers	Systemic
DNEL	Inhalation	0.043mg/m <sup>3</sup>	Consumers	Systemic
PNEC	Fresh water	0.0128mg/l	-	-
PNEC	Marine water	0.4ug/l	-	-
PNEC	Fresh water sediments	11.4ug/kg	-	-
PNEC	Marine sediments	1.4ug/kg	-	-
PNEC	Soil (agricultural)	25.1mg/kg	-	-
PNEC	Microorganisms in sewage treatment	56mg/l	-	-

**ZINC SULPHATE HEXAHYDRATE**

Type	Exposure	Value	Population	Effect
DNEL	Inhalation	1mg/m <sup>3</sup>	Workers	Systemic
DNEL	Dermal	8.3mg/kg	Workers	Systemic
DNEL	Oral	0.83mg/kg	Consumers	Systemic
DNEL	Dermal	8.3mg/kg	Consumers	Systemic
PNEC	Fresh water	0.0206mg/l	-	-
PNEC	Marine water	0.0061mg/l	-	-
PNEC	Fresh water sediments	235.6mg/kg	-	-
PNEC	Marine sediments	113mg/kg	-	-

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PNEC	Soil (agricultural)	106.8mg/kg	-	-
PNEC	Microorganisms in sewage treatment	0.0052mg/l	-	-

### 8.2. Exposure controls

**Engineering measures:** Ensure there is sufficient ventilation of the area.

**Respiratory protection:** Self-contained breathing apparatus must be available in case of emergency.

**Hand protection:** Protective gloves.

**Eye protection:** Tightly fitting safety goggles. Ensure eye bath is to hand.

**Skin protection:** Protective clothing.

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Liquid

**Colour:** Brown

**Odour:** Perceptible odour

**Evaporation rate:** No data available.

**Oxidising:** No data available.

**Solubility in water:** No data available.

**Viscosity:** No data available.

**Boiling point/range°C:** No data available.

**Flammability limits %: lower:** No data available.

**Flash point°C:** No data available.

**Autoflammability°C:** No data available.

**Relative density:** 1.28 - 1.32 kg/l

**VOC g/l:** No data available.

**Melting point/range°C:** No data available.

**upper:** No data available.

**Part.coeff. n-octanol/water:** No data available.

**Vapour pressure:** No data available.

**pH:** 3.5 - 5.5

### 9.2. Other information

**Other information:** No data available.

## Section 10: Stability and reactivity

### 10.1. Reactivity

**Reactivity:** Stable under recommended transport or storage conditions.

### 10.2. Chemical stability

**Chemical stability:** Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

**Hazardous reactions:** Hazardous reactions will not occur under normal transport or storage conditions.

Decomposition may occur on exposure to conditions or materials listed below.

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**10.4. Conditions to avoid**

**Conditions to avoid:** Heat.

**10.5. Incompatible materials**

**Materials to avoid:** Strong oxidising agents. Strong acids.

**10.6. Hazardous decomposition products**

**Haz. decomp. products:** In combustion emits toxic fumes.

**Section 11: Toxicological information**

**11.1. Information on toxicological effects**

**Hazardous ingredients:**

**MANGANESE SULPHATE**

DUST/MIST	RAT	4H LC50	>4.45	mg/l
ORAL	RAT	LD50	2150	mg/kg

**COPPER SULPHATE**

IVN	RAT	LD50	48900	µg/kg
ORL	MUS	LD50	369	mg/kg
ORL	RAT	LD50	520	mg/kg

**ZINC SULPHATE HEXAHYDRATE**

DERMAL	RAT	LD50	>2000	mg/kg
ORAL	RAT	LD50	>574	mg/kg

**Relevant hazards for product:**

Hazard	Route	Basis
Serious eye damage/irritation	OPT	Hazardous: calculated
STOT-repeated exposure	-	Hazardous: calculated

**Symptoms / routes of exposure**

**Skin contact:** There may be irritation and redness at the site of contact.

**Eye contact:** There may be pain and redness. The eyes may water profusely. There may be severe pain. The vision may become blurred. May cause permanent damage.

**Ingestion:** There may be soreness and redness of the mouth and throat. Nausea and stomach pain may occur.

**Inhalation:** There may be irritation of the throat with a feeling of tightness in the chest.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

[cont...]

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**Section 12: Ecological information**

**12.1. Toxicity**

**Hazardous ingredients:**

**MANGANESE SULPHATE**

ALGAE	72H ErC50	61	mg/l
Daphnia magna	48H EC50	9.8	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	14.5	mg/l

**12.2. Persistence and degradability**

**Persistence and degradability:** Biodegradable.

**12.3. Bioaccumulative potential**

**Bioaccumulative potential:** No bioaccumulation potential.

**12.4. Mobility in soil**

**Mobility:** Readily absorbed into soil.

**12.5. Results of PBT and vPvB assessment**

**PBT identification:** This product is not identified as a PBT/vPvB substance.

**12.6. Other adverse effects**

**Other adverse effects:** Negligible ecotoxicity.

**Section 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal operations:** Transfer to a suitable container and arrange for collection by specialised disposal company.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

**Section 14: Transport information**

**14.1. UN number**

**UN number:** UN3082

**14.2. UN proper shipping name**

**Shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(MANGANESE SULPHATE; ZINC SULPHATE HEXAHYDRATE; COPPER SULPHATE)

**14.3. Transport hazard class(es)**

**Transport class:** 9

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**14.4. Packing group**

**Packing group:** III

**14.5. Environmental hazards**

**Environmentally hazardous:** Yes

**Marine pollutant:** No

**14.6. Special precautions for user**

**Special precautions:** No special precautions.

**Tunnel code:** E

**Transport category:** 3

**Section 15: Regulatory information**

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

**Specific regulations:** Not applicable.

**15.2. Chemical Safety Assessment**

**Section 16: Other information**

**Other information**

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 2015/830.

\* indicates text in the SDS which has changed since the last revision.

**Phrases used in s.2 and s.3:** H302: Harmful if swallowed.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H319: Causes serious eye irritation.

H373: May cause damage to organs ({{{0}}|message=<or state all organs affected, if known>||filter=(\_)?ORGAN\_+}}}) through prolonged or repeated exposure ({{{1}}|message=<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>||filter=(\_)?EXP\_ROUTE\_+}}}).

H410: Very toxic to aquatic life with long lasting effects.

H411: Toxic to aquatic life with long lasting effects.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.