



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

1.1 Product Identifier Indiflo Mn

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

Relevant uses: Fertiliser. For professional use only.
Uses advised against: All uses not specified in this section or in section 7.3

1.3. Details of the supplier of the safety data sheet

Company: Indigrow Ltd, The Old Bakery, Hyde End Lane, Brimpton, Berkshire, RG7 4RH. UK.
Phone: +44 (0) 1189 710 995
Email: growth@indigrow.com

1.4. Emergency telephone number +44 (0) 7725 962 366

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

Classification under CLP: Aquatic Chronic 2: H411; STOT RE 2: H373
Most important adverse effects: May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

2.2. Label elements

Hazard statements: H373: May cause damage to organs through prolonged or repeated exposure.
H411: Toxic to aquatic life with long lasting effects.
Hazard pictograms: GHS08: Health hazard
GHS09: Environmental



Signal words: Warning
Precautionary statements: P260: Do not breathe dust/fumes/gas/mist/vapours/spray.
P273: Avoid release to the environment.
P314: Get medical attention if you feel unwell.
P391: Collect spillage.
P501: Dispose of contents/container to hazardous or special waste collection point.

2.3. Other hazards

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

SECTION 3: Composition/Information on Ingredients

3.1. Substances

Not applicable.

3.2. Mixtures

Hazardous components:

Chemical Name	EINECS-No.	CAS-No.	REACH number	CLP Classification	Percent [%]
Manganese Sulphate	232-089-9	7785-87-7	01-2119456624-35	STOT RE 2: H373; Aquatic Chronic 2: H411	30-50
Acticide MBL	-	-	-	Skin Corr. 1B: H314; Aquatic Acute 1: H400; Skin Sens. 1: H317; Aquatic Chronic 2: H411; Eye Dam. 1: H318	<1%

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Skin contact:	Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.
Eye contact:	Bathe the eye with running water for 15 minutes. Transfer to hospital for specialist examination.
Ingestion:	Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.
Inhalation:	Remove casualty from exposure ensuring one's own safety whilst doing so. If conscious, ensure the casualty sits or lies down. If unconscious and breathing is OK, place in the recovery position. If unconscious, check for breathing and apply artificial respiration if necessary. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.

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

Skin contact:	There may be redness or whiteness of the skin in the area of exposure. Irritation or pain may occur at the site of contact. Absorption through the skin may be fatal.
Eye contact:	There may be severe pain. The eyes may water profusely.
Ingestion:	There may be soreness and redness of the mouth and throat. There may be vomiting. Convulsions may occur. There may be loss of consciousness.
Inhalation:	There may be shortness of breath with a burning sensation in the throat. Absorption through the lungs can occur causing symptoms similar to those of ingestion. Convulsions may occur. There may be loss of consciousness.
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:	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
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SECTION 5: Fire-Fighting Measures

5.1. 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

Toxic. In combustion emits toxic fumes.



5.3. 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

Notify the police and fire brigade immediately. Evacuate the area immediately. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. 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. Refer to section 8 of SDS for personal protection details.

6.2. Environmental precautions

Do not discharge into drains or rivers. Contain the spillage using bunding. Alert the neighbourhood to the presence of fumes or gas.

6.3. Methods and material for containment and cleaning up

Clean-up should be dealt with only by qualified personnel familiar with the specific substance. 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

See section 8.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

Avoid direct contact with the substance. Ensure there is exhaust ventilation of the area. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, well ventilated area. Keep container tightly closed. The floor of the storage room must be impermeable to prevent the escape of liquids.

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Workplace exposure limits:

Hazardous ingredients:

Workplace exposure limits:

MANGANESE SULPHATE

State:

EU

8 hour TWA

0.5 mg/m³

15 min. STEL

-

DNEL/PNEC:

Hazardous ingredients:

MANGANESE SULPHATE

Type	Exposure	Value	Population	Effect
DNEL	Dermal	4.14ug/kg/day	Workers	Systemic
DNEL	Inhalation	0.2mg/m ³	Workers	Systemic

DNEL	Dermal	2.1ug/kg/day	Consumers	Systemic
DNEL	Inhalation	0.043mg/m ³	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	-	-

8.2. Exposure controls

Engineering measures:	Ensure there is exhaust ventilation of the area. The floor of the storage room must be impermeable to prevent the escape of liquids.
Respiratory protection:	Self-contained breathing apparatus must be available in case of emergency.
Hand protection:	Impermeable gloves.
Eye protection:	Safety glasses with side-shields. Ensure eye bath is to hand.
Skin protection:	Impermeable protective clothing.
Environmental:	The floor of the storage room must be impermeable to prevent the escape of liquids.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

State:	Liquid
Colour:	Brown
Odour:	Odourless
Relative density:	1.36 - 1.38 kg/l
pH:	1.8 - 2.8

9.2. Other information

Non-applicable

SECTION 10: Stability and Reactivity

10.1. Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Heat. Hot surfaces. Flames.

10.5. Incompatible materials

Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition 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
Acticide	Dermal	RAT	LD50	>2000 mg/l
	Dust/Mist	RAT	4H LC50	>5 mg/l
	Oral	RAT	LD50	2001-5000 mg/kg

Relevant hazards for product:

Hazard	Route	Basis
STOT-repeated exposure	-	Hazardous: calculated

Symptoms / routes of exposure

Skin contact:

There may be redness or whiteness of the skin in the area of exposure. Irritation or pain may occur at the site of contact. Absorption through the skin may be fatal.

Eye contact:

There may be severe pain. The eyes may water profusely.

Ingestion:

There may be soreness and redness of the mouth and throat. There may be vomiting. Convulsions may occur. There may be loss of consciousness.

Inhalation:

There may be shortness of breath with a burning sensation in the throat. Absorption through the lungs can occur causing symptoms similar to those of ingestion. Convulsions may occur. There may be loss of consciousness.

Delayed / immediate effects:

Immediate effects can be expected after short-term exposure.

SECTION 12: Ecological Information

12.1. Toxicity

Ecotoxicity values:

Hazardous ingredients: MANGANESE SULPHATE

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

Acticide MBL

Species	Test	Value
Algae	72H EC50	0.157 mg/l
Bluegill (Lepomis macrochirus)	96H LC50	35.7 mg/l
Daphnia magna	48H EC50	1.68 mg/l
Green Alga (Selenastrum capricornutum)	72H EC10	0.04 mg/l
Green Alga (Selenastrum capricornutum)	72H EC50	0.11 mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	6.0 mg/l



12.2. Persistence and degradability

Biodegradable.

12.3. Bioaccumulative potential

No bioaccumulation potential.

12.4. Mobility in soil

Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

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

12.6. 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: UN3077

14.2. UN proper shipping name

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

14.3. Transport hazard class(es)

Transport class: 9

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

Not applicable.



Indiflo Mn

Material Safety Data Sheet

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15.2. Chemical Safety Assessment

The supplier has not carried out evaluation of chemical safety.

16. OTHER INFORMATION

The information contained herein relates only to the designated formulation and may not be valid if product is used in combination with other substances. The information is to the best of our knowledge, belief and understanding, true, accurate and reliable at the date of issue. However, the information may neither be exhaustive or complete, and no warranty, guarantee or liability concerning the accuracy or completeness of the information is expressed or implied. It is the user's risk and sole responsibility to verify and satisfy their own criteria and duty of care concerning the validity of the information in relation to their application of the product.

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