

## OptiMan

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Product Name Manganese  
Trade Name OptiMan

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

Identified Use(s) Fertiliser  
Uses Advised Against Not known.

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

Manufacturer  
Company Identification AIVA LTD (Aiva Fertiliser)  
Address of Manufacturer Old Farm Offices  
Manor Farm,  
Ginge,  
Oxfordshire,  
United Kingdom  
Postal code OX12 8QS  
Telephone: 01234 834 997  
Fax Not known.  
E-mail office@aivafertiliser.co.uk  
Office hours Monday - Friday 0830 - 1700

Supplier  
Company Identification Emerald Research Ltd  
Address of Supplier Unit 2,  
Tech Box Hub  
The Agritech Cen  
Hartpury Uni.,  
United Kingdom  
Postal code GL19 3BE  
Telephone: 01242 506206  
Fax Not known.  
E-mail info@emeraldresearchltd.com  
Office hours Monday - Friday 0830 - 1700

#### 1.4 Emergency telephone number

Emergency Phone No. 01242 506206  
Contact Call 111  
National response centre  
Address NHS Direct  
Emergency Phone No. +44 111

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008 (CLP) Eye Dam. 1 :Causes serious eye damage.  
STOT RE 2 :May cause damage to organs through prolonged or repeated exposure.  
Aquatic Chronic 2 :Toxic to aquatic life with long lasting effects.

#### 2.2 Label elements

According to Regulation (EC) No. 1272/2008 (CLP)  
Product Name Manganese

Hazard Pictogram(s)



GHS05



GHS08



GHS09

Signal Word(s) Danger

Hazard Statement(s) 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.

Precautionary Statement(s) P101: If medical advice is needed, have product container or label at hand.  
P103: Read label before use.

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P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
 P270: Do not eat, drink or smoke when using this product.  
 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.  
 P310: Immediately call a POISON CENTRE/doctor.  
 P314: Get medical advice/attention if you feel unwell.  
 P391: Collect spillage.  
 P501: Dispose of contents in accordance with local, state or national legislation.

### 2.3 Other hazards

None known.

### 2.4 Additional Information

For full text of H/P Statements see section 16.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Not applicable.

### 3.2 Mixtures

HAZARDOUS INGREDIENT(S)	CAS No.	EC No. / REACH Registration No.	%W/W	Hazard Statement(s)	Hazard Pictogram(s)
manganese sulphate	7785-87-7	232-089-9	25-37	Eye Dam. 1 H318 STOT RE 2 H373 Aquatic Chronic 2 H411	GHS05 GHS08 GHS09
citric acid	77-92-9	201-069-1	<2	Eye Irrit. 2 H319	GHS07

HAZARDOUS INGREDIENT(S)	CAS No.	Specific Concentration Limit	M-factor	ATE
citric acid	77-92-9	Eye Irrit. 2A C 0.00 100.00		

Contains no non-classified vPvB substances.  
 Contains no non-classified substances with a Union workplace exposure limit.  
 For full text of H/P Statements see section 16.

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

Inhalation  
 Skin Contact  
 Eye Contact  
 Ingestion

Get medical advice/attention if you feel unwell.  
 Get medical advice/attention if you feel unwell.  
 Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.  
 Get medical advice/attention if you feel unwell.

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

Causes burns.

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

Get medical advice/attention if you feel unwell. Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable Extinguishing media As appropriate for surrounding fire.  
 Unsuitable extinguishing media None.

### 5.2 Special hazards arising from the substance or mixture

May decompose in a fire, giving off toxic and irritant vapours.

### 5.3 Advice for firefighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Dike fire control water for later disposal.

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Wear suitable protective clothing, gloves and eye/face protection.

#### 6.2 Environmental precautions

Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

#### 6.3 Methods and material for containment and cleaning up

Absorb spillages onto sand, earth or any suitable adsorbent material. Contain spillages with sand, earth or any suitable adsorbent material. Earth may be shovelled to contain spillage and to avoid contamination of sewers and watercourses.

#### 6.4 Reference to other sections

See Also Section 8, 13.

### SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Wear protective gloves/protective clothing/eye protection/face protection.

#### 7.2 Conditions for safe storage, including any incompatibilities

Storage temperature                      Ambient.  
 Storage life                                    Stable under normal conditions.  
 Incompatible materials                    None known.

#### 7.3 Specific end use(s)

Fertiliser

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

##### 8.1.1 Occupational Exposure Limits

Occupational Exposure Limits						
SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Manganese and its inorganic compounds (as Mn) - Inhalable fraction	7785-87-7		0.2			
Manganese and its inorganic compounds (as Mn) - Respirable fraction	7785-87-7		0.05			

Region                      Source  
 United Kingdom        UK Workplace Exposure Limits EH40/2005 (Fourth edition, published 2020)

Remark                    Notes

#### 8.2 Exposure controls

8.2.1. Appropriate engineering controls    Use with ventilation, local exhaust ventilation or breathing protection. A washing facility/water for eye and skin cleaning purposes should be present.

##### 8.2.2. Personal protection equipment



Eye Protection                      Wear eye protection with side protection (EN166).



Skin protection                      Wear protective clothing and gloves: Impervious gloves (EN 374).



Respiratory protection            A suitable mask with filter type A (EN14387 or EN405) may be appropriate.



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Thermal hazards None known.

8.2.3. Environmental Exposure Controls Spillages or uncontrolled discharges into watercourses must be alerted to the appropriate regulatory body.

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Physical state	Liquid.
Colour	Pink
Odour	Not known.
Melting point/freezing point	Not known.
Boiling point or initial boiling point and boiling range	Not known.
Flammability	Not known.
Lower and upper explosion limit	Not known.
Flash Point	Not known.
Auto-ignition temperature	Not known.
Decomposition Temperature	Not known.
pH	< 2.1.
Kinematic Viscosity	Not known.
Solubility	Solubility (Water) : Not known. Solubility (Other) : Not known.
Partition coefficient n-octanol/water (log value)	Not known.
Vapour pressure	Not known.
Density and/or relative density	Density (g/ml) : 1.48g/cm <sup>3</sup>
Relative vapour density	Not known.
Particle characteristics	Not known.

#### 9.2 Other information

None.

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity

None anticipated.

#### 10.2 Chemical Stability

Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

No hazardous reactions known if used for its intended purpose.

#### 10.4 Conditions to avoid

None anticipated.

#### 10.5 Incompatible materials

Not known.

#### 10.6 Hazardous decomposition products

No hazardous decomposition products known.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity - Ingestion	Calculation method : Not classified.
Acute toxicity - Skin Contact	Calculation method : Not classified.
Acute toxicity - Inhalation	Calculation method : Not classified.
Skin corrosion/irritation	Calculation method : Not classified.
Serious eye damage/irritation	Calculation method : Causes serious eye damage.
Skin sensitization data	Calculation method : Not classified.
Respiratory sensitization data	Calculation method : Not classified.
Germ cell mutagenicity	Calculation method : Not classified.
Carcinogenicity	Calculation method : Not classified.
Reproductive toxicity	Calculation method : Not classified.
Lactation	Not classified
STOT - single exposure	Calculation method : Not classified.
STOT - repeated exposure	Calculation method : May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	Calculation method : Not classified.

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### 11.2 Information on other hazards

Not known.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

	Toxic to aquatic life with long lasting effects.
Toxicity - Aquatic invertebrates	Not known.
Toxicity - Fish	Not known.
Toxicity - Algae	Not known.
Toxicity - Sediment Compartment	Not classified.
Toxicity - Terrestrial Compartment	Not classified.

### 12.2 Persistence and degradability

Not known.

### 12.3 Bioaccumulative potential

Not known.

### 12.4 Mobility in soil

Not known.

### 12.5 Results of PBT and vPvB assessment

Not known.

### 12.6 Endocrine disrupting properties

None known.

### 12.7 Other adverse effects

Not known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Dispose of contents in accordance with local, state or national legislation. Send to a licensed recycler, reclaimer or incinerator. Dispose of this material and its container to hazardous or special waste collection point. Dispose at suitable refuse site.

### 13.2 Additional Information

Disposal should be in accordance with local, state or national legislation.

## SECTION 14: TRANSPORT INFORMATION

### 14.1 UN number or ID number

UN No. 3082

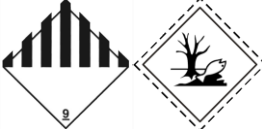
### 14.2 UN proper shipping name

UN proper shipping name M-471.5 UN3082 Environmentally Hazardous Substance, Liquid, N.O.S. (Manganese Sulphate), 9, III, (-)

### 14.3 Transport hazard class(es)

ADR/RID	
ADR/RID Class	9
ADR Classification Code	M6
Special Provisions	274 335 375 601
Limited Quantities	5 L
Excepted Quantities	E1
Emergency Action Code	•3Z
Mixed Packing Instructions for Packages	P001 IBC03 LP01 R001
Special Packing Provisions for Packages	PP1
Mixed Packing Instructions for Packages	MP19
Packing Instructions for Portable Tanks	T4
Special Provisions for Portable Tanks	TP1 TP29
Tank Code for Tanks	LGBV
Special Provisions for Tanks	
Vehicle for Tank Carriage	AT
ADR Transport Category	3
Tunnel Restriction Code	-
Special Provisions for Carriage - Packages	V12
Special Provisions for Carriage - Bulk	
Special Provisions for Carriage - Loading, Unloading and Handling	CV13

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	9
IMDG Class	
Special Provisions	274 335 375 601
Limited Quantities	5 L
Excepted Quantities	E1
Mixed Packing Instructions for Packages	P001 IBC03 LP01 R001
Special Packing Provisions for Packages	PP1
Packing Instructions for Portable Tanks	T4
Special Provisions for Portable Tanks	TP1 TP29
IMDG EMS	F-A S-F
Stowage and Handling	Category A
Segregation	
Marine Pollutant	
ICAO/IATA	
IATA Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Excepted Quantities	E1
Passenger and Cargo Aircraft Limited	Y964
Quantities Packing Instructions	
Passenger and Cargo Aircraft Limited	30Kg G
Quantities Max net Qty	
Passenger and Cargo Aircraft Packing	964
Instructions	
Passenger and Cargo Aircraft Max net	450L
Qty	
Cargo Aircraft Packing Instructions	964
Cargo Aircraft Max net Qty	450L
Special Provisions	A97, A158, A197, A215
Emergency Response Guidebook (ERG)	9L
Code	
Labels	
Labels	9
	
<b>14.4 Packing group</b>	
Packing group	III
<b>14.5 Environmental hazards</b>	
Environmental hazards	Classified as a Marine Pollutant.
<b>14.6 Special precautions for user</b>	
Special precautions for user	Not known.
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	
	No information available

### SECTION 15: REGULATORY INFORMATION

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

European Regulations - Authorisations and/or Restrictions On Use	
Candidate List of Substances of Very High Concern for Authorisation	Not listed
REACH: ANNEX XIV list of substances subject to authorisation	Not listed
REACH: Annex XVII Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	manganese sulphate (7785-87-7), citric acid (77-92-9)
Community Rolling Action Plan (CoRAP)	Not listed
Regulation (EU) N° 2019/1021 of the European Parliament and of the Council on persistent organic pollutants	Not listed
Regulation (EC) N° 1005/2009 on substances that deplete the ozone layer	Not listed
Regulation (EU) N° 649/2012 of the European Parliament and of the Council concerning the export and import of hazardous chemicals	Not listed
<b>National regulations</b>	
Other	Not known.
<b>15.2 Chemical Safety Assessment</b>	
	A REACH chemical safety assessment has not been carried out.

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### SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements:

#### LEGEND

Hazard Pictogram(s)



GHS05



GHS08



GHS09

GHS07: GHS: Exclamation mark

Hazard classification

Eye Dam. 1 : Serious eye damage/irritation, Category 1  
 Eye Irrit. 2 : Serious eye damage/irritation, Category 2  
 STOT RE 2 : Specific target organ toxicity — repeated exposure, Category 2  
 Aquatic Chronic 2 : Hazardous to the aquatic environment, Chronic, Category 2

Hazard Statement(s)

H318: Causes serious eye damage.  
 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.

Precautionary Statement(s)

P260: Do not breathe dust/fume/gas/mist/vapours/spray.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P305+P351+P338+P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.  
 P314: Get medical advice/attention if you feel unwell.  
 P391: Collect spillage.

Acronyms

P501: Dispose of contents in accordance with local, state or national legislation.  
 ADN : European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
 ADR : European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE : Acute Toxicity Estimate  
 CAS : Chemical Abstracts Service  
 CLP : Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures  
 DNEL : Derived No Effect Level  
 EC : European Community  
 EINECS : European Inventory of Existing Commercial Chemical Substances  
 IATA : International Air Transport Association  
 IBC : Intermediate Bulk Container  
 ICAO : International Civil Aviation Organization  
 IMDG : International Maritime Dangerous Goods  
 LTEL : Long term exposure limit  
 PBT : Persistent, Bioaccumulative and Toxic  
 PNEC : Predicted No Effect Concentration  
 REACH : Registration, Evaluation, Authorisation and Restriction of Chemicals  
 RID : Regulations concerning the International Carriage of Dangerous Goods by Rail  
 STEL : Short term exposure limit  
 STOT : Specific Target Organ Toxicity  
 UN : United Nations  
 vPvB : very Persistent and very Bioaccumulative

Key literature references and sources for data used to compile the SDS

Regulation (EC) No. 1272/2008 (CLP)



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