SAFETY DATA SHEET

Folex Oligomax

This safety data sheet complies with the requirements of:
Regulation (EC) No. 453/2010 and Regulation (EC) No. 1272/2008

SDS # : 10248B-A
Revision date: 2018-11-16
Format: EU
Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Code(s) 10248B-A

Product Name Folex Oligomax

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

Recommended Use: A soluble fertilizer for use in agriculture and horticulture

Restrictions on use Use as recommended by the label.

1.3. Details of the supplier of the safety data sheet

Supplier

FMC Agro Limited
Rectors Lane
Pentre
Flintshire
CH5 2DH
United Kingdom
Tel: + 44 1244 537370
E-mail: fmc.agro.uk@fmc.com

For further information, please contact:

Contact point

Tel: +44 1244 537370
Email: fmc.agro.uk@fmc.com

1.4. Emergency telephone number

Emergency telephone Tel: +44 1244 537370 (Office hours only)

Section 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture *Regulation (EC) No 1272/2008*

Skin corrosion/irritation	Category 2 (H315)
Serious eye damage/eye irritation	Category 1 (H318)
Reproductive toxicity	Category 1B (H360FD)
Specific target organ toxicity — repeated exposure	Category 2 (H373)
Chronic aquatic toxicity	Category 2 (H411)

2.2. Label elements

Hazard pictograms

Signal Word
Danger

Hazard Statements
H315 - Causes skin irritation
H318 - Causes serious eye damage
H360FD - May damage fertility. May damage the unborn child
H373 - May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust
P264 - Wash hands thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P405 - Store locked up
P501: Dispose of contents/container as hazardous waste.

2.3. Other hazards

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

The product is a mixture, not a substance.

3.2 Mixture containing the following hazardous ingredients:

Chemical name	EC-No	CAS-No	Weight percent	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
AMMONIUM IRON(III) CITRATE	214-686-6	1185-57-5	30-60	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available
MANGANESE SULPHATE MONOHYDRATE	232-089-9	10034-96-5	10-30	Eye Dam. 1: H318; STOT RE 2: H373; Aquatic Chronic 2: H411	01-2119456624-35-XXXX
Zinc sulfate	231-793-3	7733-02-0	10-30	Acute Tox. 4 (H302) Eye Dam. 1 (H318) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	01-2119474684-27-XXXX
Disodium octaborate tetrahydrate	234-541-0	12280-03-4	1-5	Repr. 1B (H360FD)	01-2119490860-33-xxxx
Citric Acid	201-069-1	5949-29-1	1-5	Eye Irrit. 2 (H319)	01-2119457026-42-XXXX
DICOPPER CHLORIDE TRIHYDROXIDE	215-572-9	1332-65-6	<1	Acute Tox. 4 (H302) Acute Tox. 4 (H332) Aquatic Acute 1 (H400) Aquatic Chronic 2 (H411)	01-2119966120-46-XXXX

Additional Information
For the full text of the H- and EUH- phrases mentioned in this Section, see Section 16.

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact — Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Transfer to hospital for specialist examination.

Skin Contact — Immediately remove all stained or splashed clothing that is not adhering to the skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Consult a doctor if necessary.

Inhalation — Remove person from exposure ensuring one's own safety while doing so. Consult a doctor if necessary.

Ingestion — Rinse mouth. Do not induce vomiting. If conscious, give 2 glasses of water. Get immediate medical attention.

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

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 irritation and redness. The eyes may water profusely.

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

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. Possible systemic effects via inhalation or ingestion.

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

Indication of immediate medical attention and special treatment needed, if necessary — Eye bathing equipment should be available on the premises.

Section 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.

Unsuitable extinguishing media
No information available

5.2. Special hazards arising from the substance or mixture

Toxic fumes may be released in fire situations.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear. 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
For personal protection see section 8. Stop leak if you can do it without risk. In case of spill, avoid contact. Isolate area and keep

out animals and unprotected persons. Keep people away from and upwind of spill/leak.

For further clean-up instructions, call Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

For emergency responders
Use personal protection recommended in Section 8.

6.2. Environmental precautions
Do not discharge into drains or rivers. Contain the spillage using bunding. Accidental release into water courses must be alerted to the appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Sweep up or vacuum up spillage and collect in suitable container for disposal. Equipment should contain high efficiency filter. Transfer to a closable, labeled salvage container for disposal by an appropriate method. Refer to section 13 of SDS for suitable method of disposal.

6.4. Reference to other sections
See section 8 for more information. See section 13 for more information.

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling
Use only in area provided with appropriate exhaust ventilation. Avoid contact with skin, eyes and clothing. Avoid dust formation in confined areas.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Storage
Protect from freezing. Store above 5°C. Keep in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep away from heat. Keep out of reach of children and animals. Keep away from food, drink and animal feedingstuffs.

7.3. Specific end use(s)

Specific Use(s)
No data available.

Risk Management Methods (RMM)
The information required is contained in this Safety Data Sheet.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
MANGANESE SULPHATE MONOHYDRATE 10034-96-5	-	-	-	TWA 0.02 mg/m³	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/Face Protection Tightly fitting safety goggles. Provide emergency on-site eyewash.

Hand Protection Protective gloves. Impervious butyl rubber gloves. Wear chemical protective gloves made of materials such as nitrile or neoprene.

Skin and Body Protection Wear protective gloves/clothing.

Respiratory Protection Respiratory protective device with particle filter class P2S (EN143).

Environmental exposure controls Refer to specific Member State legislation for requirements under Community environmental legislation.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Dry powder
Appearance	No information available
Odour	Barely perceptible
Colour	Brown
Odour threshold	No information available
pH	5.3 @ 1 g/L
Melting point/freezing point	No information available
Boiling point/boiling range	No information available
Flash point	No information available
Evaporation Rate	No information available
Flammability (solid, gas)	
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit	No information available
Vapour pressure	No information available
Vapour density	No information available
Specific gravity	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidising properties	Non-oxidizing (by EC criteria)

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC content (%)	No information available
Density	No information available
Bulk density	No information available
K_{st}	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

None under normal use conditions

10.2. Chemical stability

Stable under recommended storage conditions.

Explosion data
Sensitivity to Mechanical Impact No information available.
Sensitivity to Static Discharge No information available.

10.3. Possibility of hazardous reactions

Hazardous polymerisation
Hazardous polymerization does not occur.

Hazardous reactions
None under normal processing. Decomposition may occur on exposure to conditions or materials listed below.

10.4. Conditions to avoid

Heat.

10.5. Incompatible materials

Strong oxidising agents, Strong acids, Strong bases.

10.6. Hazardous decomposition products

May emit toxic fumes under fire conditions.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information
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LD50 Oral > 2000 mg/kg (rat) (Calculated Estimated Acute Toxicity - EAT)

Chemical name	LD50 Oral	LD50 Dermal	Inhalation LC50
MANGANESE SULPHATE MONOHYDRATE	2400 mg/kg (Rat)		>4.98 mg/L (4 hr) (Rat)
Zinc sulfate	1710 mg/kg (Rat)	>2000mg/kg (Rat)	
Disodium octaborate tetrahydrate	= 2500 mg/kg (Rat)		
Citric Acid		>2000 mg/kg (rat)	
DICOPPER CHLORIDE TRIHYDROXIDE	1398 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	4.74 mg/L (4 hr) (Rat)

Skin corrosion/irritation No information available.
Serious eye damage/eye irritation No information available.
Sensitisation No information available
Mutagenicity No information available.
Carcinogenicity No information available.

Reproductive toxicity No information available.
STOT - single exposure No information available.
STOT - repeated exposure No information available.

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

Eye contact: There may be irritation and redness. The eyes may water profusely.

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

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.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity ALGAE (Pseudokirchneriella subcapitata): 72H IC50 = 2.72 (calculated) mg/L
DAPHNID (Daphnia magna): 48H LC50 = 2.83 (calculated) mg/L
RAINBOW TROUT (Oncorhynchus mykiss): 96H LC50 = 2.03 (calculated) mg/L

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Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
MANGANESE SULPHATE MONOHYDRATE	ALGAE (Desmodesmus subspicatus: 72H ErC50 = 61.0 mg/L	RAINBOW TROUT (Oncorhynchus mykiss): 96H LC50 = 9.75 mg/L	DAPHNID (Daphnia magna): 48H LC50 = 30.1 mg/L
Zinc sulfate	72 h EC50: = 0.056 mg/L (Pseudokirchneriella subcapitata) static 72 h EC50: = 64.8 mg/L (Chlorella vulgaris) 96 h EC50: = 2.4 mg/L (Chlorella vulgaris)	96 h LC50: = 0.162 mg/L (Oncorhynchus mykiss) flow-through 96 h LC50: 0.03 - 0.05 mg/L (Oncorhynchus mykiss) semi-static 96 h LC50: 0.34 - 0.93 mg/L (Oncorhynchus mykiss) static 96 h LC50: = 0.06 mg/L (Pimephales promelas) static 96 h LC50: 3.55 - 6.32 mg/L (Lepomis macrochirus) static 96 h LC50: 16.85 - 27.18 mg/L (Cyprinus carpio) static 96 h LC50: 3 - 4.6 mg/L (Lepomis macrochirus) flow-through 96 h LC50: = 0.63 mg/L (Poecilia reticulata) 96 h LC50: 0.23 - 0.48 mg/L (Pimephales promelas) 96 h LC50: 49.23 - 64.16 mg/L (Poecilia reticulata) semi-static 96 h LC50: 0.48 - 1.72 mg/L (Poecilia reticulata) static 96 h LC50: 0.218 - 0.42 mg/L (Pimephales promelas) flow-through 96 h LC50: 0.168 - 0.25 mg/L (Pimephales promelas) semi-static 96 h LC50: = 0.15 mg/L (Cyprinus carpio) semi-static	48 h EC50: 0.538 - 0.908 mg/L (Daphnia magna) Static 48 h EC50: = 0.75 mg/L (Daphnia magna)
DICOPPER CHLORIDE TRIHYDROXIDE	ALGAE (Raphidocelis supcapitata) 72H ErC50 0.238 mg/L	96 h LC50: = 0.082 mg/L (Oncorhynchus mykiss) semi-static 96 h LC50: 0.29 - 0.55 mg/L (Oncorhynchus mykiss) static 96 h LC50: = 2940 mg/L (Cyprinus carpio) static 96 h LC50: > 180 mg/L (Lepomis macrochirus) static	DAPHNID (Daphnia magna) 48H LC50 0.067 mg/L

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

Mobility in soil
No information available.

Mobility
Soluble in water.

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

Toxic to aquatic organisms.

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products	Transfer to a suitable container and arrange for collection by specialised disposal company. Do not contaminate ponds, waterways or ditches with chemical or used containers. Do not discharge to sewer systems.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
OTHER INFORMATION	NOTE : The user's attention is drawn to the possible existence of specific European, national or local regulations regarding disposal.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN/ID no	UN3077
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE SULPHATE MONOHYDRATE; ZINC SULPHATE; COPPER OXYCHLORIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Marine Pollutant	Yes
Environmental Hazard	Yes
14.6 Special Provisions	No special precautions. Tunnel code: E Transport category: 3
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	This product is not transported in bulk containers.

RID

14.1 UN/ID no	UN3077
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE SULPHATE MONOHYDRATE; ZINC SULPHATE; COPPER OXYCHLORIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
14.6 Special Provisions	No special precautions. Tunnel code: E Transport category: 3

ADR/RID

14.1 UN/ID no	UN3077
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE SULPHATE MONOHYDRATE; ZINC SULPHATE; COPPER OXYCHLORIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
14.6 Special Provisions	No special precautions. Tunnel code: E Transport category: 3

ICAO/IATA

14.1 UN/ID no	UN3077
14.2 Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (MANGANESE SULPHATE MONOHYDRATE; ZINC SULPHATE; COPPER OXYCHLORIDE)
14.3 Hazard class	9
14.4 Packing Group	III
14.5 Environmental Hazard	Yes
14.6 Special Provisions	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

National regulations This product is a Seveso category/named substance in Annex I of Council Directive 96/82/EC.

European Union

Authorisations and/or restrictions on use:
This product does not contain substances subject to authorisation (Regulation (EC) No. 1907/2006 (REACH), Annex XIV)
This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Persistent Organic Pollutants
Not Applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009
Not Applicable

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
AMMONIUM IRON(III) CITRATE 1185-57-5	X	X	X		X	X	X	X
MANGANESE SULPHATE MONOHYDRATE 10034-96-5				X	X		X	X
Zinc sulfate 7733-02-0	X	X	X	X	X	X	X	X
Disodium octaborate tetrahydrate 12280-03-4					X		X	

Citric Acid 5949-29-1		X		X	X		X	X
DICOPPER CHLORIDE TRIHYDROXIDE 1332-65-6	X	X	X		X	X	X	X

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out for the substance or the mixture by the supplier.

Section 16: OTHER INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under sections 2 and 3
H302 - Harmful if swallowed
H302 + H332 - Harmful if swallowed or if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H319 - Causes serious eye irritation
H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child
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

Legend

ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS:	CAS (Chemical Abstracts Service)
Ceiling:	Maximum limit value:
DNEL:	Derived No Effect Level (DNEL)
EINECS:	EINECS (European Inventory of Existing Chemical Substances)
GHS:	Globally Harmonised System (GHS)
IATA:	International Air Transport Association (IATA)
ICAO:	International Civil Aviation Organization
IMDG:	International Maritime Dangerous Goods (IMDG)
LC50:	LC50 (lethal concentration)
LD50:	LD50 (lethal dose)
PBT:	Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
STEL:	Short term exposure limit
SVHC	SVHC: Substances of Very High Concern for Authorisation:
TWA:	time weighted average
vPvB:	very Persistent and very Bioaccumulative
Revision date:	2018-11-16
Reason for revision:	Initial Release.

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.

Prepared By

FMC Corporation

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End of Safety Data Sheet