



SAFETY DATA SHEET

In compliance with EC Regulation No. 1907/2006

Up-dated on : 16/05/2014 – Version : 2.0

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identification

AGROCEAN Fe Mn

1.2. Relevant identified uses of the substance or mixture

Algae based fertilizer

1.3 Data relative to supplier of Safety data sheet

AGRIMER

Prat Menan - BP 29

29880 PLOUGUERNEAU - FRANCE

Tel : (33) 02 98 04 54 11

Fax : (33) 02 98 04 55 15

1.4. Emergency phone numbers :

Orfilla France (INRS) : + 33 (0)1 45 42 59 59

Centre Anti-Poison (Rennes) : + 33 (0)2 99 59 22 22

SECTION 2 – HAZARD IDENTIFICATION

2.1. Classification of substance or mixture

According to EC Directive 67/548/EC or EC Directive 1999/45/EC: none

According to EC Regulation 1272/2008 : none

2.2. Labeling elements

Hazard pictogram: none

Hazard statement: none

Precautionary statements :

P102 : Keep out of reach of children

P103 : Read label before use

P501 : Dispose of contents / container in accordance with local/regional/ national/ international regulations

2.3. Other hazards :

No further relevant information

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Components with hazard statements :

| Component | Classification according to EC Regulation 1272/2008 | Classification according to EC Directive 67/548/EEC or EC Directive 1999/45/EC | Composition | Classification of mixture |
|-----------------------------|---|--|--------------------|---------------------------|
| Inorganic chlorine compound | | Xn, R22, R36 | < 4% in Fe complex | No |

Other components :
Laminaria digitata extract
Manganese complex

SECTION 4 – FIRST AID MEASURES

4.1. Description of first aid measures

In case of :

- Inhalation: not specifically concerned (aqueous liquid), provide fresh air.
- Eyes: rinse immediately and abundantly with water for 15 minutes, and consult an ophthalmologist.
- Skin: remove soiled clothes, rinse abundantly for 15 minutes. Consult a doctor in case of itching and redness.
- Ingestion: rinse mouth with water. Consult a doctor immediately. Do not vomit.

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

Depending on the type of exposition: redness, stinging, itching, nausea, vomiting, diarrhea...

4.3. Indication of any immediate attention and special treatment needed

No further relevant information available.

SECTION 5 – FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing agents: all types of extinguishing agents are suitable (CO₂, extinguishing powder, water spray, alcohol resistant foam...)

Specific hazards: possible emission of toxic fumes. Collect contaminated fire extinguishing water separately and eliminate according to applicable regulation

Protective equipment : fire-fighting masks

5.2. Specific hazards arising from the substance or mixture

No further information available, emissions resulting from combustion may contain sulfur oxides and nitrogen oxides.

5.3. Advice for firefighters

Do not enter or stay in hazardous area without protective clothing and autonomous breathing equipment

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with eyes and skin. Use rubber or latex gloves, and protective eyewear.

6.2. Environmental precautions

Contain spills. Do not reject directly in sewer or in the natural environment (surface or groundwater). Inform authorities of any spills.

6.3. Methods and material for containment and cleaning up

Do not dilute.

Absorb with liquid binding material. Dispose contaminated material as waste according to item 13.

Do not refill original packaging.

6.4. Reference to other sections

See section 8 for information on personal protective equipment

See section 13 for disposal information.

SECTION 7 – HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling : use a chemical protection mask, rubber or latex gloves, protective eyewear
 Avoid spilling and accidental projections. Avoid contact with skin and eyes. Do not breathe vapors.
 Do not eat, smoke or drink in work area. Wash hands before breaks and after using product.

7.2. Conditions for safe storage, including incompatibilities

Storage: in closed container, away from heat or freezing temperatures. Do not store close to food products or drinks, including animal feed. Stacking of pallets must be limited to 2 pallets.
 Container: 1000 liter tank, 5 or 10 liter tank. Do not transfer to other containers. Keep product in original container, well closed and with original labeling.

7.3. Specific end uses

No further relevant information available

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Advice for the workplace : work outdoors or insure a good ventilation/exhaustion at the workplace
 Limit values for monitoring at the workplace : no studies have been carried out on the mixture

Components with limit values to be monitored in the workplace :

Inorganic chlorine compounds (<4%):

VME: 10 mg/m³

8.2. Exposure controls

Monitoring means : occupational health services

Protective equipment

Breathing equipment : P1 filter against aerosols

Protection of skin: gloves resistant against chemicals. Protective clothing (plastic sleeve covers, apron, gloves with sleeve covers, single use suits...) depending on use

Protection of eyes : protective eyewear

Specific hygiene measures: wash hands after handling product. Do not eat, smoke or drink during use of product.

Protection of the environment: Empty rinsing water of the original container into the spraying tank of machine for fertilizing.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|------------------------------------|-----------------------|
| Appearance : | green to brown liquid |
| Odor : | typical |
| Density : | 1.295 – 1.315 |
| pH : | 7.5 – 8.5 |
| Solubility : | fully miscible |
| Melting point : | not determined |
| Boiling point: | not determined |
| Decomposition temperature : | not determined |
| Vapor pressure: | not applicable |
| Danger of explosion : | not applicable |
| Combustive properties : | not applicable |

9.2. Other information

No further relevant information available

SECTEUR 10 – STABILITY AND REACTIVITY

10.1 Reactivity

No available data (no particular risks expected)

10.2 Chemical stability

The product is stable in the normal conditions of use.

The product may change colors in time, without alteration of its properties.

10.3 Possibility of hazardous reactions

No available data (no particular risks expected)

10.4 Conditions to avoid

Storage at temperatures above 40 °C and below -10°C

10.5 Incompatible materials

Do not store in metal containers

10.6 Hazardous decomposition products

No dangerous decomposition products known. In case of fire, see section 5.

SECTION 11 – TOXICOLOGICAL INFORMATION**11.1 Information relative to toxicological effects**

No tests carried out on mixture

Acute toxicity : not classified

Data relatives to components :

Iron complex of EDTA in aqueous solution (50%):

Ingestion: DL50: > 4000 mg/kg/rat

Iron complex of EDTA:

ingestion DL50 : 2200 mg/kg/rat

Inorganic chlorine compound (<4 %):

Ingestion DL50 : 1650 mg/kg/rat; 1300 mg/kg/mouse

Manganese complex of EDTA in aqueous solution (30-40%):

Ingestion: DL 50 > 2000 mg/kg/rat

Irritation : not classified

Iron complex of EDTA in aqueous solution (50%):

Skin: slightly irritating

Eyes : Moderately irritating

Iron complex of EDTA:

Skin: not irritating

Eyes: not irritating

Inorganic chlorine compound (<4 %):

Skin: slightly irritating = 500 mg/52/rabbit

Eyes : irritating (100 mg/rabbit)

Manganese complex of EDTA in aqueous solution (30-40%):

Skin: Not irritating.

Eyes: Not irritating.

Sensitization : no sensitizing effects known

Chronic toxicity : no available data for mixture

Iron complex of EDTA in aqueous solution (50%):

Long term toxicity: may cause irritation if prolonged contact with skin

Inorganic chlorine compound (<4%):

Skin contact: repeated or prolonged exposure may cause skin irritation.

Carcinogenic properties : no available data for mixture

Mutagenicity : no available data for mixture

Toxicity for reproduction : no available data for mixture

SECTION 12 – ECOLOGICAL INFORMATION**12.1 Toxicity**

No studies have been carried out for the mixture.

Components :

Iron complex of EDTA in aqueous solution (50%):

LC50 fish = 100 mg/l

Iron complex of EDTA:

LC 50 fish > 100mg/l/96h (*Oncorhynchus mykiss*)

EC50 daphnia > 100 mg/l/48h (*Daphnia magna*)

IC50 algae > 100 mg/l/72h (*Pseudokirchneriella subcapitata*)

Inorganic chlorine compound (<4%):

LC50 fish = 109 mg/l/48h

12.2 Persistence and degradability

No negative impact expected on wastewater treatment plant. All components are degradable or biodegradable.

Iron complex of EDTA in aqueous solution (50%):

DBO5: 5 mgO2/g

DCO: 280 mgO2/g

Manganese complex of EDTA in aqueous solution (30-40%):

DCO = 350 mg O2/g

DBO5 = 10 mg O2/g

12.3 Bioaccumulative potential

No further relevant information

12.4 Mobility in soil

All components are soluble in water

12.5 Results of PBT and vPvB assessments

Not applicable

12.6 Other adverse effects

No further relevant information

SECTION 13 – DISPOSAL CONSIDERATIONS**13.1 Waste treatment method**

Residues: Must be disposed according to applicable regulations.

Must not be disposed in sewage system.

Destruction of packaging: Eliminate cardboard, pallets, containers according to applicable regulation.

Recommended cleaning agent: Empty rinsing water of the original container into the spraying tank of machine for fertilizing.

SECTION 14 - TRANSPORT INFORMATION

14.1. UN number : not regulated

14.2 UN shipping name : not regulated

14.3 Transport hazard class :

Road (ADR 2011) : not regulated

Maritime (IDMG 2011) : not regulated

14.4 Packing group : not regulated

14.5 Environmental hazards : not regulated

14.6 Specific precautions by the user : no further information available

14.7 Transport of bulk according to annex II of MARPOL 73/78 convention and IBC Code : not applicable

SECTION 15 – REGULATORY INFORMATION

15.1 Safety, health and environmental regulations specific for the substance or mixture :

Hazard pictograms : None

Hazard statements : None

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16 – OTHER INFORMATIONS

The content and the format of the Material Safety Data Sheet comply with EC regulation 1907/2006 and regulation 453/2010.

Details of revision : new format

Risk phrases in section 2 : none

Risk phrases in section 3 :

Xn : harmful

R22 : Harmful if swallowed

R36 : Irritating to eyes

P102 : Keep out of reach of children

P103 : Read label before use

P501 : Dispose of contents / container in accordance with local/regional/ national/ international regulations

This safety data sheet complements the technical instructions of use. The information is based on the current knowledge relative to the product on the date of the update of the document. The manufacturer will not be held responsible for consequences of the use of the product for uses other than the relevant identified use. This document shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.