

SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 453/2010)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**

Product name : FIXA MN

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

Use for agriculture (nutrients/ trace elements for plants)

1.3. Details of the supplier of the safety data sheet

Registered company name : AGRO-NUTRITION SAS.

Address : Parc Activestre - 3 avenue de l'Orchidee.31390.CARBONNE.FRANCE.

Telephone : 33 (0) 5 61 97 85 00. Fax : 33 (0) 5 61 97 85 01.

fds@agro-nutrition.fr

<http://www.agronutrition.com>**1.4. Emergency telephone number : +33 (0)1 45 42 59 59.**Association/Organisation : INRS / ORFILA <http://www.centres-antipoison.net>.**SECTION 2 : HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture****In compliance with EC regulation No. 1272/2008 and its amendments.**

Serious eye damage, Category 1 (Eye Dam. 1, H318).

May produce an allergic reaction (EUH208).

Specific target organ toxicity (repeated exposure), Category 2 (STOT RE 2, H373).

Hazardous to the aquatic environment - Chronic hazard, Category 2 (Aquatic Chronic 2, H411).

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Serious effects after prolonged or repeated oral exposure: harmful (Xn, R 48/22).

Serious eye damage (Xi, R 41).

Aquatic environmental hazard, chronic toxicity: toxic (N, R 51/53).

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

2.2. Label elements**In compliance with EC regulation No. 1272/2008 and its amendments.**

Hazard pictograms :



GHS05



GHS09



GHS08

Signal Word :

DANGER

Product identifiers :

EC 232-089-9

MANGANESE SULPHATE

Additional labeling :

EUH208

Contains MIXTURE OF: 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] AND 2-METHYL-2HISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1). May produce an allergic reaction.

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Hazard statements :

H318 Causes serious eye damage.
 H373 May cause damage to organs through prolonged or repeated exposure (if inhaled, if swallowed).
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements - General :

P102 Keep out of reach of children.

Precautionary statements - Prevention :

P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statements - Response :

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 CENTER/doctor/...

P391 Collect spillage.

Precautionary statements - Disposal :

P501 Dispose of contents/container according to local/regional/national/international regulations..

Other information :

Replace the contents / container to an approved disposal center.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) \geq 0.1% published by the European Chemicals Agency (ECHA) under article 57 of REACH: <http://echa.europa.eu/fr/candidate-list-table>

The mixture satisfies neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS**3.2. Mixtures****Composition :**

Identification	(EC) 1272/2008	67/548/EEC	Note	%
CAS: 10034-96-5 EC: 232-089-9 MANGANESE SULPHATE	GHS05, GHS09, GHS08 Dgr Eye Dam. 1, H318 STOT RE 2, H373 Aquatic Chronic 2, H411	Xn,N Xn;R48/20/22 Xi;R41 N;R51/53		25 <= x % < 50
INDEX: 613-167-00-5 CAS: 55965-84-9 MIXTURE OF: 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE [EC NO. 247-500-7] AND 2-METHYL-2HISOTHIAZOL-3-ONE [EC NO. 220-239-6] (3:1)	GHS06, GHS05, GHS09 Dgr Acute Tox. 3, H331 Acute Tox. 3, H311 Acute Tox. 3, H301 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1	T,N T;R23/24/25 C;R34 Xi;R43 N;R50/53		0 <= x % < 2.5

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

bring the packaging, label or Material Safety Data when you call the emergency number, a poison control center or doctor

4.1. Description of first aid measures**In the event of exposure by inhalation :**

In the event of an allergic reaction, seek medical attention.

In the event of splashes or contact with eyes :

Wash thoroughly with soft, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

In the event of splashes or contact with skin :

In the event of an allergic reaction, seek medical attention.

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In the event of swallowing :

Seek medical attention, showing the label.

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

Symptoms/lesions after inhalation: cough, respiratory tract irritation.

Symptoms/lesions after skin contact: skin irritation, redness.

Symptoms/lesions after eye contact: corrosion, irritation of the eye tissues.

Symptoms/lesions after ingestion: abdominal pain, nausea.

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

Treat symptomatically.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- powder
- carbon dioxide (CO₂)

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- sulphur dioxide (SO₂)
- manganese oxide

5.3. Advice for firefighters

Precautions against fire: like in case of all fires involving chemicals, wear appropriate protective equipment (chemical protective clothing, boots and gloves).

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid any contact with the skin and eyes.

If spill is large, evacuate all personnel and only allow intervention by trained operators and equipped with individual protection equipment appropriate (refer to Section 8).

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures.

6.3. Methods and material for containment and cleaning up

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

Accidental, ventilate the area and recovered by pumping the product for re-use (preferably) spill. If the operation of pumping is not suitable, cover the product dry sand or vermiculite. Mix and make its removal by scanning. Transfer to a suitable container (dumpster) properly labeled and proceed to disposal by a company authorized to waste collection.

6.4. Reference to other sections

See section 1 for information about emergency contact.

See section 13 for obtain additional information on waste treatment.

See section 8 for information on personal protection equipments.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Avoid inhalation of dust

Fire prevention :

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid eye contact with this mixture at all times.

Avoid exposure - obtain special instructions before use.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep out of reach of children.

Keep away from food, drink and animal feedingstuffs.

Keep the product away from heat sources.

Storage temperature: 0-35°C

Packaging

Always keep in packaging made of an identical material to the original.

Replace the label in case of split of packaging.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Predicted no effect concentration (PNEC):

MANGANESE SULPHATE (CAS: 10034-96-5)

Environmental compartment: Soil.
PNEC : 25.1 mg/kg

Environmental compartment: Fresh water.
PNEC : 0.0128 mg/l

Environmental compartment: Sea water.
PNEC : 0.0004 mg/l

Environmental compartment: Intermittent waste water.
PNEC : 0.03 mg/l

Environmental compartment: Fresh water sediment.
PNEC : 0.0114 mg/kg

Environmental compartment: Marine sediment.
PNEC : 0.00114 mg/kg

Environmental compartment: Waste water treatment plant.
PNEC : 56 mg/l

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8.2. Exposure controls**Personal protection measures, such as personal protective equipment**

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Natural latex
- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- PVC (polyvinyl chloride)
- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Suitable type of protective clothing :

Wear suitable protective clothing, in particular overalls and boots. These items must be kept in good condition and cleaned after use.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Type of FFP mask :

Wear a disposable half-mask aerosol filter in accordance with standard EN149.

Category :

- FFP2

If the setting covers the product and its application (spray atomization) is generating aerosol or fine particles liquids, it is recommended to wear a respirator, properly fitted.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties****General information :**

Physical state :	Fluid liquid.
Color	Light brown turbid
Odor	Odourless
State	Soluble concentrate (SL)

Important health, safety and environmental information

pH (aqueous solution) :	8.20 +/-0.6 (10g/l)
pH :	6.40 +/-0.6.
	Neutral.
Boiling point/boiling range :	Not relevant.

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Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	1300 (+/-1.5%) g/dm ³
Water solubility :	Soluble.
Melting point/melting range :	Not relevant.
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

According to our knowledge, this product does not present any particular hazard under normal conditions of use and storage.

10.4. Conditions to avoid

Avoid :

- frost

10.5. Incompatible materials

Keep away from :

- strong acids
- strong oxidising agents

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
 - sulphur dioxide (SO₂)
- Manganese oxide

SECTION 11 : TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

May have irreversible effects on the eyes, such as tissue damage in the eye, or serious physical decay of sight, which is not fully reversible by the end of observation at 21 days.

Serious eye damage is typified by the destruction of cornea, persistent corneal opacity and iritis.

May cause severe damage to organs in the event of repeated or prolonged exposure.

11.1.1. Substances**Acute toxicity :**

MANGANESE SULPHATE (CAS: 10034-96-5)

Oral route :

LD50 = 2150 mg/kg

Species : Rat

11.1.2. Mixture**Acute toxicity :**

No data on the product itself is available. However according to the representative components, it is possible to provide: Oral LD50 (rat) > 2000mg/kg

Skin corrosion/skin irritation :

may cause skin irritation

Serious damage to eyes/eye irritation :

Causes severe eye irritation

The severity depends on the concentration and exposure time

Respiratory or skin sensitisation :

Contains at least one sensitising substance. May cause an allergic reaction.

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Germ cell mutagenicity :

No evidence of this effect was found.

Carcinogenicity :

No evidence of this effect was found

Reproductive toxicant :

No evidence of this effect was found.

SECTION 12 : ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

The mineral elements (nutrients) contained in this product are essential for healthy plant growth, but may be harmful in large quantities to wildlife, aquatic organisms or sensitive plants. It is therefore necessary to minimize the amount of product released into the environment, except as part a rational fertilization program for the plants, preferably after a test for soil and/or plant issues.

12.1. Toxicity

12.1.1. Substances

MANGANESE SULPHATE (CAS: 10034-96-5)

Fish toxicity :

LC50 = 38.9 mg/l

Duration of exposure : 96 h

Crustacean toxicity :

EC50 = 8.3 mg/l

Species : Daphnia magna

Duration of exposure : 48 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

MANGANESE SULPHATE (CAS: 10034-96-5)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

12.2.2. Mixtures

This product is very soluble in water and is dangerous to the aquatic environment in the long term. We must therefore ensure that any flow is not driven into the aquatic environment or in any sewer or drain. When using, avoid spreading of the product in the cultivated areas (hedges, borders, ditches, streams).

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No information available. The evaluation was not performed because the product does not meet the requirements applicable to mixtures PBT or vPvB criteria.

12.6. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

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Soiled packaging :

Empty container completely. Keep label(s) on container.
Give to a certified disposal contractor.

Local arrangements :

submit to an approved disposal.

Codes of wastes (Decision 2001/573/EC, Directive 2006/12/EEC, Directive 94/31/EEC on hazardous waste) :

06 03 14 solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2013 - IMDG 2012 - ICAO/IATA 2014).

14.1. UN number

3082

14.2. UN proper shipping name

UN3082=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(manganese sulphate)

14.3. Transport hazard class(es)

- Classification :



9

14.4. Packing group

III

14.5. Environmental hazards

- Environmentally hazardous material :

**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M6	III	9	90	5 L	274 335 601	E1	3	E

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	9	-	III	5 L	F-A,S-F	274 335	E1

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	9	-	III	964	450 L	964	450 L	A97 A158	E1
	9	-	III	Y964	30 kg G	-	-	A97 A158	E1

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****- Classification and labelling information included in section 2:**

The following regulations have been used:

- Directive 67/548/EEC and its adaptations
- Directive 1999/45/EC and its adaptations

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- EU Regulation No. 1272/2008 amended by EU Regulation No. 487/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 758/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 944/2013.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 605/2014.

- Container information:

No data available.

- Particular provisions :

No data available.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

The information contained in this MSDS was obtained from sources which we believe are reliable and corresponds to the current state of our knowledge and experience of the product and is not exhaustive. This applies to product which conforms to the specifications, unless otherwise stated. In case of formulations or mixtures, make sure that no new dangers can not be produced.

The product should not be used for other purposes than those specified under section 1. Attention of users is drawn to the possible risks incurred when a product is used for purposes other than those for which it was designed, without the prior written handling instructions.

This complements the technical sheets but does not replace plug. Is not exempt under any circumstances, the product user to comply with all laws, regulations and procedures relating to the product, safety, hygiene and protection human health and the environment.

Monitoring of changes in the MSDS

review in the light of Regulation CLP (CE) 1272/2008

In compliance with directives 67/548/EEC, 1999/45/EC and their amendments.

Hazard symbols :



Harmful



Dangerous for the environment

Contains :

EC 232-089-9

MANGANESE SULPHATE

Risk phrase :

R 51/53

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 48/20/22

Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

R 41

Risk of serious damage to eyes.

Safety phrase :

S 26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/39

Wear suitable protective clothing and eye/face protection.

S 45

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 61

Avoid release to the environment. Refer to special instructions/Safety data sheets.

S 60

This material and its container must be disposed of as hazardous waste.

S 57

Use appropriate container to avoid environmental contamination.

S 1/2

Keep locked up and out of the reach of children.

S 13

Keep away from food, drink and animal feedingstuffs.

Replace the contents / container to an approved disposal center.

Title for H, EUH and R indications mentioned in section 3 :

H301

Toxic if swallowed.

H311

Toxic in contact with skin.

H314

Causes severe skin burns and eye damage.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

H331

Toxic if inhaled.

H373

May cause damage to organs through prolonged or repeated exposure .

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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.
R 23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
R 34	Causes burns.
R 41	Risk of serious damage to eyes.
R 43	May cause sensitisation by skin contact.
R 48/20/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R 50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Abbreviations :

PNEC : Predicted No-Effect Concentration

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefährdungsklasse (Water Hazard Class).

GHS05 : Corrosion

GHS08 : Health hazard

GHS09 : Environment