

FERTIBOOST

SAFETY DATA SHEET

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

1.1. Product identifier

Product name : FERTIBOOST

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 : AGRONUTRITION SAS.

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

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

fds-msds@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

GHS compliant.

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

Hazardous to the aquatic environment - Acute hazard, Category 2 (Aquatic Acute 2, H401).

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.

2.2. Label elements

GHS compliant.

Hazard pictograms :



GHS05



GHS09

Signal Word :

DANGER

Product identifiers :

CAS 7446-19-7

ZINC SULPHATE (HYDROUS) (MONO-, HEXA- AND HEPTA HYDRATE)

Hazard statements :

H318

Causes serious eye damage.

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.

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P310 Immediately call a POISON CENTER/doctor.
P391 Collect spillage.
Precautionary statements - Disposal :
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

No data available.

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

Identification	GHS	Note	%
CAS: 7446-19-7 EC: 231-793-3 REACH: 01-2119474684-27 ZINC SULPHATE (HYDROUS) (MONO-, HEXA- AND HEPTA HYDRATE)	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		2.5 <= x % < 10

(Full text of H-phrases: see section 16)

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 :**

Remove the victim to fresh air. In case of respiratory problems, consult a doctor/medical service.

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, 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.
If there is any redness, pain or visual impairment, consult an ophthalmologist.

In the event of splashes or contact with skin :

Watch out for any remaining product between skin and clothing, watches, shoes, etc.
Wash with plenty of water and soap. In case of redness or irritation, consult a doctor/medical service.

In the event of swallowing :

Seek medical attention, showing the label.
Give nothing by mouth. Do not induce vomiting.

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

No data available.

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)

The choice of the method depends on the other products present.

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.

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

- sulphur dioxide (SO₂)
- nitrogen oxide (NO)
- ammonia (NH₃)

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).

Wear suitable respiratory equipment in case of insufficient ventilation or prolonged exposure.

6.2. Environmental precautions

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

Retrieve the product by mechanical means (sweeping/vacuuming).

Minimize formation of dust. In case accidental spill, ventilate the area and recover (or vacuuming) the product (preferably) for reuse. Otherwise store into a suitable, properly labelled (waste) container. Disposal via a licensed waste treatment company.

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.

See section 7 for information on safe handling.

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.

Fire prevention :

Prevent access by unauthorised personnel.

Handle in well ventilated areas

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.

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

Store in a dry place.

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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

No data available.

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.

Before handling powders or dust emission, wear mask goggles in accordance with standard EN166.

Prescription glasses are not considered as protection.

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 :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))
- 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

Avoid breathing dust.

Type of FFP mask :

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

Category :

- FFP2

If the implementation of the product is generating dust formation it is recommended to wear a respirator, properly fitted complying with an approved regulations (according to EN143) standard if a risk assessment indicates this is necessary.

Exposure controls linked to environmental protection

Do not discharge into drains, surface waters or soil. Recover accidentally quantities of common ground products. Remove waste in accordance with local and national regulations.

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

Physical state :	Solid.
State	Solid prilled
Odor	slightly ammoniacal
Color	Brown to dark.

Important health, safety and environmental information

pH (aqueous solution) :	5.50 +/-0.6 (10g/l)
pH :	Not relevant.
Boiling point/boiling range :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	930 (+/-1.5%) g/dm ³
Water solubility :	Partially 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

No data available.

10.4. Conditions to avoid

Avoid :

- formation of dusts
- humidity

Dusts can form an explosive mixture with air.

10.5. Incompatible materials

Keep away from :

- strong oxidising agents
- strong acids
- nitric acid

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- nitrogen oxide (NO)
- ammonia (NH₃)

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.

11.1.1. Substances**Acute toxicity :**

ZINC SULPHATE (HYDROUS) (MONO-, HEXA- AND HEPTA HYDRATE) (CAS: 7446-19-7)

Oral route : LD50 = 574 mg/kg
Species : Rat

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Species : Rat

11.1.2. Mixture

No toxicological data available for the mixture.

SECTION 12 : ECOLOGICAL INFORMATION

Toxic to aquatic life with long lasting effects.

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

12.1. Toxicity

12.1.1. Substances

ZINC SULPHATE (HYDROUS) (MONO-, HEXA- AND HEPTA HYDRATE) (CAS: 7446-19-7)

Fish toxicity : LC50 = 0.6 mg/l
Factor M = 1
Species : Pimephales promelas
Duration of exposure : 96 h

Crustacean toxicity : EC50 = 0.56 mg/l
Factor M = 1
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

ZINC SULPHATE (HYDROUS) (MONO-, HEXA- AND HEPTA HYDRATE) (CAS: 7446-19-7)

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

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

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.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

Local arrangements :

Product must be disposed of in accordance with local and national regulations.

FERTIBOOST**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 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

3077

14.2. UN proper shipping name

UN3077=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

(zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate))

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	M7	III	9	90	5 kg	274 335 375 601	E1	3	-

Not subject to this regulation if Q ≤ 5 l / 5 kg (ADR 3.3.1 - DS 375)

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	9	-	III	5 kg	F-A,S-F	274 335 969	E1

Not subject to this regulation if Q ≤ 5 l / 5 kg (IMDG 3.3.1 - 2.10.2.7)

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	9	-	III	956	400 kg	956	400 kg	A97 A158 A179 A197	E1
	9	-	III	Y956	30 kg G	-	-	A97 A158 A179 A197	E1

Not subject to this regulation if Q ≤ 5 l / 5 kg (IATA 4.4.4 - DS A197)

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 Marpol 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**

The following regulations have been used:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS), review no. 5 (2013)

- Container information:

No data available.

- Particular provisions :

No data available.

15.2. Chemical safety assessment

No data available.

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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.

Wording of the phrases mentioned in section 3 :

H302	Harmful if swallowed.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations :

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.

GHS05 : Corrosion

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.