

MICROSTAR PMX**SAFETY DATA SHEET****SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier**

Product name : MICROSTAR PMX

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 and importer

Registered company name : AGRO-NUTRITION SAS.

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agnova.com.au**1.4. Emergency telephone number : 1 800 033 111 (24 hours, Australia-wide)****SECTION 2 : HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture****GHS compliant.**

Hazardous to the aquatic environment - Acute hazard, Category 3 (Aquatic Acute 3, H402).

Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

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

This mixture does not present a health hazard with the exception of possible occupational exposure thresholds (see paragraphs 3 and 8).

2.2. Label elements**GHS compliant.**

Hazard statements :

H412

Harmful to aquatic life with long lasting effects.

Precautionary statements - General :

P102

Keep out of reach of children.

Precautionary statements - Prevention :

P270

Do not eat, drink or smoke when using this product.

P273

Avoid release to the environment.

Precautionary statements - Disposal :

P501

Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

Replace the contents / container to an approved disposal center.

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SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures**Composition :**

Identification	GHS	Note	%
CAS: 10043-35-3 EC: 233-139-2 REACH: 01-2119486683-25-xxxx	GHS08 Wng Acute Tox. 5, H303 Repr. 1B, H360 Aquatic Acute 3, H402	[1] [2] [6]	0 <= x % < 2.5
BORIC ACID CAS: 7758-99-8 EC: 231-847-6	GHS07, GHS05, GHS09 Dgr Acute Tox. 4, H302 Eye Dam. 1, H318 Aquatic Acute 1, H400 M Acute = 10 Aquatic Chronic 1, H410 M Chronic = 10		0 <= x % < 2.5
COPPER SULPHATE PENTAHYDRATE			

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

Information on ingredients :

- [1] Substance for which maximum workplace exposure limits are available.
[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.
[6] Substances of very high concern (SVHC).

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.

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.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

Flush immediately with plenty of water for 15 minutes keeping the eyelids open. If there is any pain, redness 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.

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

No data available.

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)

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

Do not use a strong water jet, danger of spreading of the product.

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 :

- ammonia (NH₃)

N/A

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

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

Prevent any material from entering drains or waterways.

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.

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.

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.

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.

Store the product away from light and in the absence of moisture, in cool, well ventilated area.

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.

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SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters**Occupational exposure limits :**

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
10043-35-3		0,5 E mg/m ³		2(I)

Predicted no effect concentration (PNEC):

BORIC ACID (CAS: 10043-35-3)

Environmental compartment:	Soil.
PNEC :	5.4 mg/kg
Environmental compartment:	Fresh water.
PNEC :	2.02 mg/l
Environmental compartment:	Sea water.
PNEC :	2.02 mg/l
Environmental compartment:	Waste water treatment plant.
PNEC :	10 mg/l

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.

- Hand protection

Wear suitable protective gloves in the event of prolonged or repeated skin contact.

Type of gloves recommended :

- Natural latex
- 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.

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.

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

Physical state :	Solid in granules.
Color	Light to dark (as origin MP)
Odor	slightly ammoniacal
State	Solid prilled

Important health, safety and environmental information

pH (aqueous solution) :	7.60 - 8.20 (10g/l)
pH :	Not relevant.
Boiling point/boiling range :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
Density :	850 (+/-50) 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

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- ammonia (NH₃)

N/A

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

No data available.

11.1.1. Substances**Acute toxicity :**

COPPER SULPHATE PENTAHYDRATE (CAS: 7758-99-8)

Oral route : LD50 = 481 mg/kg
Species : Rat

BORIC ACID (CAS: 10043-35-3)

Oral route : LD50 = 4100 mg/kg

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	Species : Rat
Dermal route :	LD50 > 2000 mg/kg Species : Rabbit
Inhalation route (Dusts/mist) :	LC50 = 2 mg/l 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 :

Slight erythema observed or no irritant effect.

Serious damage to eyes/eye irritation :

Little or non irritating to the ocular tissue .

Respiratory or skin sensitisation :

No sensitizing effects known.

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

Harmful 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**

BORIC ACID (CAS: 10043-35-3)

Fish toxicity :

LC50 = 74 mg/l
Species : Limanda limanda
Duration of exposure : 96 h

Crustacean toxicity :

EC50 = 133 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

Algae toxicity :

ECr50 = 24 mg/l
Species : Scenedesmus subspicatus
Duration of exposure : 96 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability**12.2.1. Substances**

BORIC ACID (CAS: 10043-35-3)

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.

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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 :

submit to an approved disposal.

SECTION 14 : TRANSPORT INFORMATION

Exempt from transport classification and labelling.

14.1. UN number

-

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

-

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

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.

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.
H303	May be harmful if swallowed.

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H318	Causes serious eye damage.
H360	May damage fertility or the unborn child .
H400	Very toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations :

PNEC : Predicted No-Effect Concentration

CMR: Carcinogenic, mutagenic or reprotoxic.

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.

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.