

SAFETY DATA SHEET

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

1.1. Product identifier

Product name : BOROZINC

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..

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1.4. Emergency telephone number : +0800 764 766 .

Association/Organisation : New Zealand National Poisons Centre : poisons@otago.ac.nz.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS compliant.

Acute oral toxicity, Category 5 (Acute Tox. 5, H303).

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

Reproductive toxicity, Category 1B (Repr. 1B, H360).

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



GHS08



GHS09

Signal Word :

DANGER

Product identifiers :

CAS 12280-03-4

CAS 7446-19-7

DISODIUM OCTABORATE TETRAHYDRATE

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

Hazard statements :

H303

May be harmful if swallowed.

H318

Causes serious eye damage.

H360

May damage fertility or the unborn child .

H411

Toxic to aquatic life with long lasting effects.

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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 to an approved waste disposal plant.

2.3. Other hazards

In use, may form flammable/explosive dust-air mixture.

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

Identification	GHS	Note	%
INDEX: 005-020-00-3 CAS: 12280-03-4 EC: 234-541-0 REACH: 01-2119490860-33-XXXX DISODIUM OCTABORATE TETRAHYDRATE	GHS08 Dgr Repr. 1B, H360	[2] [6]	50 <= x % < 100
CAS: 5949-29-1 EC: 201-069-1 REACH: 01-2119457026-42-XXXX CITRIC ACID	GHS07 Wng Eye Irrit. 2, H319		25 <= x % < 50
CAS: 7446-19-7 EC: 231-793-3 REACH: 01-2119474684-27-XXXX 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		10 <= x % < 25

Information on ingredients :

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

[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 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.

In the event of swallowing :

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Seek medical attention, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

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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)

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.

5.3. Advice for firefighters

No data available.

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.

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) : do not generate dust.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

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

Avoid exposure to pregnant women and warn women of child-bearing age of the possible risks

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.

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 and drink, including those for animals.

BOROZINC**Packaging**

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

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters**

No data available.

Predicted no effect concentration (PNEC):

CITRIC ACID (CAS: 5949-29-1)

Environmental compartment: PNEC :	Soil. 33.1 mg/kg
Environmental compartment: PNEC :	Fresh water. 0.44 mg/l
Environmental compartment: PNEC :	Sea water. 0.044 mg/l
Environmental compartment: PNEC :	Fresh water sediment. 34.6 mg/kg
Environmental compartment: PNEC :	Marine sediment. 3.46 mg/kg
Environmental compartment: PNEC :	Waste water treatment plant. 1000 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.

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 EN ISO 374-1.

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.

- Body protection

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 inhaling dust.

Type of FFP mask :

Wear a disposable half-mask dust filter in accordance with standard EN149/A1.

Category :

- FFP2

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

Physical state :	Powder or dust.
State	Soluble powder (SP)
Color	White

Important health, safety and environmental information

Density :	0.6 +/-1.5%
pH (aqueous solution) :	4.8- 6.5 (10 g/l)
pH :	Not relevant.
Boiling point/boiling range :	Not relevant.
Flash point interval :	Not relevant.
Vapour pressure (50°C) :	Not relevant.
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

Moisture : 5.5%

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

Dusts can form an explosive mixture with air.

10.5. Incompatible materials

Keep away from :

- strong oxidising agents

10.6. Hazardous decomposition products

No data available.

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

May be harmful if swallowed.

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.

Presumed human reproductive toxicant.

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

Species : Rat

CITRIC ACID (CAS: 5949-29-1)

Oral route : LD50 > 5400 mg/kg

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	Species : Rat
Dermal route :	LD50 > 2000 mg/kg Species : Rat
Inhalation route (Vapours) :	LC50 > 5 mg/l

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
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Crustacean toxicity :	EC50 = 0.56 mg/l Factor M = 1 Species : Daphnia magna Duration of exposure : 48 h
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CITRIC ACID (CAS: 5949-29-1)

Fish toxicity :	LC50 = 1516 mg/l Species : Lepomis macrochirus Duration of exposure : 96 h
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Crustacean toxicity :	EC50 = 160 mg/l Duration of exposure : 48 h
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Algae toxicity :	Species : Scenedesmus quadricauda
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12.1.2. Mixtures

No aquatic toxicity data available for the substances.

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.
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CITRIC ACID (CAS: 5949-29-1)

Five-day biochemical oxygen demand :	DBO5 = 10 mg/l
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Biodegradability :	Rapidly degradable. DBO5/DCO = 0.97
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12.3. Bioaccumulative potential**12.3.1. Substances**

CITRIC ACID (CAS: 5949-29-1)

Bioaccumulation :	BCF = 3
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12.4. Mobility in soil

No data available.

BOROZINC**12.5. Results of PBT and vPvB assessment**

No data available.

12.6. Endocrine disrupting properties

No data available.

12.7. 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.

SECTION 14 : TRANSPORT INFORMATION**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	Stowage Handling	Segregation
	9	-	III	5 kg	F-A, S-F	274 335 966 967 969	E1	Category A SW23	-

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

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	9	-	III	Y956	30 kg G	-	-	A97 A158 A179 A197	E1
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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. 7 (2017)

- 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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360	May damage fertility or the unborn child .
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Abbreviations :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.

LC50 : The concentration of a test substance resulting in 50% lethality in a given period.

EC50 : The effective concentration of substance that causes 50% of the maximum response.

REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.

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.

GHS05 : Corrosion

GHS08 : Health hazard

GHS09 : Environment

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.