

<b>Section 1- Identification of the hazardous chemical or mixture and the supplier or manufacturer</b>	
Produced by:	Microendo Inc
Name:	ZincMicrobes
Density:	0.9817g/ml
Evaporation Range:	92°C-94.5°C
Solubility:	Water soluble
Appearance:	Viscous liquid
Boiling Point:	N/A
Freezing Point:	N/A
Recommendations:	The product tends to decompose if not stored properly
Instability:	The product is not stable at temperatures above 45°C
Telephone:	+52 1 3311330388

## Section 2- Hazard Identification

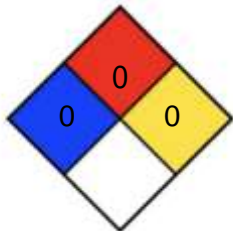
### Classification according to NCh. 382 of. 2015

Not Classified as hazardous

### Identification NCh. 2190 of. 2003

Not applicable

### Identification NCh. 1411/4 of.78



Safety level:

Health level:

Flammability level:

Reactivity level:

Special level:

0- None

0 - None

0 - None

0- None

### Risks to people's health

May cause irritation to the skin and respiratory tract.

### Risks to the environment

Unidentified

### Hazards of a physical or chemical nature

Contact with combustible material will not cause spontaneous ignition, but could aggravate an existing fire

### Classification according to the Globally Harmonized System 6 Ed. 2015

Hazard class and category

**Hazard Indication**

Not applicable

Not applicable

### Label elements according to the Globally Harmonized System 6 Ed. 2015

<b>Pictogram</b>	Not applicable
<b>Word of warning</b>	Not applicable
<b>Hazard Indication</b>	Not applicable
<b>Precautionary tips</b>	Not applicable

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#### Applications:

**ZincMicrobes** is a biofertilizer whose action is based on the activity of the bacteria *Pantoea spp.* This type of bacteria lives naturally in the soil near the roots of the plants, from where they establish a mutually beneficial relationship (symbiosis) with the roots.

**ZincMicrobes** bacteria solubilize the most common form of zinc in soil, to transform it into zinc ions (Zn 2+), being the available form in which the plant can take in that nutrient. In turn, bacteria produce hormones (indoleacetic acid) that stimulate plant development.

**ZincMicrobes** can reduce the addition of Zinc Chelates as a form of fertilization and therefore reduce production costs, they also solubilize the zinc present in the soil that is not available to the plant.

**ZincMicrobes** comes from a fresh and metabolically active crop, which is why its use is recommended at the time of receipt. Very early or during the afternoon, avoiding long hours of sun and solar radiation.

The product is applied injected into the roots or drench directly to the base of the plant. Always make sure that the implement to be used has not had a previous bactericide or fungicide. Wash the pump very well before using it. Preferably use neutral powder soap.

Do not eat, drink or smoke during applications, wash your hands before and after using this product.

It is recommended to dilute 1 Liter of **ZincMicrobes** per hectare in natural water as clean as possible for crops of 1-9 kg and for crops of 10-50 kg use 2 liters per hectare and for 60-100 kg use 3 liters per hectare.

Do not dilute more than 500 L for each liter of **ZincMicrobes** because microbial crops require a minimum concentration to act.

#### Section 3- Component Composition

Components	% (P/V)
Viable cells from: <i>Pantoea spp</i> 1X10 <sup>14</sup> UFC/ml	99.9%
Depleted growing medium	0.1%

**Product Risk Classification:** Usually NO hazard.

**Risks to people's health:** Mild. It does not cause harmful effects if is handled and used under normal conditions suggested on the label.

**Effects of acute (one-time) overexposure:** If the product comes into contact with the eyes or skin, irritation may occur. Routes of exposure are oral, inhalation, and eyes. Avoid inhaling spray vapors.

**Skin contact:** It can irritate the skin in some people.

**Eye contact:** It can irritate the eyes in some people.

**Ingestion:** May cause severe stomach upset if ingested in large amounts.

**Environmental hazards:** Non-toxic to beneficial bacteria.

**Special Product Hazards:** None.

**Specific Risks:** This product is not defined as a hazardous compound. The ingredients in this product are considered non-hazardous

#### **Section 4- First Aid Measures:**

**General:** In case of discomfort or suspected discomfort, stop working and seek medical assistance promptly. Remove those affected from the danger zone. Preferably outdoors. Help the affected person and keep them at rest

**Inhalation:** Remove the affected person from the danger zone. Preferably outdoors. Help the affected person and keep them at rest. Call a doctor.

**Skin contact:** Quickly remove contaminated clothing. Wash the affected area with plenty of soap and water. Call a doctor if your skin is irritated. **Eye contact:** Wash with large amounts of water for 15 minutes, with eyelids open. Consult your ophthalmologist.

**Ingestion:** Consult a doctor. Bring the product label or safety data sheet. Consult the poison control center. Do not induce vomiting. If it occurs spontaneously, keep your respiratory tract clear. Do not give anything by mouth to the unconscious or convulsive person. Apply base treatment.

**Antidote:** There is no specific antidote. Symptomatic treatment should be applied.

**Ingestion:** Consult a doctor. Apply base treatment.

**Human Experiences:** No Known Cases of Poisoning

#### **Section 5 - Fire Measures**

**Flammable:** No

**How to handle a fire:** Wear individual breathing equipment. Use water pressure. If the area is heavily exposed to fire and conditions permit, allow the fire to extinguish itself, because water can increase the contaminated area. Evacuate all staff from the area.

**Personal Protective Equipment for Firefighting:** Wear protective equipment with self-contained breathing equipment or wear an approved respirator mask. Avoid breathing combustion fumes.

#### **Section 6 - Measures in case of spills.**

**Measures to be taken in case of product spills:** Ventilate the environment. Do not direct water into drains. Do not contaminate streams or stored water. Delimit the area to contain the spill, making a wall with adsorbent material such as sawdust, sand or clay.

**Personal protective equipment to handle the emergency:** Wear full protective equipment, long-sleeved shirt, long pants, waterproof gloves, and shoes or boots with socks.

**Precautions to take to avoid damage to the environment:** Read fire and spill regulations before acting.

**Cleaning methods:** Wash the floor with a strong industrial detergent and rinse with water.

**Waste disposal methods:** Cover spilled product with sawdust, sand or clay or other absorbent material. Shoveling or sweeping. Place it in metal or plastic containers suitable for disposal, in an authorized place for this purpose.

#### **Section 7- Product Handling and Storage**

**Product Handling Information:** Always read the instructions on the label before using the product. The recommendations suggested in the safety data sheet should be followed.

**Precautions:** Avoid contact with eyes, skin, and clothing. Avoid inhaling vapors. No eating, no drinking, no smoking on the app.

**Safe Driving Recommendation:** Wear gloves and protective clothing equipment. Do not inhale, wear an approved mask for organic powders, as appropriate.

**Storage Conditions:** Store at room temperature. At a maximum temperature of 45 °C and a minimum of 5 °C. Store away from heat, flames or sparks and direct sunlight.

**Recommended packaging:** Store only in original containers sealed and labeled by the formulator.

#### **Section 8- Exposure Control and Personal Protection**

**Personal Protective Equipment:** Before using the product, read the authorized label and this safety data sheet if available.

## Section 9- Physical and Chemical Properties

### Information on basic physical and chemical properties:

Aspect	Liquid, at 20°C and 1 atmosphere.
Color	Light brown
Smell	
Olfactory threshold	Not applicable
pH	6
Melting Point/Freezing Point	Not applicable
Initial boiling point and boiling interval	Not applicable
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability	Not applicable
Explosion/Flammability Limits	Not applicable
Vapor Pressure	Not applicable
Vapor density	Not applicable
Relative density	0.9817g/ml
Solubility	Water soluble
N-octanol/water partition coefficient	Not applicable
Self-Ignition Temperature (AIT)	Not applicable
Decomposition Temperature (°C)	Not applicable
Viscosity	Not applicable
Explosive properties	Non-explosive
Oxidizing properties	Non-oxidizing

### Other information

None.

## Section 10- Stability and Reactivity

### Reactivity

No dangerous reactions are expected when handling and storing according to the provisions.

### Chemical Stability

Stable under normal temperature and storage conditions

### Possibility of dangerous reactions

None identified.

### Conditions to avoid

Stay away from flammable materials/substances, combustibles, strong acids, and reducing agents.

### Incompatible Materials

Flammables, combustibles, strong acids, strong alkalis and reducing agents.

### Hazardous Decomposition Products

nitrogen oxides (NO<sub>x</sub>), potassium oxide, potassium nitrite, ammonia, carbon dioxide, carbon monoxide, sulfur oxides, phosphorus oxides.

**General:** Wear clean clothes before application. Inhalation protection: Wear an authorized mask if there is direct and constant contact.

**Eye protection:** Wear authorized goggles and, if necessary, face shield. Hand contact protection: Wear gloves that protect against direct contact.

**Body protection:** Wear clothing to avoid prolonged contact such as a long-sleeved shirt and long pants, shoes, or high boots with socks.

**Ventilation:** Handle the product only in well-ventilated areas. Caution after using the product: Wash hair and body, change clothes, clean protective equipment, and wash equipment used in application with soap and water

### Section 11- Toxicological Information

Not applicable for biological biofertilizer

### Section 12- Ecological Information

**Instability:** Very stable.

**Persistence/Degradability:** ZincMicrobes contains bacteria that are found in free form in nature. It is commonly found in various ecological niches such as soil, water, and air.

**Bioaccumulation:** Not applicable.

**Effects on the environment:** Not applicable

### Section 13- Transportation Information

Overview. Transport the product in the original authorized container and with the authorized label. Secure the load. If there are spills or accidents, they are covered by insurance. It is transported in authorized and conditioned vehicles. Applicable trademarks or signs: Not applicable. Biological. Labelling authorised by the competent authority. The biological product does not constitute a hazardous substance according to transport regulations.

### Section 14 - Transport Information

	Ground Transportation (D.S. 298)	IMDG
<b>No ONU</b>	12, 13 y 15	Not applicable
<b>Official Designation</b>	Not applicable	Not applicable
<b>Transport hazard class</b>	Not classified	Not classified
<b>Packing Group</b>	Not applicable	Not applicable
<b>Security badge</b>	Not applicable	Not applicable
<b>Particular precautions for users</b>		
None.		
<b>Bulk transport in accordance with Annex II of the MARPOL 73/78 Convention and the IBC Code</b>		
Not classified		

### Section 15- Regulatory Information

#### Safety, health and environmental regulations and legislation

Classification according to NCh. 382-2013: Not classified as hazardous. Risk and safety information according to NCh. 2190: Not applicable Supreme Decree No. 78. Regulations for the storage of hazardous substances: Not applicable.

## Section 16 - Other information

This safety data sheet complies with NCh 2245 Of 2015

The data contained in this sheet are from reliable sources and correspond to the current state of Microendo's knowledge of the product, and do not constitute a warranty on our part. They are intended to describe our products in terms of safety aspects that are required to be known for their handling and/or transport and should not be understood as a guarantee of certain properties. The conditions of safe use of the product are the obligation of the user. This safety data sheet is an unsigned document.

**Data Source:** Raw material safety data sheets

This Safety Data Sheet has been prepared and is intended for this product only

<b>Date</b>	<b>of</b> Oct- 23	<b>Replaces</b>	Oct-24
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**preparation**

**Indication** **of** Change of format and adjustment of information requirements according to GHS

**changes:**

Product Names (Section 1)

Identified and discouraged uses (section 1)

Updating Carrier Phones (Section 1)

Identification NCh 1411/4 of. 78 (section 2)

Hazard Identification according to GHS (section 2)

Product Composition (section 3)

Information in all sections was reviewed and updated.