SAFETY DATA SHEET

CALCIUMMICROBES

Section 1- Identification of the hazardous chemical substance or mixture and supplier or manufacturer.

Microendo Inc.
MANUFACTURER

+52 1 33 1133 0388
PHONE NUMBER

CalciumMicrobes
PRODUCT

0.9817g/ml
DENSITY

92°C-94.5°C
EVAPORATION RANGE

Soluble in water
SOLUBILITY

Viscous liquid
APPEARANCE

N/A
BOILING POINT

N/A
FREEZING POINT

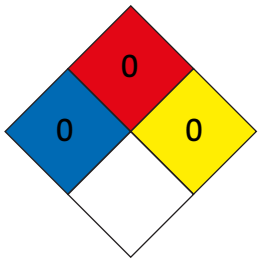
The product tends to decompose if not stored properly
RECOMMENDATIONS

The product is not stable at temperatures above 45°C.
INSTABILITY

Section 2- Hazard identification.

Not classified as dangerous
CLASSIFICATION ACCORDING TO NCH. 382 OF. 2015

Not applicable
IDENTIFICATION ACCORDING TO NCH. 2190 OF. 2003



Safety Grades
Health Grade: 0 - None
Flammability Grade: 0 - None
Reactivity Grade: 0 - None
Special Grades: None

IDENTIFICATION ACCORDING TO NCH. 1411/4 OF.78

May cause skin and respiratory tract irritation.
HEALTH HAZARDS FOR INDIVIDUALS

No identified
ENVIRONMENTAL HAZARDS

Contact with combustible material will not cause spontaneous ignition, but may exacerbate an existing fire.
PHYSICAL OR CHEMICAL HAZARDS

Not applicable
HAZARD CLASS AND CATEGORY

Not applicable
HAZARD INDICATION

CLASSIFICATION ACCORDING TO THE GLOBALLY HARMONIZED SYSTEM (6TH EDITION, 2015)

Not applicable
PICTOGRAM

Not applicable
HAZARD INDICATION

Not applicable
WARNING WORD

Not applicable
PRECAUTIONARY STATEMENTS

ELEMENTS OF THE LABEL ACCORDING TO THE GLOBALLY HARMONIZED SYSTEM (6TH EDITION, 2015)

SAFETY DATA SHEET

CALCIUMMICROBES

APPLICATIONS

CalciumMicrobes, owned by of Microendo Inc., is a unique and patented bio-fertilizer on the market, whose action is based on the activity of the bacterium ***Enterobacter asburiae***. These bacteria naturally live in the soil near plant roots, where they establish a mutually beneficial relationship (symbiosis) with the roots. **CalciumMicrobes** bacteria solubilize the most common form of calcium in soil, which is calcium carbonate, to transform it into calcium ions (Ca2+), which is the form available to the plant in which it manages to take up this nutrient.
CalciumMicrobes can reduce the addition of calcium nitrate as a form of fertilization by up to 40% and therefore reduces production costs, in addition to solubilizing the calcium present in the soil that is not available to the plant.
CalciumMicrobes comes from a fresh and metabolically active crop, which is why it is recommended for use at the time of receipt. Very early or during the afternoon, avoiding long hours of sun and solar radiation.
The product is injected into the root or in 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 thoroughly before use. Preferably use neutral powdered 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 CalciumMicrobes 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 of 60-100 kg use 3 liters per hectare.
Do not dilute more than 500 L per liter of **CalciumMicrobes** as microbial crops require a minimum concentration to act.

Section 3- Composition of components.

COMPONENTS	% (P/V)
Viable cells of *ENTEROBACTER ASBURIAE.*	99.9%
Depleted culture medium	0.1%

Typically, NO hazard.

CLASSIFICATION OF PRODUCT RISKS

CALCIUMMICROBES

Mild. Does not cause harmful effects if handled and used under normal conditions as suggested on the label.

HEALTH RISKS TO HUMANS

If the product comes into contact with the eyes or skin, irritation may occur. The routes of exposure are oral, inhalation, and ocular. Avoid inhaling spray vapors.

EFFECTS OF ACUTE OVEREXPOSURE (ONCE)

It may irritate the skin in some individuals.

SKIN CONTACT

It may irritate the eyes in some individuals.

EYE CONTACT

It may cause severe stomach discomfort if ingested in large quantities.

INGESTION

Non-toxic product for beneficial bacteria.

ENVIRONMENTAL HAZARDS

None

SPECIAL HAZARDS OF THE PRODUCT

This product is not defined as a hazardous compound. The ingredients of this product are considered non-hazardous.

SPECIFIC RISKS

Section 4- First Aid Measures.

In case of discomfort or suspicion of irritation, stop working and seek medical assistance quickly. Remove the affected person from the danger area. Preferably to an outdoor location. Assist the affected person and keep them at rest.

GENERAL

Remove the affected person from the danger area. Preferably to an outdoor location. Assist the affected person and keep them at rest. Call a physician.

INHALATION

Quickly remove contaminated clothing. Wash the affected area with plenty of water and soap. Call a doctor if the skin is irritated.

SKIN CONTACT

Consult a doctor. Bring the product label or safety data sheet. Contact the poison control center. Do not induce vomiting. If it occurs spontaneously, keep the airways clear. Do not give anything orally to an unconscious person or someone having seizures.

INGESTION

CALCIUMMICROBES

There is no specific antidote. Symptomatic treatment should be applied.

ANTIDOTE

Consult a doctor.
Apply first aid measures.

INGESTION

There are no known cases of poisoning.

HUMAN EXPERIENCES

Section 5- Firefighting Measures.

No

IS IT FLAMMABLE?

Use personal protective equipment. Use water pressure. If the area is heavily exposed to fire and conditions permit, allow the fire to extinguish itself, as water may increase the contaminated area. Evacuate all personnel from the area.

HANDLING IN CASE OF FIRE

Use protective equipment with self-contained breathing apparatus or use an approved respirator mask. Avoid inhaling combustion gases.

PERSONAL PROTECTIVE EQUIPMENT
FOR FIRE FIGHTING

Section 6- Measures in case of spills.

Ventilate the area. Do not direct water into drains. Do not contaminate water bodies or stored water. Delimit the area to contain the spill by creating a barrier with absorbent materials such as sawdust, sand, or clay.

MEASURES TO TAKE IN CASE OF PRODUCT SPILLS

Use full protective equipment, including long-sleeve shirts, long pants, waterproof gloves, and shoes or boots with socks.

PERSONAL PROTECTIVE EQUIPMENT
FOR EMERGENCY RESPONSE

Read fire and spill regulations before acting.

PRECAUTIONS TO TAKE TO AVOID
ENVIRONMENTAL DAMAGE

Wash the floor with a strong industrial detergent and rinse with water.

CLEANUP METHODS

Cover the spilled product with sawdust, sand, or clay, or other absorbent materials. Collect with shovels or sweep up. Place it in suitable metal or plastic containers for disposal, in a location authorized for such purposes.

WASTE DISPOSAL METHODS

SAFETY DATA SHEET

CALCIUMMICROBES

Section 7- Handling and Storage of the Product.

Always read the instructions on the label before using the product. Suggested recommendations in the safety data sheet must be followed.

PRODUCT HANDLING INFORMATION

Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapors. Do not eat, drink, or smoke during application. Safe handling recommendation: Use gloves and protective clothing. Do not inhale; use an approved respirator for organic powders as appropriate.

PRECAUTIONS

Store at ambient temperature. Maximum temperature of 45 °C and minimum of 5 °C. Store away from heat, flames, sparks, and direct sunlight.

STORAGE CONDITIONS

Store only in sealed original containers labeled by the formulator.

RECOMMENDED PACKAGING

Section 8- Exposure control and personal protection.

Before using the product, read the authorized label and this safety data sheet if available.

PERSONAL PROTECTIVE EQUIPMENT

Section 9- Physical and chemical properties.

Liquid at 20 °C and 1 atmosphere.

APPEARANCE

Light brown

COLOR

Not applicable

ODOR

Not applicable

OLFACTORY THRESHOLD

6

PH

Not applicable

MELTING POINT/FREEZING POINT

Not applicable

INITIAL BOILING POINT AND BOILING RANGE

Not applicable

FLASH POINT

Not applicable

EVAPORATION RATE

Not flammable

FLAMMABILITY

Not applicable

EXPLOSION/FLAMMABILITY LIMITS

Not applicable

VAPOR PRESSURE

Not applicable

VAPOR DENSITY

0.9817g/ml

RELATIVE DENSITY

CALCIUMMICROBES

Soluble in water

SOLUBILITY

Not applicable

DISTRIBUTION COEFFICIENT N-OCTANOL/WATER

Not applicable

AUTO-IGNITION TEMPERATURE (AIT)

Not applicable

DECOMPOSITION TEMPERATURE (°C)

Not applicable

VISCOSITY

Not explosive

EXPLOSIVE PROPERTIES

Non-combustible

COMBUSTIBLE PROPERTIES

None

OTHER INFORMATION

Section 10- Stability and reactivity.

No hazardous reactions are expected when handled and stored according to the provisions.

REACTIVITY

Stable under normal temperature and storage conditions.

CHEMICAL STABILITY

None identified

POSSIBILITY OF HAZARDOUS REACTIONS

Keep away from flammable materials, combustible substances, strong acids, and reducing agents.

CONDITIONS TO AVOID

Flammable, combustible substances, strong acids, strong alkalis, and reducing agents.

INCOMPATIBLE MATERIALS

Nitrogen oxides (NOx), potassium oxide, potassium nitrite, ammonia, carbon dioxide, carbon monoxide, sulfur oxides, phosphorus oxides.

HAZARDOUS DECOMPOSITION PRODUCTS

Use clean clothing before application. Inhalation protection: Use an authorized mask if there is direct and constant contact.

GENERAL

Use authorized protective goggles and, if necessary, a face shield. Wear gloves to protect against direct contact.

EYE PROTECTION

Wear clothing to avoid prolonged contact, such as long-sleeved shirts, long pants, shoes, or high boots with socks.

BODY PROTECTION

Precaution after using the product: Wash hair and body, change clothes, clean protective equipment, and wash the application equipment with water and soap.

VENTILATION

SAFETY DATA SHEET

CALCIUMMICROBES

Section 11- Toxicological information.

Not applicable for biological biofungicides.

Section 12- Ecological information.

Very stable

INSTABILITY

CalciumMicrobes contains bacteria that are freely found in nature. It is commonly present in various ecological niches such as soil, water, and air.

PERSISTENCE / DEGRADABILITY

Not applicable

BIOACCUMULATION

Not applicable

ENVIRONMENTAL EFFECTS

Section 13- Transport information.

Transport the product in the authorized original container 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 markings or signs: Not applicable. Biological product. Labeling authorized by the competent entity. The biological product does not constitute a hazardous substance according to transportation regulations.

Section 14- Transport information.

12, 13 y 15

UN NUMBER (LAND TRANSPORT (D.S. 298))

Not applicable

UN NUMBER (IMDG)

Not applicable

OFFICIAL TRANSPORT DESIGNATION
(LAND TRANSPORT (D.S. 298) AND IMDG)

Not classified

TRANSPORT HAZARD CLASS
(LAND TRANSPORT (D.S. 298) AND IMDG)

Not applicable

PACKING GROUP
(LAND TRANSPORT (D.S. 298) AND IMDG)

Not applicable

SAFETY MARKING
(LAND TRANSPORT (D.S. 298) AND IMDG)

None

SPECIAL PRECAUTIONS FOR USERS

Not applicable

BULK TRANSPORT ACCORDING TO ANNEX II
OF MARPOL 73/78 AND THE IBC CODE

Section 15- Información reglamentaria

Not classified as hazardous

CLASSIFICATION ACCORDING TO ANCH. 382-2013

Not applicable

RISK AND SAFETY INFORMATION
ACCORDING TO ANCH. 2190

Not applicable

SUPREME DECREE NO 78. REGULATION ON
THE STORAGE OF HAZARDOUS SUBSTANCES

SAFETY DATA SHEET

CALCIUMMICROBES

Section 16- Other Information.

This safety data sheet complies with **NCh 2245 Of 2015.**
The data provided in this information sheet comes from reliable sources and corresponds to the current state of **Microendo's** knowledge of the product, without constituting a guarantee on our part. It is intended to describe our products in terms of safety aspects required for handling and/or transport and should not be understood as a warranty of specific properties. Safe use conditions of the product are the responsibility of the user.
This safety sheet is an unsigned document.

Safety sheets for raw materials.
This safety data sheet has been prepared and is intended only for this product.

DATA SOURCE

Octubre 2023
DATE OF PREPARATION

Octubre 2024
REPLACES

Indication of changes

Format change and adjustment of information requirements according to GHS.
Product names (Section 1).
Identified and discouraged uses (Section 1).
Supplier phone numbers update (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 has been reviewed and updated.

microendo
SPECIALISTS IN MICROORGANISMS