
BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

POGLAVLJE 1. IDENTIFIKACIJA HEMIKALIJE I PODACI O LICU KOJE STAVLJA HEMIKALIJU U PROMET

Subchapter 1.1. Chemical Identification

Product Identifier: BACILLOSTOPER

Subchapter 1.2. Identified Uses of the Chemical and Uses Not Recommended

Use: Plant protection agent – biofungicide and biobactericide

Subchapter 1.3. Supplier Information

Manufacturer: Bacillomix CO. DOO

Address: Rodina 63

21203 Veternik

Novi Sad, Republic of Serbia

Phone: +381 21 303 26 34; +381 69 2370 444

FAX: -

Email of the person responsible for the safety data sheet: bacillomix.co@gmail.com

Subchapter 1.4. Emergency Phone Numbers

+381 11 3608 440 (available 24/7) National Poison Control Center, Crnotravska 17, Belgrade, Republic of Serbia
Police (192), Firefighters (193), Ambulance (194)

CHAPTER 2. HAZARD IDENTIFICATION

Subchapter 2.1. Classification of the Chemical

Classification according to the Regulation on Classification, Packaging, Labeling, and Advertising of Chemicals and Certain Products in Accordance with the Globally Harmonized System for Classification and Labeling of Chemicals by the UN ("Official Gazette of the RS," Nos. 105/13, 52/17, 21/19, and 40/23):

The product is not classified.

Subchapter 2.2. Labeling Elements

Labeling according to the Regulation on Classification, Packaging, Labeling, and Advertising of Chemicals and Certain Products in accordance with the Globally Harmonized System for Classification and Labeling of Chemicals by the UN ("Official Gazette of the RS," Nos. 105/13, 52/17, 21/19, and 40/23): The product is not classified.

Precautionary Statements:

P280 Wear protective gloves/protective clothing/eye/face protection.

P302+P352 If on skin: Wash with plenty of water.

P333+P313 If skin irritation or rash occurs: Seek medical advice/attention.

P501 Dispose of contents/container in accordance with regulations.

Additional Hazard Statements:

EUH208 Contains *Bacillus amyloliquefaciens* strain BA 12. May cause an allergic reaction.

EUH401 Follow the instructions for use to avoid risks to human health and the environment.

SP 1 Prevent contamination of water with the plant protection product or its packaging.

SPo2 After using the plant protection product, wash protective clothing.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Subchapter 2.3. Other Hazards

No additional information is available.

CHAPTER 3. COMPOSITION/INFORMATION ON INGREDIENTS**Subchapter 3.1. Substance Information: Not applicable.****Subchapter 3.2. Information on Mixture Components**

Component name	Conc. % (m/m)	CAS number EC number	Classification
<i>Bacillus amyloliquefaciens</i> strain BA 12 >10 ¹⁵ cfu/g	10	/	/
Sucrose	70	57-50-1	/
soybean flour	20	68513-95-1	/

CHAPTER 4. FIRST AID MEASURES**Subchapter 4.1. Description of First Aid Measures**

General advice: Keep the product packaging, label, or safety data sheet with you when calling emergency services (police, firefighters, ambulance), the Poison Control Center, or a doctor, or when seeking medical treatment.

In case of inhalation: Remove the person from the contaminated atmosphere, and if breathing stops, administer artificial respiration. Always consult a medical facility.

In case of skin contact: Remove contaminated clothing and rinse skin thoroughly with water (for at least 15 minutes).

In case of eye contact: First, remove contact lenses, then rinse eyes thoroughly with water (for at least 10 minutes). Always consult a medical facility.

In case of ingestion: Do not induce vomiting after ingestion. Always consult a medical facility.

Subchapter 4.2. Most Important Symptoms and Effects, Acute and Delayed

After skin and eye contact, sensitive individuals may experience redness. After inhalation, irritation, coughing, and difficulty breathing may occur, while after ingestion, non-specific symptoms may appear, including nausea, vomiting, weakness, and stomach pain.

Subchapter 4.3. Emergency Medical Attention and Special Treatment

No specific antidote/antidote available.

CHAPTER 5. FIRE-FIGHTING MEASURES**Subchapter 5.1. Fire Extinguishing Media**

In case of fire, water, CO₂, dry chemical fire extinguishing agents, and foam can be used.

Subchapter 5.2. Special Hazards Arising from Substances and Mixtures

During combustion, toxic gases may be released.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Subchapter 5.3. Advice for Firefighters

When extinguishing a fire, full protective equipment, including a breathing apparatus, must be worn.

CHAPTER 6. ACCIDENTAL RELEASE MEASURES**Subchapter 6.1. Personal Precautions, Protective Equipment, and Procedures in Case of Accidents**

Use personal protective equipment. Remove potential sources of fire and establish adequate ventilation.

Subchapter 6.2. Environmental Precautions

In case of spillage, isolate the contaminated area and prohibit access to people. Prevent further dispersal, and cover with sand or another inert absorbent material. Remove sources of fire and ensure ventilation of the entire area. Do not allow the substance to reach watercourses or drains.

Subchapter 6.3. Measures to Take and Materials to Prevent Spread and Restore the Area

Mechanically collect the spilled chemical and dispose of it in a safe place (containers). Wash the contaminated area with a large amount of water and dispose of contaminated water properly.

Mechanically collect the contaminated soil layer, dispose of it in containers, and treat it as hazardous waste.

Containers must be tightly closed and properly labeled. Destruction should be done by incineration in appropriate closed systems – incinerators, following hazardous waste procedures.

If the product contaminates rivers, lakes, or drains, immediately notify the relevant authorities.

Subchapter 6.4. Reference to Other Sections

For more information on personal protection, refer to Chapter 8.

For more information on waste disposal, refer to Chapter 13.

CHAPTER 7. HANDLING AND STORAGE**Subchapter 7.1. Precautions for Safe Handling**

When working with the product, do not drink, eat, or smoke, and avoid contact with skin and eyes. Wear appropriate protective clothing, rubber boots, and certified (CE marked) rubber nitrile gloves (minimum thickness of 0.40 mm), face protection. After handling, remove protective clothing and equipment, and wash with water and soap. It is not allowed to wear contaminated work clothing outside the workplace. Contaminated protective clothing and footwear must be washed before reuse. Ensure adequate ventilation in the area and control exposure levels.

When applying, observe water protection zones of 20 m and prevent water contamination. Do not spill in watercourses or standing water. Do not dispose of empty packaging in watercourses, sewers, septic tanks, or landfills to prevent environmental pollution; dispose of them in designated collection areas. Handle according to specific safety handling instructions.

Subchapter 7.2. Conditions for Safe Storage, Including Incompatibilities

Store the product in its original, tightly closed packaging in a dark, well-ventilated area, away from direct sunlight and heat sources, out of reach of children, and separately from food, drinks, animal feed, and general-use items.

Recommended storage temperature: 5 to 25 °C.

Subchapter 7.3. Special Usage Methods

There are no special usage methods.

CHAPTER 8. EXPOSURE CONTROL**Subchapter 8.1. Exposure Control Parameters**

No occupational exposure limit values have been established for the product.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Subchapter 8.2. Exposure Control and Personal Protection**Technical control and personal protection measures:**

Monitor the work process to avoid contact with the product. Use only in well-ventilated areas. Ensure adequate ventilation in the rooms.

When working with the product, do not eat, drink, or smoke, avoid contact with skin and eyes, and wear appropriate protective clothing, rubber boots, and certified (CE mark) rubber nitrile gloves (minimum thickness of 0.40 mm), and face protection. After handling, remove protective clothing and equipment and wash with water and soap. Showering is mandatory at the end of the shift. Keep work clothing separate. Replace contaminated work clothing with clean items.

Personal protective measures:

Respiratory protection: Use appropriate respiratory protection according to the manufacturer's recommendation.

Hand protection: When working with the product, wear rubber gloves. Follow the manufacturer's instructions for use, storage, maintenance, and replacement of gloves. In case of damage and/or wear, gloves should be replaced immediately.

Eye protection: When working with the product, wear appropriate face and eye protection. Follow the manufacturer's instructions in relation to the use, storage, maintenance, and replacement of face and eye protection.

Skin protection: When working with the product, wear appropriate protective clothing, rubber boots, and certified (CE mark) rubber nitrile gloves (minimum thickness of 0.40 mm).

Environmental exposure control: Data not available.

Summary of risk management measures: When applying, respect water protection zones of 20 m and prevent contamination of water (rivers, lakes, wells).

CHAPTER 9. PHYSICAL AND CHEMICAL PROPERTIES

Subchapter 9.1. Data on Basic Physical and Chemical Properties

Appearance: light cream-colored powder

Explosiveness and oxidation properties: data not available

Flammability and self-ignition: data not available

pH value: 7.0 ± 0.1 ; 1% suspension in CIPAC D water; 20°C (CIPAC MT 75.3)

Viscosity and surface tension: data not available

Bulk density (CIPAC MT 33), 20°C:

Free bulk density: $0.558 \pm 0.001 \text{ g/cm}^3$

Bulk density after shaking: $0.607 \pm 0.001 \text{ g/cm}^3$

Flowability: $27.0 \pm 0.5 \text{ s}$ (CIPAC MT 53.3)

Foam stability (CIPAC MT 47.3), for 0.1% suspension:

After 10 s = $0.0 \pm 0.0 \text{ cm}^3$

After 1 min = $0.0 \pm 0.0 \text{ cm}^3$

After 3 min = $0.0 \pm 0.0 \text{ cm}^3$

After 12 min = $0.0 \pm 0.0 \text{ cm}^3$

Suspensibility, dispersion spontaneity, and dispersion stability:

Suspensibility (CIPAC MT 184): for a suspension prepared in CIPAC D water, for 0.1% suspension: $96.8 \pm 0.2\%$

Granulometric composition, dust content, crushability, and mechanical stability

Granulometric composition, wet sieve test (CIPAC MT 185): 1.5% of particles are above 75 μm .

Subchapter 9.2. Other Data

Data not available.

CHAPTER 10. REACTIVITY AND STABILITY

Subchapter 10.1. Reactivity: Not applicable.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Subchapter 10.2. Chemical stability: Not applicable.

Subchapter 10.3. Possibility of hazardous reactions: Not applicable.

Subchapter 10.4. Conditions to avoid: Data not available.

Subchapter 10.5. Incompatible materials: Data not available.

Subchapter 10.6. Hazardous decomposition products: Data not available.

POGLAVLJE 11. TOKSIKOLOŠKI PODACI

The toxicity of this product has not been tested. The data provided in Chapter 11 of this safety data sheet is based on literature data on the toxicity of a similar strain of the beneficial bacterium *Bacillus amyloliquefaciens*, substances that are part of the product composition, and their content in the product, applying the rules for classification of mixtures.

11.1. Data on toxic effects**Acute toxicity*****Bacillus amyloliquefaciens* strain MBI 600.**

Acute oral toxicity (rats, both sexes) LD ₅₀ :	> 10 ⁹ viable spores/animal
Acute dermal toxicity (rabbit) LD ₅₀ :	> 2,0 mL/kg body weight
Acute inhalation toxicity (rats, both sexes) LC ₅₀ (4 h):	> 5,31 mg/L

Corrosive skin damage / irritation

Based on ingredient data, the product is not expected to cause skin irritation.

Severe eye damage / eye irritation

Based on ingredient data, the product is not expected to cause eye irritation.

Respiratory or skin sensitization

Based on data for *Bacillus amyloliquefaciens* strain MBI 600, the product may cause sensitization.

Germ cell mutagenicity

Based on ingredient data, the product is not expected to have mutagenic properties.

Carcinogenicity

Based on ingredient data, the product is not expected to have carcinogenic properties.

Reproductive toxicity

Based on ingredient data, the product is not expected to have effects on reproduction.

Specific target organ toxicity – single exposure

Data not available.

Specific target organ toxicity – repeated exposure

Data not available.

Aspiration hazard

Data not available.

Likely routes of exposure

The product may enter the body through inhalation, ingestion, and contact with skin and eyes.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Symptoms related to physical, chemical, and toxicological properties

After contact with skin and eyes, redness may occur in sensitive individuals. After inhalation exposure, irritation, coughing, and difficulty breathing may occur. After ingestion, symptoms such as nausea, vomiting, weakness, and stomach pain may appear.

Delayed and immediate effects, as well as chronic effects due to short-term and prolonged exposure

Data not available.

Other potential effects

Additional information is not available.

CHAPTER 12. ECOTOXICOLOGICAL INFORMATION

The environmental toxicity of this product has not been tested. The data provided in Chapter 12 of this safety data sheet is based on literature data regarding the ecotoxicological properties of a similar strain of the beneficial bacterium *Bacillus amyloliquefaciens*, substances present in the composition of the product, and their content in the product, following mixture classification rules.

Subchapter 12.1 Toxicity***Bacillus amyloliquefaciens* strain MBI 600**

Acute toxicity for birds:

LD₅₀ Northern Bobwhite quail (*Colinus virginianus*): > 4000 mg/kg body mass/day

Acute toxicity for aquatic organisms:

LC₅₀ California rainbow trout (*Oncorhynchus mykiss*) (96 h): > 9.9 × 10¹⁰ CFU/L

EC₅₀ Daphnia (*Daphnia pulex*) (48 h): 1.9 × 10¹⁰ CFU/L

EyC₅₀, *Pseudokirchneriella subcapitata*: > 5.8 × 10¹¹ CFU/L

Reproductive toxicity for aquatic organisms:

NOEC, *Daphnia magna* (21 days): 2.7 × 10⁷ CFU/L

Acute toxicity for bees:

LD₅₀ (oral, 20 days) > 1,1 × 10⁷ CFU/bee

LD₅₀ (dermal, 48 hours) > 4,4 × 10⁸ CFU/bee

Toxicity to earthworms:

LC₅₀ earthworm (*Eisenia foetida*) (56 days): > 1,1 × 10¹² CFU/kg soil (reproduction)

Toxicity to soil microorganisms:

Data not available

Toxicity to beneficial arthropods:

Tests were conducted on a number of indicator species: *Harmonia axyridis*, *Phytoseiulus persimilis*, and *Chrysoperla carnea*, showing that it does not have toxic effects on beneficial arthropods.

Subchapter 12.2. Persistence and Biodegradability

Bacillus amyloliquefaciens strain MBI 600

Considering that members of this group of bacilli are not native inhabitants of aquatic environments where optimal growth conditions are absent (lack of organic matter), their reproduction or survival in aquatic environments is not expected.

Subchapter 12.3. Bioaccumulation Potential

Species of *Bacillus*, including the strain *Bacillus amyloliquefaciens*, are naturally found in soil, including agricultural soil.

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

The retention in the soil at concentrations significantly higher than natural levels is not expected, even considering repeated applications over the years.

Subchapter 12.4. Soil Mobility

Not applicable

Subchapter 12.5. PBT and vPvB Assessment Results

Not applicable

Subchapter 12.6. Other Significant Data

No additional information available.

CHAPTER 13. DISPOSAL**Subchapter 13.1. Waste Treatment Methods****Chemical/product residues:**

The generation of waste should be avoided or minimized as much as possible. The user is required to hand over any unused product or expired product to an authorized hazardous waste collector.

Residues of contaminated packaging:

Do not dispose of empty packaging in watercourses, sewage systems, septic tanks, or landfills to prevent environmental contamination. Instead, dispose of it at designated collection points.

Waste should be handled in accordance with the Law on Packaging and Packaging Waste (Official Gazette of RS, 36/09 and 95/18-amendment) and the Law on Waste Management (Official Gazette of RS, 36/09, 88/10, 14/16, 95/18-amendment, and 35/23).

CHAPTER 14. TRANSPORT DATA

Classification Labels for Transport: Hazardous chemical name and precautionary measures during transport according to international agreements for the transportation of dangerous goods by land (road – ADR, rail – RID, inland waterways – ADN), sea (IMDG), and air (ICAO/IATA):

Subsection 14.1. UN Number: Data not available

Subsection 14.2. UN Shipping Name: Data not available

Subsection 14.3. Hazard Class in Transport: Data not available

Subsection 14.4. Packaging Group: Data not available

Subsection 14.5. Environmental Hazard (ADR, RID, ADN): No

Marine Pollutant (ICAO/IATA): No

Subsection 14.6. Special Precautions for the User: Data not available

Subsection 14.7. Transport in Bulk: T4

CHAPTER 15: REGULATORY INFORMATION**Subchapter 15.1: Safety, Health, and Environmental Regulations:**

This safety data sheet has been prepared in accordance with the following documents:

European Community:

Regulation (EC) No. 1907/2006 REACH

Republic of Serbia:

Chemical Law (Official Gazette of the RS, 36/09, 88/10, 92/11, 93/12, and 25/15)

Regulation on the Classification, Packaging, Labeling, and Advertising of Chemicals and Certain Products in Accordance with the Globally Harmonized System for Classification and Labeling of the UN (Official Gazette of the RS, 105/13, 52/17, 21/19, and 40/23)

Regulation on the Content of Safety Data Sheets (Official Gazette of the RS, 100/11)

BACILLOSTOPER

Date: 20.12.2023.

Version: 1.1

Subchapter 15.2. Chemical Safety Assessment

No chemical safety assessment has been conducted for the product, i.e., no risk assessment or proposed risk management measures for handling the *Bacillus amyloliquefaciens* strain BA 12-based preparation.

CHAPTER 16. OTHER INFORMATION**Abbreviations**

Precautionary Statement	P280 P302+P352 P333+P313	Wear protective gloves/protective clothing/eye/face protection. If on skin: wash with plenty of water. If skin irritation or rash occurs: seek medical advice/attention.
Additional hazard information:	P501 EUH208	Dispose of contents/container in accordance with regulations. Contains <i>Bacillus amyloliquefaciens</i> strain BA 12. May cause an allergic reaction.
EUH401	Follow the instructions for use to avoid the risks to health of people and environment.	
SP 1		Prevent water contamination with the plant protection product or its packaging.
SPo2		After using the plant protection product, wash the protective clothing.

The information provided in this safety data sheet is accurate to the best of our knowledge, information, and belief at the time of publication. The information presented here is intended to provide guidelines for the safe handling, use, processing, storage, transport, disposal, and release, and should not be considered as a warranty or quality specification. The information relates solely to specific materials and may be inaccurate if these materials are used in combination with other materials or in a process not explicitly mentioned in this text. We advise that the use of the product outside the specified purposes and conditions does not incur the manufacturer's responsibility.

End of Safety Data Sheet