

2018-1366
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Mycotal Biological Insecticide

Water Dispersible Granule

For suppression of whiteflies on greenhouse tomato.

COMMERCIAL

READ THE LABEL BEFORE USING

ACTIVE INGREDIENT: minimum of 1×10^{10} spores of *Lecanicillium muscarium* strain 19.79 per gram of dry weight.

CAUTION – EYE IRRITANT

POTENTIAL SENSITIZER

LIVE ORGANISM

REGISTRATION NO. 33959 PEST CONTROL PRODUCT ACT

NET CONTENTS: 0.5 kg – 5 kg

Koppert Canada Limited
40 Ironside Cres., Unit # 3
Scarborough, Ontario
M1X 1G4
1-800-567-4195

LOT NO.:

DATE OF MANUFACTURE:

Should be used within 6 months of date of manufacture.

GENERAL INFORMATION

Mycotal Biological Insecticide is a wettable granule formulation containing live spores of the naturally occurring fungus *Lecanicillium muscarium* as an active ingredient. Mycotal Biological Insecticide acts as a contact insecticide against whiteflies on greenhouse tomato.

Mode of Action

Mycotal Biological Insecticide, under the right environmental conditions, kill whiteflies after seven to ten days. After spraying, the spores germinate and grow, producing hyphae that penetrate the body cavity, where they proliferate, destroying the tissues. The fungus then grows through the insect cuticle and produces spores on the outside of the insect body, which may spread the infection to other whitefly.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN.

May cause sensitization. Avoid contact with skin and clothing. Avoid inhaling or breathing dusts and spray mist. May irritate eyes. Avoid contact with eyes. Wear waterproof gloves, a long-sleeved shirt, long pants, eye goggles or a face shield, a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter, socks and shoes when handling, mixing and loading or applying the product and during all clean-up and repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

DO NOT enter or allow worker entry into treated areas for 4 hours or until sprays have dried, unless wearing waterproof gloves, long-sleeved shirt, long pants and socks and shoes.

Pre-Harvest Intervals

The pre-harvest interval (PHI) is **1 day** (the product should not be sprayed on the crop on the day of harvest or one day prior to harvesting).

FIRST AID

IF SWALLOWED: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS

The potential effects of this product on some non-target beneficial insects and pollinators that may be used in greenhouse Integrated Pest Management Programs (IPM) are not known. May be harmful to beneficial insects. Avoid

direct contact with beneficial insects when using spray applications. This product may be harmful to bees exposed to direct treatment, or drift. Avoid applying this product while bees are actively foraging.

DIRECTIONS FOR USE

Mycotal Biological Insecticide can be used on greenhouse tomato to suppress whiteflies. It should be used when pest numbers are low. Mycotal Biological Insecticide is effective only on nymphs and larvae. Repeat applications if pest persists with a minimum of 7 days between applications.

- As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment, disposal of wash water or disposal of wastes.
- DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

PREPARATION OF SOLUTION

- Use freshly prepared spray solution every time. **Do not tank mix with fungicides.**
- To prepare the slurry, mix Mycotal with water at 15°C - 20°C (59°F - 68°F) at a ratio of 500 grams to 3-4 litres of water in a bucket. Agitate well and keep protected from heat and direct sunlight.
- Fill the spray tank with the remaining required amount of water according to the rate table below.
- Empty the slurry mix into the spray tank and agitate well.
- Mycotal Biological Insecticide can be applied with the adjuvant Agral® 90 at a rate of 0.02% (v/v). Add correct amount of adjuvant to the Mycotal Biological Insecticide spray solution and mix thoroughly.
- It is strongly recommended to use the adjuvant Agral® 90 when applying Mycotal Biological Insecticide however, it is not mandatory. (See “*Compatibility/Adjuvants*”).
- **Spray immediately after preparation.**

RATES

Crops	Target Pest	Rate
Greenhouse tomato	Suppression of whiteflies	1 g Mycotal Biological Insecticide / 1L water (0.1%) Low crops: 1Kg of Mycotal Biological Insecticide in 1000 L/ha High crops: 2Kg of Mycotal Biological Insecticide in 2000 L/ha

Growth stages of crops or plants to be protected: All stages of growth.

Development stages of the harmful organism concerned: Nymphs/larvae, all year round.

APPLICATION AND DOSE

Mycotal Biological Insecticide is a curative product and should only be applied as described on this label. Mycotal Biological Insecticide can be sprayed with the normal spraying equipment (preferably high volume spraying equipment). High humidity is necessary in order to allow the fungus to germinate and penetrate the insect, therefore it is advised to spray in the afternoon or early evening, directing the spray onto the undersides of the leaves and to the growing points. All plants should be treated. The spray liquid must be kept well-agitated.

Recommendations for application

- Use high volume spraying equipment.
- Apply in late afternoon or early evening.
- Thorough leaf (undersurface) coverage is essential for the best results. Spray to wet. Avoid runoff.
- **Do not tank mix with fungicides.** (See “*Compatibility/Fungicides*”).

Environmental conditions

The successful performance of Mycotal Biological Insecticide is dependent on the suitability of the temperature, relative humidity conditions within the crop and timing of application. Mycotal Biological Insecticide requires a temperature of 18°C - 28°C (65°F - 82°F) and a minimum relative humidity of 70% during 10 – 12 hours after application; and the same conditions over a period of 4 – 5 days after application for best results.

Maximum number and timing of applications:

- Apply 2-4 times with at least 7 days between applications on nymphs or larvae.
- Maximum of 12 applications per crop cycle with at least 7 day intervals between applications if the pest persists.
- Maximum of 24 applications per year with at least 7 day intervals between applications if the pest persists.

COMPATIBILITY

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact Koppert Canada Limited at 1-800-567-4195 for specific information before mixing any pesticide or fertilizer that is not specifically recommended on this label. The user assumes the risk of losses that result from the use of tank mixes that do not appear on this label or that are not specifically recommended by Koppert Canada Limited.

Pollinators and Beneficial Insects

The potential effects of this product on some non-target beneficial insects and pollinators that may be used in greenhouse Integrated Pest Management Programs (IPM) are not known. May be harmful to beneficial insects. Avoid direct contact with beneficial insects when using spray applications. This product may be harmful to bees exposed to direct treatment, or drift. Avoid applying this product while bees are actively foraging.

Phytotoxicity

Mycotal Biological Insecticide is regarded as safe for plants, but it has not been field tested on all plant varieties and cultivars. To ensure compatibility, test on a limited scale and observe for phytotoxicity or other unintended side effects for two weeks before making large scale applications. Use caution when applying on open blooms.

Chemical Fungicides / Insecticides

Mycotal Biological Insecticide is not compatible with fungicides and should not be tank mixed with fungicides. If a fungicide must be used on the crop, apply fungicide >4 days before applying Mycotal WG or >3 days after applying Mycotal Biological Insecticide on the crop. Contact Koppert Canada Limited for specific information on fungicide use. **Do not use** any product containing the following active ingredients in conjunction with Mycotal Biological Insecticide: captan, chlorothalonil, fludioxonil, or thiram.

Mycotal Biological Insecticide is compatible with most chemical insecticides, but some insecticide formulations can kill the spores (active ingredient). Mycotal Biological Insecticide is safe to use together with imidacloprid, paraffin oil, spiromesifen, and teflubenzuron. Contact Koppert Canada Limited for specific information for use of Mycotal Biological Insecticide in combination with other pesticides.

Adjuvants

Mycotal Biological Insecticide can be applied with the adjuvant Agral® 90 at a rate of 0.02% (v/v) to protect the spores against desiccation when applying at lower than the recommended 70% RH.

STORAGE

Store refrigerated at 4°C. Do not freeze. Keep product in original container during storage and keep container lid tightly closed when not in use. To prevent contamination, store this product away from food, drink and animal feed. This product should be used within 6 months of the date of manufacture.

DISPOSAL

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.