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# **Met52™ EC BIOINSECTICIDE**

For Outdoor Turf and Greenhouse Uses

COMMERCIAL  
EMULSIFIABLE CONCENTRATE

GUARANTEE: *Metarhizium anisopliae* Strain F52..... $2.0 \times 10^9$  colony forming units [CFU]/mL

REGISTRATION NO: 30829 PEST CONTROL PRODUCTS ACT

WARNING - EYE AND SKIN IRRITANT  
POTENTIAL SENSITIZER

**Net Contents \_\_\_\_\_**

Novozymes BioAg Limited  
3935 Thatcher Avenue  
Saskatoon, Saskatchewan, Canada  
S7R 1A3  
1-888-744-5662

Batch Code/Expiry Date: XXXX/dd-mm-year

**READ THE LABEL BEFORE USING**

**PRECAUTIONS:** KEEP OUT OF REACH OF CHILDREN. May cause sensitization. Keep away from food, drink and animal feed.

Causes eye irritation. DO NOT get in eyes. May cause skin irritation. Avoid contact with skin or clothing. Avoid breathing mists.

Applicators and other handlers must wear: Long-sleeved shirt and long pants, waterproof gloves, shoes and socks, eye goggles, and a dust-mist filtering respirator/mask (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator/mask with any N-95, R-95, P-95 or HE filter. Wash thoroughly with soap and water after handling. Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Do not re-enter or allow re-entry into treated areas until the spray is dried unless wearing appropriate personal protective equipment, including a long-sleeved shirt, long pants, shoes plus socks, and waterproof gloves. In addition, a dust-mist filtering respirator/mask (MSHA/NIOSH approval number prefix TC-21C) or a NIOSH approved respirator/mask with any N-95, R-95, P-95 or HE filter is required until spray mist has settled.

**DO NOT APPLY BY AIR.**

**ENVIRONMENTAL HAZARDS:** 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 or disposal of wastes.

DO NOT allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters. For guidance contact the Provincial Regulatory Agency.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

**FIRST AID:**

**IF SWALLOWED:** Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

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

**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 center 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 center 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:** This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Treat symptomatically.

## **DIRECTIONS FOR USE**

**GENERAL:** Met52 EC Bioinsecticide is composed of spores of the insect pathogenic fungus *Metarhizium anisopliae* strain F52. Once the product is sprayed onto the foliage, insects that come into contact with the fungus will become infected. The spores of *Metarhizium anisopliae* attach to the surface of the insect, germinate and begin to grow. It will penetrate the exoskeleton of the insect and grow inside the insect, causing the insect to die. Under moderate temperatures it usually takes 3 to 7 days, once the insect is exposed for death to occur. At very cold or hot temperatures death may occur more slowly.

Note: Met52 EC Bioinsecticide contains live spores that may be harmed by storage at high temperatures or held as a water suspension for more than 24 hours. See storage instructions on this label.

**MODE OF ACTION AND APPLICATION TIMING:** Application frequency will depend on the environment to which Met52 EC Bioinsecticide is applied and the target insects' life cycle.

Met52 EC Bioinsecticide may be used for foliar applications against labelled pests. It is best to begin applying Met52 EC Bioinsecticide at early stages of population development.

## **APPLICATION INSTRUCTIONS**

**Re-entry interval: 0 hours**

**Pre-harvest interval: 0 hours**

**Mixing instructions: Shake well before using.** Apply Met52 EC Bioinsecticide with conventional ground application equipment. Do not mix Met52 EC Bioinsecticide with fungicides. Met52 EC Bioinsecticide contains emulsifiers and mixes readily in water. Fill spray tank with half of the desired amount of water and start agitation. Slowly add desired amount of Met52 EC Bioinsecticide to spray tank. Add remaining desired amount of water. Triple rinse empty Met52 EC Bioinsecticide container with water and add rinse water to spray tank. Continue agitation throughout spraying. Do not mix more Met52 EC Bioinsecticide than can be applied within six hours of mixing. Do not apply fungicides near the time of application of Met52 EC Bioinsecticide.

**Plant safety:** Met52 EC Bioinsecticide has not been tested on all varieties of listed plant species. Test Met52 EC Bioinsecticide on a small number of plants to check for potential damage before applying to a large number of plants.

**Foliar application, Greenhouse use -** Apply at a rate of 0.5-5.0 L per 1000L. Use the higher application concentration when pest pressure is high. Re-apply as required. The need for and

timing of re-application should be determined by monitoring. An application interval of 5-10 days is recommended. Mix well by external mixing, in-tank mixing, or pump circulation to form emulsion. Follow spray equipment manufacturer's instructions for final spray volume to obtain adequate coverage. Do not apply at pressures above 1380 KPa (200 PSI). **Spray to wet all foliage, but avoid runoff. Do not apply through a thermal pulse fogger.**

CROP	PEST	APPLICATION	CONCENTRATION
Tomato	Whiteflies (reduces numbers)	foliar	0.5 – 5.0 L/1000L
Pepper, Strawberry, Zucchini	Thrips (reduces numbers)	foliar	0.5 – 5.0 L/1000L

**Foliar application, Turf use** - Apply at a rate of 64-96 mL/100 m<sup>2</sup> against hairy chinch bugs and 137-155 mL/100 m<sup>2</sup> against ticks. Use the higher application rate when pest pressure is high. Re-apply as required. The need for and timing of re-application should be determined by monitoring. An application interval of 4 weeks for hairy chinch bug or 3 weeks for ticks is recommended. Mix well by external mixing, in-tank mixing, or pump circulation to form emulsion. Follow spray equipment manufacturer's instructions for final spray volume to obtain adequate coverage. Do not apply at pressures above 1380 KPa (200 PSI). **Spray to wet all foliage, but avoid runoff. Do not apply through a thermal pulse fogger.**

CROP	PEST	APPLICATION	RATE
Turf	Hairy chinch bug (suppression)	foliar	64 - 96 mL/100m <sup>2</sup>
	Ticks (suppression)	foliar	137 – 155 mL/100m <sup>2</sup>

#### SITES FOR USE:

This product is for outdoor turf and greenhouse agricultural use.

**STORAGE:** Keep in original container during storage. To prevent contamination, store this product away from food or feed. Keep away from direct sunlight, fire or open flame, or other source of heat.

Met52 EC Bioinsecticide consists of living microbes. Store closed product in a cool dry place at 4°C. Unopened product has a viable shelf-life of 9 months from date of manufacture. Exposing product to temperatures in excess of the recommended storage temperature will reduce the shelf-life. Do not freeze.

**DISPOSAL:**

1. Triple- or pressure rinse the empty container. Add the rinsings to the treatment site.
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. The user assumes the risk to persons or property that arises from any such use of this product.