

**GROUP 9B INSECTICIDE**

## ENDEAVOR® 50WG Insecticide

### COMMERCIAL

### INSECTICIDE

Water-dispersible granule for the control of aphids and reduction of whiteflies on ornamental plants in greenhouses, for the control of aphids on outdoor ornamentals, greenhouse peppers, greenhouse tomatoes, greenhouse cucumbers and greenhouse eggplant and to control Balsam twig aphid on Christmas trees.

### GUARANTEE:

Pymetrozine ..... 50%

**READ THE LABEL AND BOOKLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN**

**CAUTION**



**POISON**

**POTENTIAL DERMAL SENSITIZER**  
Warning, contains the allergen sulfites.

REGISTRATION NO.: **27273**  
PEST CONTROL PRODUCTS ACT

**Syngenta Canada Inc.**  
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Pamphlet

## 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.

## FIRST AID

**IF POISONING IS SUSPECTED**, call a physician or poison control centre **IMMEDIATELY**. Take container label or product name and Pest Control Product Registration Number with you when seeking medical attention.

**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 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.

**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.

## TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. If large amount has been ingested and emesis is inadequate, lavage stomach. Treat symptomatically.

## PRECAUTIONS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**KEEP OUT OF REACH OF CHILDREN.** May cause dermal sensitization reaction. Harmful if absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

Do not enter or allow worker entry into treated areas during the restricted entry interval **(REI) of 12 hours**.

Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

During mixing, loading, cleanup and repair, wear long sleeved shirt, long pants, chemical resistant gloves and shoes plus socks.

During application, wear long sleeved shirt, long pants and shoes plus socks. In addition, wear chemical resistant gloves when applying using hand held equipment.

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.

Do not contaminate water when cleaning equipment or disposing of equipment wash water. Do not use, pour, spill, or store near heat or open flame.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's website at [www.croplife.ca](http://www.croplife.ca).

## **ENVIRONMENTAL PRECAUTIONS**

This product is moderately toxic to aquatic organisms such as water fleas. Do not discharge effluent, waste and drainage water containing this product into water bodies, such as lakes, streams, ponds, rivers, and estuaries.

**DO NOT APPLY BY AIR.**

## **STORAGE**

Store in a cool, dry, place away from food, drinks, and animal feeding stuffs. Keep in the original container tightly closed.

## **DECONTAMINATION AND DISPOSAL**

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.

## **CONTAINER DISPOSAL:**

### **FOR BAGS AND CARTONS:**

1. Empty bag or carton thoroughly.
2. Make the empty bag or carton unsuitable for further use.
3. Dispose of the bag or carton in accordance with provincial requirements.

### **FOR RECYCLABLE CONTAINERS:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

**FOR REFILLABLE CONTAINERS:**

For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not use this container for any other purpose.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,  
CALL 1-800-327-8633 (FASTMED)***

**GENERAL INFORMATION**

ENDEAVOR® 50WG Insecticide is an insecticide that controls aphids and reduces whiteflies population on ornamental plants in greenhouses and controls aphids on outdoor ornamentals, greenhouse tomatoes, greenhouse peppers, greenhouse cucumbers and greenhouse eggplant and Balsam twig aphid on Christmas trees.

**Mode of Action**

ENDEAVOR 50WG Insecticide has a mode of action that controls aphids and reduces populations of whiteflies by stopping their feeding activity. These insects stop feeding within hours, but remain on the plant for a short time (2-4 days). ENDEAVOR 50WG Insecticide has residual activity in the plant and will control aphids and reduces populations of whiteflies that move onto the plant after spraying.

**Suitability for Integrated Pest Management Programs**

ENDEAVOR 50WG Insecticide is suitable for Integrated Pest Management (IPM) programs as it has a low toxicity to beneficial insect (including honeybees and bumblebees) and mite populations. However, do not apply ENDEAVOR 50WG Insecticide directly to the bees that are actively foraging in the field. Do not apply when flowering weeds are present.

**Use Restrictions**

**Greenhouse Use**

Do not apply more than 20 g/100 L per application.  
Do not exceed two applications (2 x 20 g product/100 L water) per crop cycle.

**Outdoor Use**

Do not apply more than 20 g/100 L per application.  
Do not exceed three applications (3 x 20 g product/100 L water) per year.

## Phytotoxicity

ENDEAVOR 50WG Insecticide has been evaluated for phytotoxicity on many greenhouse, nursery, and ornamental plants. All plants tested under university research and commercial production conditions have not shown phytotoxicity at labeled rates of ENDEAVOR 50WG Insecticide. While many species and cultivars have been tested, a small group of each species and cultivar should be evaluated for phytotoxicity two weeks prior to making applications to the entire crop. Applications should not be made to poinsettia after bract formation.

## APPLICATION PROCEDURES:

- Use sufficient water to provide thorough, uniform coverage.
- Use sprayer nozzles that provide accurate, uniform application and medium-sized droplets.
- Calibrate sprayer from manufacturer's instructions or provincial's recommendations to ensure delivery of adequate spray volume per unit area.
- Applications using sufficient water volume to provide thorough and uniform coverage generally provide the most effective aphid pest control.

## Mixing Procedures

Prepare no more spray mixture than is needed for the immediate operation. Thoroughly clean spray equipment before using this product. Vigorous agitation is necessary for proper dispersal of the product. Maintain maximum agitation throughout the spraying operation. Do not let the spray mixture stand overnight in the spray tank. Flush the spray equipment thoroughly following each use and apply the rinsate to a previously treated area.

Add 1/2 of the required amount of water to the mix tank. With the agitator running, add the ENDEAVOR 50WG Insecticide to the tank. Continue agitation while adding the remainder of the water. Begin application of the solution after the ENDEAVOR 50WG Insecticide has completely dispersed into the mix water. Maintain agitation until all of the mixture has been applied.

## Chemigation

Do not apply this product through any type of irrigation system.

### **NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS:**

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Syngenta Canada Inc. and accepted for registration by Health Canada under the User Requested Minor Use Registration program. Syngenta Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below.

Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold Syngenta Canada Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the uses described below.

**Application Directions – GREENHOUSE USE**

When target pests appear and conditions do not favor drift beyond the target area, apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides, to point of runoff. Avoid spray overlap that could cause phytotoxicity. Use the following rates and re-treatment intervals.

Pests	Type of Application and Sites	Application Rates for ENDEAVOR 50WG Insecticide	Re-treatment Intervals
<b>Aphids including:</b> Green Peach Aphid ( <i>Myzus persicae</i> ) Melon Aphid ( <i>Aphis gossypii</i> )	Ground Foliar Spray Ornamentals	10 - 20 g/100 L of water Maximum rate of 20 g product/100 L per application. Do not exceed two applications (2 x 20 g/100 L) per crop cycle.	Retreat as indicated by pest monitoring data, but not more often than once every 7 days.
<b>Whiteflies including:</b> Silverleaf Whitefly ( <i>Bemisia argentifolii</i> ) Greenhouse Whitefly ( <i>Trialeutrodes vaporariorum</i> )  Application at the recommended rate can contribute to whitefly IPM programs by reducing whitefly infestation levels, without harming whitefly parasitoids and predators.			

**Note:** On hard-to-wet plants, such as chrysanthemum and roses, add a nonionic or organosilicone-based surfactant such as AGRAL® 90 at a rate of 250 mL/100 L (0.25% v/v), Ag-Surf® at a rate of 250 mL/100 L (0.25% v/v), Li 700® at a rate of 500 mL/100 L (0.5% v/v) and Sylgard® 309 or Xiameter® OFX-0309 Fluid at a rate of 250 mL/100 L of water (0.25% v/v) of spray mixture, to improve coverage.

**Restrictions:**

- Do not apply more than 20 g product/100 L per application.
- Do not exceed two applications (2 x 20 g/100 L) per crop cycle.
- For ornamentals grown for cut flower production (eg, rose, chrysanthemums, gerbera) or those requiring significant foliar contact during cultivation (eg, pinching, pruning, hand harvesting), do not apply more than three applications per greenhouse per year.

**Application Directions – GREENHOUSE PEPPERS AND GREENHOUSE TOMATOES**

When target pests appear and conditions do not favor drift beyond the target area, apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides, to point of runoff. Avoid spray overlap that could cause phytotoxicity. Use the following rates and re-treatment intervals.

<b>GREENHOUSE PEPPERS AND GREENHOUSE TOMATOES</b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
<b>Aphids including:</b> Green Peach Aphid ( <i>Myzus persicae</i> )  Melon Aphid ( <i>Aphis gossypii</i> )	Apply as a foliar spray using a high volume sprayer or suitable alternative application equipment.  Consult provincial guideline and regional advisors for specific information about timing of application.	100 - 200 g product/ha in a minimum of 1000 L water/ha	Retreat as indicated by pest monitoring data. Do not reapply for at least 7 days.

**Note: On hard-to-wet plants add a nonionic or organosilicone-based surfactant such as AGRAL 90 at a rate of 250 mL/100 L (0.25% v/v), Ag-Surf at a rate of 250 mL/100 L (0.25% v/v), Li 700 at a rate of 500 mL/100 L (0.5% v/v) and Sylgard 309 or Xiameter OFX-0309 Fluid at a rate of 250 mL/100 L of water (0.25% v/v) of spray mixture, to improve coverage.**

**Restrictions:**

- Do not apply more than 200 g product/1000 L per application
- Do not exceed two applications (2 x 200 g/1000 L) per crop cycle.
- Allow a minimum of 3 days (PHI) between the last application and harvest.
- Do not reapply for at least 7 days.
- Do not apply more than three applications per greenhouse per year in greenhouses with multiple crop cycles.

**Application Directions – GREENHOUSE CUCUMBERS**

When target pests appear and conditions do not favor drift beyond the target area, apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides, to point of runoff. Avoid spray overlap that could cause phytotoxicity. Use the following rates and re-treatment intervals.

<b>GREENHOUSE CUCUMBERS</b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
<b>Aphids including:</b> Green Peach Aphid ( <i>Myzus persicae</i> )	Apply as a foliar spray using a high volume sprayer or suitable alternative application equipment.	100 - 200 g product/ha (50 - 100 g a.i./ha) in a minimum of 1000 L of water/ha	Do not re-treat for at least 7 days
Melon Aphid ( <i>Aphis gossypii</i> )	Consult provincial guidelines and regional advisors for specific information about timing of application.		

**Note: On hard-to-wet plants add a nonionic or organosilicone-based surfactant such as AGRAL 90 at a rate of 250 mL/100 L (0.25% v/v), Ag-Surf at a rate of 250 mL/100 L (0.25% v/v), Li 700 at a rate of 500 mL/100 L (0.5% v/v) and Sylgard 309 or Xiameter OFX-0309 Fluid at a rate of 250 mL/100 L (0.25% v/v) of spray mixture, to improve coverage.**

**Restrictions:**

- Do not exceed 2 applications (2 x 100 g a.i./1000 L) per crop cycle and no more than 3 applications per greenhouse per year if multiple crop cycles occur in a year.
- Allow a minimum of 3 days (PHI) between the last application and harvest.



**Application Directions – GREENHOUSE EGGPLANT**

<b>GREENHOUSE EGGPLANT</b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
<b>Aphids including:</b> Green Peach Aphid ( <i>Myzus persicae</i> )  Melon Aphid ( <i>Aphis gossypii</i> )	Apply as a foliar spray using a high volume sprayer or suitable alternative application equipment.  Apply when aphids first appear, before populations build to damaging levels.  Consult provincial guideline and regional advisors for specific information about timing of application	100 - 200 g product/ha in a minimum of 1000 L water/ha	Two applications may be needed to control persistent aphid populations.  Do not reapply for at least 7 days.

**Note: On hard-to-wet plants add a nonionic or organosilicone-based surfactant such as AGRAL 90 at a rate of 250 mL/100 L (0.25% v/v), Ag-Surf at a rate of 250 mL/100 L (0.25% v/v), Li 700 at a rate of 500 mL/100 L (0.5% v/v) and Sylgard 309 or Xiameter OFX-0309 Fluid at a rate of 250 mL/100 L of water (0.25% v/v) of spray mixture, to improve coverage.**

**Restrictions:**

- Do not apply more than 200 g product/1000 L per application.
- Do not exceed two applications (2 x 200 g/1000 L) per crop cycle.
- Allow a minimum of 3 days (PHI) between the last application and harvest.
- Do not reapply for at least 7 days.
- Do not apply more than three applications per greenhouse per year in greenhouses with multiple crop cycles.

**Application Directions – OUTDOOR ORNAMENTALS**

When target pests appear and conditions do not favor drift beyond the target area, apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides, to point of runoff. Avoid spray overlap that could cause phytotoxicity. Use the following rates and re-treatment intervals.

<b>OUTDOOR ORNAMENTALS</b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
<b>Aphids including:</b> Green Peach Aphid ( <i>Myzus persicae</i> )  Melon Aphid ( <i>Aphis gossypii</i> )	Foliar application only using conventional ground application equipment. Apply to the point of run-off.  Monitor pest populations and apply once treatment thresholds have been reached.  Reapply if monitoring indicates that it is necessary. Allow at least 7 days between applications.	10 – 20 g product per 100 L water	Minimum 7 days

**Restrictions:**

- Do not use more than 3 applications (3 x 20 g product/100 L water) per year.
- Maximum of 5000 L water/ha.
- Do not apply more than 20 g product/100 L water per application.
- DO NOT APPLY BY AIR.
- Do not apply more than 3.0 kg of product per year per hectare.

**Application Directions – OUTDOOR ORNAMENTALS**

When target pests appear and conditions do not favor drift beyond the target area, apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides. Avoid spray overlap that could cause phytotoxicity. Use the following rates and re-treatment intervals.

<b>CHRISTMAS TREES</b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
Balsam Twig Aphid ( <i>Mindarus abietinus</i> )	Apply in the spring when first generation of aphids appears.  An additional application may be required to control persistent aphid populations.	193 g/ha in 275 L of water/ha.  The use of a nonionic adjuvant such as AGRAL 90 at a rate of 250 mL/100 L (0.25% v/v), Ag-Surf at a rate of 250 mL/100 L (0.25% v/v), Li 700 at a rate of 500 mL/100 L (0.5% v/v) and Sylgard 309 or Xiameter OFX-0309 Fluid at a rate of 250 mL/100 L (0.25% v/v) of spray mixture, is recommended to improve the performance of ENDEAVOR 50WG Insecticide under drought stress conditions.	Allow at least 7 days between applications.

**Restrictions:**

- Do not exceed 2 applications or 386 g of product per hectare per crop season.
- DO NOT APPLY BY AIR.

<b><i>Rhodiola rosea</i></b>			
<b>Pests</b>	<b>Method and Timing of Application</b>	<b>Application Rates for ENDEAVOR 50WG Insecticide</b>	<b>Re-treatment Intervals</b>
Aphids (Green peach aphid and Melon aphid)	Foliar application only using conventional ground application equipment. Apply when target pests appear. Apply foliar spray mixture uniformly to all plant surfaces, particularly the stem and leaf undersides, to the point of runoff.	100 – 200 g product/1000 L water Do not apply more than 200 g product/1000 L per application. Apply in a maximum spray volume of 600 L/ha.	Allow at least 7 days between applications.

**Restrictions:**

- Do not exceed 3 applications of product per hectare per year.
- DO NOT APPLY BY AIR.

### Resistance Management Statement

For resistance management, please note that ENDEAVOR 50WG Insecticide contains a Group 9B insecticide. Any insect population may contain individuals naturally resistant to ENDEAVOR 50WG Insecticide and other Group 9B insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

### To delay insecticide resistance:

Where possible, rotate the use of ENDEAVOR 50WG Insecticide or other Group 9B insecticides with different groups that control the same pests in a field/greenhouse.

Do not apply more than maximum amount of product listed in the label and avoid consecutive sprays of ENDEAVOR 50WG Insecticide or other insecticides in the same group in a season.

Use tank mixtures with insecticides from a different group when such use is permitted.

Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.

Monitor treated pest populations for resistance development.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.

For further information or to report suspected resistance, contact Syngenta company representatives at 1-87-SYNGENTA (1-877-964-3682) or at [www.syngenta.ca](http://www.syngenta.ca).