

## MURAL™ Fungicide

### FUNGICIDE

### WETTABLE GRANULAR

### COMMERCIAL

For control or suppression of diseases in greenhouse and outdoor ornamentals.

#### GUARANTEE:

Benzovindiflupyr.....	15%
Azoxystrobin .....	30%

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



**POISON**

**WARNING: EYE IRRITANT  
POTENTIAL SKIN SENSITIZER**

REGISTRATION NO.: **31523**  
PEST CONTROL PRODUCTS ACT

NET CONTENTS: 0,5 L - Bulk

**Syngenta Canada Inc.**  
140 Research Lane, Research Park  
Guelph, Ontario  
N1G 4Z3  
Telephone: 1-877-964-3682

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, IMMEDIATELY** contact a physician or a poison control centre. 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 known. Treat symptomatically.

## PRECAUTIONS

**KEEP OUT OF REACH OF CHILDREN.** Keep unused product in original container tightly closed, locked up and away from food.

Harmful if swallowed. Causes eye irritation. **DO NOT** get in eyes. Potential skin sensitizer.

**DO NOT** enter or allow worker entry into treated areas for 12 hours following application to ornamentals.

Not for use in residential areas. Residential areas are defined as any use site where bystanders including children could be exposed during or after application. This includes homes, schools, parks, playgrounds, playing fields, public buildings, or any other area where the general public including children could be exposed.

## **PERSONAL PROTECTIVE EQUIPMENT**

Wear coveralls or a long sleeved shirt and long pants, chemical resistant gloves, and goggles when mixing, loading and applying or during equipment clean up or repair. Goggles and chemical resistant gloves are not required during groundboom application.

Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

All users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

## **ENVIRONMENTAL HAZARDS**

TOXIC to aquatic organisms and non-terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE.

Benzovindiflupyr is persistent and may carryover. It is recommended that any products containing benzovindiflupyr not be used in areas treated with this product during the previous season.

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.

## **STORAGE**

Keep in original container, tightly closed, during storage. Store in a cool, dry, well-ventilated area away from feed and foodstuffs, and out of the reach of children and animals. To prevent contamination store this product away from food or feed.

## **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 cleanup of spills.

### **CONTAINER DISPOSAL:**

#### **For returnable containers:**

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

**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 reuse this container for any other purpose.

**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.

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

MURAL™ is a trademark of a Syngenta Group Company.

**GROUP 7 11 FUNGICIDES**

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**GENERAL INFORMATION**

MURAL™ Fungicide is a broad-spectrum product containing two fungicides. It has preventative and systemic properties and is recommended for the control or suppression of many important ornamental diseases. MURAL Fungicide may be applied as a foliar spray, directed spray to the stem or base of plant to containers. MURAL Fungicide may be applied in block or alternating spray programs with other plant protection products. All applications should be made according to the use directions that follow.

**DIRECTIONS FOR USE**

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 or mushroom houses containing this product to enter lakes, streams, ponds or other waters.

MURAL Fungicide is recommended for control or suppression of diseases in greenhouse and outdoor ornamental plants.

MURAL Fungicide applications should begin prior to disease development and continue throughout the season at listed use rates and specified intervals following resistance management guidelines. MURAL Fungicide works best when used as part of a preventative disease management program.

Apply MURAL Fungicide as a broadcast, banded or directed spray application. Apply foliar

applications in sufficient water to ensure complete coverage of the target plant for best control.

Repeat applications at specified intervals.

### Plant Safety

Plant safety has been found to be acceptable for many ornamental plants, however, not all possible plant species and varieties have been tested under all conditions. Injury has been observed on some varieties of gerbera, zinnia, geranium, African Violets, Rieger Begonia and crabapples. It is recommended to test MURAL Fungicide alone and with any mixtures on a small portion of the crop to ensure that a phytotoxic response will not occur.

**DO NOT** spray MURAL Fungicide in areas where spray drift may reach apple trees or when conditions favor drift beyond area intended for application as MURAL Fungicide is extremely phytotoxic to certain apple and cherry varieties.

**DO NOT** apply to crops listed in Table 1.

**TABLE 1: Intolerant Plants**

(Do not apply MURAL Fungicide to these plant species or specific varieties)

COMMON NAME	BOTANICAL NAME
Apple	<i>Malus domestica</i>
Crabapple - Flame variety	<i>Malus</i> spp.
Crabapple - Brandywine variety	<i>Malus</i> spp.
Crabapple - Novamac variety	<i>Malus</i> spp.
Cherry, Flowering - Yoshina variety	<i>Prunus yedoensis</i> .
Leatherleaf Fern and Other Ferns for cut foliage	<i>Rumohra adianformis</i> and other species for cut foliage
Privet	<i>Ligustrum</i> spp.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Boom height must be 60 cm or less above the crop or ground.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

**DO NOT** apply by air.

### Buffer zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-

held or backpack sprayer and spot treatment.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop		Buffer Zones (metres) Required for the Protection of:				Terrestrial habitat
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer	Outdoor ornamentals		10	1	1	1	1
Airblast	Outdoor ornamentals	Early growth stage	45	20	5	2	1
		Late growth stage	35	10	3	1	1

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

The buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site.

### MIXING INSTRUCTIONS

MURAL Fungicide is a wettable granule (WG) formulation. Prepare no more spray mixture than is required for the immediate operation. Thoroughly clean spray equipment before using this product. Agitate the spray solution before and during the application. Rinse spray tank thoroughly with clean water after each day's use.

**Use of Adjuvants:** The addition of a spreading/penetrating type adjuvant such as a non-ionic based surfactant or blend is recommended to enhance coverage on hard-to-wet plant foliage. Use only adjuvants approved for ornamental plants. Silicone-containing products combined with MURAL Fungicide may cause phytotoxicity. Under certain weather conditions, particularly high temperatures, MURAL Fungicide applied in combination with high rates of silicone-based or oil containing (petroleum or crop) additives or adjuvants may cause injury.

Always test tank mixes, with adjuvants on a small group of representative plants prior to broad scale use to verify that that the combination is physically compatible, effective and non-injurious under your conditions of use.

**Preparation of Spray Mixture:**

- Add  $\frac{1}{2}$ - $\frac{2}{3}$  of the required amount of water to the spray or mixing tank.
- With the agitator running, add MURAL Fungicide to the tank.
- Continue agitation while adding the remainder of the water.
- Begin application of the spray solution after MURAL Fungicide has completely dispersed into the mix water.
- Maintain agitation until all of the mixture has been sprayed.

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 Syngenta Canada Inc. at 1-87-SYNGENTA (1-877-964-3682) for 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 Syngenta Canada Inc.

<b>ORNAMENTALS – OUTDOOR AND GREENHOUSE</b>	
<b>FOLIAR APPLICATION</b>	
<b>DISEASES</b>	<b>Alternaria leaf spot</b> ( <i>Alternaria</i> spp.)
<b>PRODUCT RATE</b>	39 g/100L of water
<b>APPLICATION INTERVAL</b>	7 – 21 days
<b>MAXIMUM APPLICATIONS OF PRODUCT PER YEAR</b>	2
<b>DISEASES</b>	<b>Downy mildew</b> ( <i>Peronospora</i> spp.)
<b>PRODUCT RATE</b>	39 g/100L of water
<b>APPLICATION INTERVAL</b>	7 – 14 days
<b>MAXIMUM APPLICATIONS OF PRODUCT PER YEAR</b>	2
<b>DISEASES</b>	<b>Powdery mildew</b> ( <i>Oidium</i> spp., <i>Erysiphe</i> spp., <i>Sphaerotheca</i> spp.) <b>Rust</b> ( <i>Puccinia</i> spp.)
<b>PRODUCT RATE</b>	39 – 50 g/100L of water
<b>APPLICATION INTERVAL</b>	7 – 21 days
<b>MAXIMUM APPLICATIONS OF PRODUCT PER YEAR</b>	2
<b>DISEASES</b>	<b>Anthracnose</b> ( <i>Colletotrichum</i> spp.) <b>Botrytis grey mould</b> ( <i>Botrytis cinerea</i> )
<b>PRODUCT RATE</b>	39 – 50 g/100L of water
<b>APPLICATION INTERVAL</b>	7 – 14 days
<b>MAXIMUM APPLICATIONS OF PRODUCT PER YEAR</b>	2
<b>DISEASES</b>	<b>Suppression of cercospora leaf spot</b> ( <i>Cercospora</i> spp.)
<b>PRODUCT RATE</b>	50 g/100L of water
<b>APPLICATION INTERVAL</b>	7 – 21 days
<b>MAXIMUM APPLICATIONS OF PRODUCT PER YEAR</b>	2
<p>Thorough coverage is necessary to provide good disease control. Avoid spray overlap, as crop injury may occur.</p> <p>If disease pressure is high, use the highest rate and shortest interval.</p> <p>DO NOT apply more than 1 application of Mural Fungicide before alternating with a fungicide having a different mode of action registered for the same disease.</p> <p>A spreading/penetrating type adjuvant such as a non-ionic based surfactant or blend is recommended. Follow the adjuvant directions for use. If no directions for use are indicated use 0.125% v/v and always test tank mixes on a small group of representative plants prior to broad scale use.</p>	

### RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, MURAL Fungicide contains a Group 7 fungicide in the succinyl dehydrogenase inhibitor (SDHI) class and a Group 11 fungicide. Any fungal population may contain individuals naturally resistant to benzovindiflupyr, azoxystrobin and other Group 7 and 11

fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

**To delay fungicide resistance:**

Where possible, rotate the use of benzovindiflupyr or other Group 7 fungicides and azoxystrobin and other Group 11 fungicides with different groups that control the same pathogens.

Although Mural Fungicide contains two active ingredients, benzovindiflupyr and azoxystrobin, for certain diseases only one active may have efficacy against the causative pathogen. Appropriate resistance management practices should still be adhered to as part of any pesticide application program, including alternating Mural Fungicide with non-Group 7 and 11 fungicides.

Apply no more than 1 application of Mural Fungicide before alternating with a fungicide having a different mode of action registered for the same disease.

DO NOT apply at rates lower than recommended on the label.

Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.

Fungicide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.

Where possible, make use of predictive disease models to effectively time fungicide applications.

Monitor treated fungal populations for sign of resistance development.

If disease continues to progress after treatment with this product, DO NOT increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, to which pathogen resistance has not developed.

Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.

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