

GROUP	3 7	FUNGICIDE
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MIRAVIS[®] Ace Fungicide
ADEPIDYN[®] technology

FUNGICIDE

SUSPENSION EMULSION

AGRICULTURAL

For broad-spectrum disease control or suppression on wheat

ACTIVE INGREDIENTS:

Pydiflumetofen 150 g/L
Propiconazole..... 125 g/L

Contains 1,2-benzisothiazolin-3-one at 0.031% and 2-bromo-2-nitropropane-1,3-diol at 0.030% or contains 5-chloro-2-methyl-4-isothiazolin-3-one at 0.00103%, 2-methyl-4-isothiazolin-3-one at 0.00034% and 2-bromo-2-nitropropane-1,3-diol at 0.030% as preservatives.

WARNING, CONTAINS THE ALLERGEN SULFITES

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

CAUTION - EYE IRRITANT

REGISTRATION NO: **33573**
PEST CONTROL PRODUCTS ACT

NET CONTENTS: **0.5 L to 1000 L**

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

Label

1.0 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.

2.0 FIRST AID

IN CASE OF POISONING, contact a physician or a 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 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.

3.0 TOXICOLOGICAL INFORMATION

There is no specific antidote. Treat symptomatically.

4.0 PRECAUTIONS

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

May irritate eyes. Avoid contact with eyes.

DO NOT enter or allow worker entry into treated areas during a restricted entry interval (REI) of 12 hours.

Apply only to agricultural crops when the potential for drift to areas of human habitation and human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.

If this pest control product is to be used on a commodity that may be exported to other countries

in the world and you require information on acceptable residue levels in these countries, please contact Syngenta Canada Inc. at 1-87-SYNGENTA / 1-877-964-3682.

5.0 PERSONAL PROTECTIVE EQUIPMENT (PPE)

Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. Gloves are not required during application within a closed cab and/or cockpit.

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, using the toilet or using a handheld device.

6.0 ENVIRONMENTAL PRECAUTIONS

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

The active ingredient propiconazole is toxic to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

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

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of MIRAVIS[®] Ace Fungicide in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

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.

7.0 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.

8.0 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.

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:

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***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING,
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Pamphlet

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This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of MIRAVIS[®] Ace Fungicide in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

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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.

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9.0 PRODUCT INFORMATION

MIRAVIS Ace is a broad spectrum, preventative fungicide recommended for the control or suppression of many important plant diseases, formulated as a suspo-emulsion (SE). Read all label directions before use. All applications must be made according to the use directions that follow.

9.1 General Use Precautions

DO NOT USE IN GREENHOUSES (ALONE OR IN TANK MIXTURES).

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT

IN CROP INJURY, POOR DISEASE CONTROL, AND/OR ILLEGAL RESIDUES.

Apply the higher rate and shorter interval under conditions of high disease pressures.

Not all members of the crop groups have been tested for efficacy and phytotoxicity at the recommended label rates, and should be used at the discretion of the user.

10.0 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.

10.1 Ground Application

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 and Biological Engineers (ASABE S572.1) fine classification. Boom height must be 60 cm or less above the crop or ground.

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 1-877-964-3682 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.

10.1.1 Mixing Instructions

1. Ensure that the sprayer interior is clean, then fill the spray tank with $\frac{1}{2}$ the required amount of water and engage gentle agitation. Good agitation is indicated by a rippling or rolling action on the surface of the water.
2. Add any WG or DF formulation mix partners and agitate to ensure complete mixing.
3. Add MIRAVIS Ace and any additional SE or SC formulation mix partners and agitate to ensure complete mixing.
4. Add any EC formulation mix partners and agitate to ensure complete mixing.
5. Fill the tank to $\frac{3}{4}$ the required amount of water.
6. Add any solution (SN or SL) formulation mix partners and agitate to ensure complete mixing.
7. Finish filling the sprayer with water, maintaining good agitation.
8. After any break in spraying operations, agitate thoroughly before spraying again.
9. Spray the pesticide suspension the same day as mixing.
10. Do not mix, load or clean spray equipment where there is a potential to contaminate wells or aquatic systems.

When using chemical handling equipment to fill the sprayer, the following additional recommendations apply:

- WG and DF formulations are preferentially batch mixed.

- SC, SN, and SL formulations may be inducted or batch mixed.
- EC formulations are preferentially batch mixed

10.1.2 Spraying Instructions

1. Water Volume: Apply in a minimum spray volume of 100 L/ha OR the volume given in the crop and pest specific instructions tabulated below, whichever is LARGER.
2. Sprayer Agitation: Use a jet agitator or liquid sparge tube which recirculates 7-10% of the tank per minute. **DO NOT** use an air sparger.
3. Pump: Screens should be used to protect the pump and prevent clogging. Use 16 mesh or *coarser* screens on the suction side of the pump. **DO NOT** place a screen in the recirculation line. Use 50 mesh or *coarser* screens between the pump and boom unless directed otherwise by the sprayer manufacturer.
4. Spray Nozzles: 80° or 110° drift reducing flat fan (e.g. those with a pre-orifice or turbulence chamber) or air induction nozzles are recommended. Use 50 mesh nozzle screens or as recommended by the nozzle manufacturer. **DO NOT** use flood type nozzles, controlled droplet application equipment, spray foils or hollow cone nozzles.
5. Pressure: As recommended by the nozzle manufacturer to achieve no smaller than ASABE fine sized droplets.
6. Apply at uniform speed and avoid overlapping. Shut off spray boom while starting, turning, slowing or stopping to avoid potential crop injury from over application.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in overly fine particles (mist). **DO NOT** apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. **DO NOT** spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

10.1.3 Sprayer Clean-Up

Before Spraying

- Prior to using MIRAVIS Ace Fungicide, ensure that the spray tank, lines and filter are thoroughly clean.

After Spraying

- Thoroughly clean application equipment immediately after spraying. **DO NOT** allow MIRAVIS Ace residue to dry within the spray tank.
- The following recommendations are provided:
 1. Drain and flush tank walls, boom and all hoses for ten minutes with a clean water/detergent mixture. Rinse with clean water. **DO NOT** clean the sprayer near desirable vegetation, wells or other water sources.
 2. Remove all nozzles and screens and wash separately.
 3. Dispose of all rinsate in accordance with provincial regulations.

10.2 Aerial Application

Aerial application: DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 16 km/h at flying height at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural and Biological Engineers (ASABE S572.1) medium

classification. Reduce drift caused by turbulent wingtip vortices. Nozzle distribution along the spray boom length MUST NOT exceed 65% of the wing- or rotorspan.

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions, and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. When no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment.

10.2.1 Ground Crew Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted. It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

All ground crew and mixer/loaders must wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

It is important to check the physical compatibility of tank mixed pesticide products in a small volume prior to filling the sprayer. Check the compatibility of tank mixes containing MIRAVIS Ace using a jar test with proportionate amounts of mix partners, and water, before mixing in the spray tank.

10.2.2 Mixing Instructions

Mixing this product directly in the aircraft hopper **IS NOT** recommended. The use of chemical handling or managing equipment to load the hopper **IS** recommended. This product **MAY BE** inducted into a hopper which is prefilled with water or when the product and water are mixed prior to entering the hopper. This product **MAY BE** batch mixed and pumped into the hopper. In all cases the chemical handling equipment and hopper interior must be clean prior to use.

NOTE: SE formulations may be inducted or batch mixed.

It is **NOT** recommended to combine solid (WG or DF) formulations with liquid tank mix partners within a single batch. Batch mix WG or DF formulations first, pump into the hopper, and then add liquid tank mix partners by induction or as an additional batch mix. When tank mixing multiple products, follow the mixing order outlined below:

1. Pump water into the hopper to at least $\frac{1}{4}$ to $\frac{1}{2}$ of the desired spray volume. Engage hopper circulation, if possible.
2. Thoroughly batch mix any WG or DF formulation mix partners and agitate to ensure complete mixing. Pump into the hopper.
3. Induct or thoroughly batch mix MIRAVIS Ace and any additional SE or SC formulations.
4. Thoroughly batch mix any EC formulation mix partners. EC formulations may be added to the batch from Step 3, if desired.

5. Induct or thoroughly batch mix any solution (SN or SL) formulation mix partners. SN/SL formulations may be added to the batch from Step 3, if desired.
6. Pump batch mixed SC, EC, and/or SN/SL products into the hopper.
7. Finish filling the hopper with water.
8. If it was not possible to engage hopper agitation in Step 1, do so as soon as possible once airborne.
9. Spray the pesticide suspension the same day as mixing.
10. Do not mix, load or clean equipment where there is a potential to contaminate wells or aquatic systems.

10.2.3 Equipment Clean-Up

Before Spraying

- Prior to using MIRAVIS Ace Fungicide, ensure that the hopper, chemical handling equipment, lines and filter are thoroughly cleaned.

After Spraying

- Thoroughly clean application equipment immediately after spraying. **DO NOT** allow MIRAVIS Ace Fungicide residue to dry within application equipment.
- When using tank mixes, consult the tank-mix partner label for additional clean-up instructions.
- The following recommendations are provided:
 1. Drain and flush tank walls, boom and all hoses for ten minutes with a clean water/detergent mixture. Rinse with clean water. **DO NOT** clean application equipment near desirable vegetation, wells or other water sources.
 2. Remove all nozzles and screens and wash separately.
 3. Dispose of all rinsate in accordance with provincial regulations.

10.2.4 Pilot Precautions

Read and understand the entire label before using this product. Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides. Suggested conditions for good aerial application are moderate temperatures (less than 25 °C) and moderate relative humidity (greater than 40%). Light winds at altitude of 3-16 km/h are preferred, with 3-9 km/h considered optimal. Ensure uniform application and a uniform spray with minimum potential for drift. To avoid streaked, uneven or overlapped application, use appropriate marking technology. GPS based marking is preferred.

DO NOT apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed.

10.2.5 Spraying Instructions

1. Water Volume: Apply in a minimum spray volume of 50 L/ha OR the volume given in the crop and pest specific instructions tabulated below, whichever is LARGER.
2. Spray Nozzles: Use only ASABE medium or coarse nozzles rated as delivering droplets of volume median diameter of 300 microns or greater.
3. Pressure: As recommended by the nozzle manufacturer to achieve ASABE coarse or medium sized droplets.
4. Ensure hopper agitation is engaged whenever possible during flight.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in overly fine particles (mist). **DO NOT** apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. **DO NOT** spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

10.2.6 Product Specific Precautions

Follow recommendations provided by local disease monitoring services or provincial spray calendars regarding the appropriate application timing for protectant fungicides in your area. Cultural practices such as canopy management and removal of overwintered plant debris should be integrated with the use of fungicides to reduce disease incidence. Use the higher rate, and the shorter application interval under conditions of heavy infection pressure, on highly susceptible varieties, or when environmental conditions are favourable for disease development.

MIRAVIS Ace treatments should be integrated into an overall disease management strategy that includes selection of varieties with disease tolerance, plant residue management, crop rotation, and proper timing and placement of fertilizer and irrigation. Fungicide applications should begin prior to disease infection and continue throughout the season following a resistance management strategy (see **Resistance Management Recommendations**).

10.3 Buffer Zones

Spot treatments using hand-held equipment DO NOT require a buffer zone.

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.

Table 1 - Buffer Zone

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	Wheat		2	0	1	0	1
Aerial	Wheat	Fixed wing	3	0	1	0	15
		Rotary wing	1	0	1	0	15

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 (ASABE) 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.

10.4 Rotational Crop Restrictions

Table 2 - Crop Rotational Restrictions

Rotational Crops	Planting Time From Last Application
Dried shelled pea and bean subgroup (CSG 6C) Soybeans Cereals (barley, oats, wheat, rye and triticale) Corn (field, sweet, pop and specialty) Rapeseed subgroup (CSG 20A)	0 days
All other crops Intended for Food and Feed	105 days

11.0 CROP USE DIRECTIONS

Apply the higher rate and shorter interval under conditions of high disease pressures.

Not all members of the crop groups have been tested for phytotoxicity at the specified label rates, and should be used at the discretion of the user. It is recommended to test MIRAVIS Ace Fungicide on a small portion of the crop to ensure that a phytotoxic response will not occur.

11.1 Wheat

Crop	Wheat (spring, winter, and durum)
Disease Suppressed	Fusarium head blight (<i>Fusarium spp.</i>)
Diseases Controlled	Septoria leaf spot (<i>Septoria tritici</i>) Septoria glume blotch (<i>Stagonospora nodorum</i>) Tan spot (<i>Pyrenophora tritici-repentis</i>) Leaf rust (<i>Puccinia triticina</i>) Stem Rust (<i>Puccinia graminis</i> f. sp. <i>tritici</i>) Stripe rust (<i>Puccinia striiformis</i>) Powdery mildew (<i>Erysiphe graminis</i>)
Use rate (product/ha)	1 L/ha
Application Timing/Instructions	For suppression of Fusarium head blight in wheat, apply MIRAVIS Ace within the range of at least 75% of heads on the main stem fully emerged to when 50% of the heads on the main stem are flowering, using sprayer nozzles configured to provide excellent coverage to the wheat head. Application at the timing for Fusarium Head Blight will control leaf diseases that occur later in the season. Application at this timing is not intended to provide curative control of established leaf diseases. Apply in sufficient water volume to obtain thorough coverage; a minimum spray volume of 100 L/ha and 50 L/ha is recommended for ground and aerial application, respectively. Apply with a non-ionic surfactant at a rate of 0.125% v/v in the spray tank.
Maximum number of consecutive sprays	1 application per season. Do not apply more than two sequential applications of a group 7 or group 3 fungicide in a season. Follow all precautions, restrictions and directions on the labels of fungicide products used in an alternation program.
Maximum amount of product per season	1 L/ha
Re-entry Interval (REI)	12 hours after application
Pre harvest interval (PHI)	Do not apply after BBCH 65 (50% of main heads in flower). Grain and straw may be fed at normal maturity. For harvest of forage and hay, one application with a minimum PHI of 7 days is required.

12.0 RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, MIRAVIS Ace Fungicide contains Group 7 and Group 3 fungicides. Group 7 (pydiflumetofen) is in the succinyl dehydrogenase inhibitor (SDHI) class. Group 3 (propiconazole) is in the triazole class. Any fungal population may contain individuals naturally resistant to Group 7 and Group 3 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 pydiflumetofen and propiconazole or other Group 7 or 3 fungicides with different groups that control the same pathogens.

Apply no more than 2 sequential Group 7 or 3 fungicide applications unless otherwise stated in the crop section.

DO NOT apply at rates lower than specified 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. Notify Syngenta Canada Inc. if reduced sensitivity of the pathogen to MIRAVIS Ace Fungicide is suspected.

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 1-87-SYNGENTA (1-877-964-3682) or at www.syngenta.ca.

Table 3 - Application Limitations and Pre-harvest Intervals

Crop*	Maximum Product Rate/ha/ application (L/ha)	Maximum total (L/ha/ Season)	Pre-Harvest Interval (PHI) (days)	Minimum Re-treatment Interval (days)
Wheat	1	1	Apply no later than BBCH 65 7-day PHI for forage/hay Grain/straw can be harvested at normal harvest maturity	NA

*For specific crops in a group and use directions, refer to the Specific Directions For Use

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