GROUP 3 FUNGICIDE

# **TOPAS® FUNGICIDE**

**FUNGICIDE** 

**COMMERCIAL** 

Emulsifiable Concentrate for disease control in Peaches, Nectarines, Plums, Sweet Cherries, Sour Cherries, Apricots, Highbush and Lowbush Blueberries, Saskatoon Berries, Cranberries, Caneberries, Rutabagas, Asparagus, Western Red Cedar, Kentucky Bluegrass Grown for Seed and Strawberries.

**GUARANTEE:** 

# READ THE LABEL AND ATTACHED PAMPHLET BEFORE USING

CAUTION



**POISON** 

WARNING
EYE AND SKIN IRRITANT
POTENTIAL SKIN SENSITIZER

REGISTRATION NO.: 30163
PEST CONTROL PRODUCTS ACT

NET CONTENTS: 1 L to 400 L

Syngenta Crop Protection Canada, Inc.

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

Label2012-02-1

#### 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**

**IN CASE OF POISONING,** contact a physician or a poison control centre **IMMEDIATELY**. Take container, label or product name and Pest Contro I Product Registration Number with you when seeking medical attention.

**If in ey es,** 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.

**If swallowed,** call a poison control centre or doctor **IMMEDIATELY** for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. 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.

#### TOXICOLOGICAL INFORMATION

There is no specific antidote for this product. Apply symptomatic therapy. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia.

# **PRECAUTIONS**

KEEP OUT OF THE REACH OF CHILDREN. Do not get in eyes, on skin or on clothing. Avoid breathing spray mist or vapours. Harmful if swallowed, inhaled or absorbed through the skin. Causes eye and skin irritation. This product may cause skin sensitization reactions in certain individuals.

Wear neoprene gloves, long sleeves and overalls when mixing, handling the product and during equipment cleanup and repairs. Wear protective goggles or faceshield when handling the concentrated product. The wearing of neoprene gloves by pilots when entering the aircraft is essential. Mechanical flagging devices must be used. Do not eat, drink or smoke during work; wash hands and face thoroughly before doing so. Immediately wash off accidental splashes of the concentrate or spray mixture from skin, clothing and out of eyes. After work, change clothing and wash entire body thoroughly. Wash contaminated working clothes separately from other laundry before reuse.

Do not contaminate food or feed.

NOTE: Do not graze livestock on treated green crops.

This pesticide is toxic to fish. Do not spray any body of water by direct application, drift or by cleaning and rinsing spray equipment.

This product contains a pet roleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic syst ems during application. Do not contaminate these systems through direct application, disposal or waste or cleaning equipment.

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.

#### **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 DISPOSALOR REFILLING:**

# FOR DISPOSAL OF 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 reuse this container for any other purpose.

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

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Pamphlet

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#### **DIRECTIONS FOR USE**

#### **GENERAL INFORMATION**

# Introduction

TOPAS® Fungicide is a broad spectrum systemic fungicide for control of a wide range of diseases on certain crops. TOPAS Fungicide will protect the crop from yield and quality losses due to disease. TOPAS Fungicide may be used in conjunction with higher seeding rates, higher fertilizer inputs, plant growth regulators and other fungicides as required. (See "NOTE" under Precautions)

#### Diseases Controlled:

Cranberries	Cottonball (Monilinia oxycocci)
Kentucky Bluegrass Grown for Seed	Powdery Mildew
Lowbush Blueberries	Monilinia Blight (Mummyberry)
Highbush Blueberries	Mummyberry (Monilinia vaccinii – corymbosi)
Rutabagas	Powdery Mildew
Saskatoon Berry	Entomosporium Leaf and Berry Spot and
·	Saskatoon Juniper Rust
Stone Fruit:	Brown Rot, Blossom Blight and Fruit Brown
Apricots, Nectarines, Peaches, Plums,	Rot, Cherry Leaf Spot (Blumeriella jaapii –
Sweet and Sour Cherries	sweet and sour cherries)
Plums and Sour Cherries	Black Knot (Apiosporina morbosa) –
	Suppression ONLY
Western Red Cedar	Keithia Foliar Blight
Asparagus	Rusts ( <i>Puccinia asparagi</i> )
Caneberries	Yellow Rust
Strawberries	Common leaf spot (Mycosphaerella
	fragariae)

# Factors Affecting TOPAS Fungicide Performance:

TOPAS Fungicide should be applied as a preventative disease control measure. Established diseases are more difficult to control and may have already reduced crop vigour. If rainfall occurs within one hour of application, reapplication is necessary.

# **AERIAL APPLICATION:**

Wind speed during application should be less than 18 km/h to avoid drift. High humidity and low temperatures  $(10 - 20^{\circ}\text{C})$  allow for a better deposition of spray droplets.

# **SPRAYER AND APPLICATION INFORMATION:**

The performance of this product depends on correct application. Follow the guidelines given below for optimal application of TOPAS Fungicide.

### Sprayer Information:

	GROUND APPLICATION	AERIAL APPLICATION
- Spray Volume:	minimum 200 litres of water per hectare	40 - 50 litres of water per hectare
- Spray Pressure:	200 - 300 kPa	100 - 200 kPa
- Nozzle Type:	110' Flat Fan (XR11004, 4110-20)	Flat Fan 6510-6515 or Hollow Cone (D8- 45)
- Droplet Size:	Medium Spray (300 - 400 microns VMD)	Medium Spray (350 - 400 microns VMD)
- Ground Speed:	10 km/h	
- Nozzle Angle:	90' (straight down)	90' (straight down)
- Boom Height:	40-50 cm above the crop canopy	2-3 m above the crop canopy

# **Ground Application** - Mixing and Spraying Instructions

- 1) Spray equipment should be thoroughly flushed with clean water before mixing TOPAS Fungicide.
- 2) Fill spray tank 1/2 full with clean water. Engage gentle agitation.
- 3) Add the required amount of TOPAS Fungicide and agitate thoroughly.
- 4) Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tankmix partner.
- 5) Complete filling the spray tank with water, maintaining agitation during mixing and spraying operations.
- 6) Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

# <u>Aerial Application</u> - Mixing and Spraying Instructions

- 1) Spray equipment should be thoroughly flushed with clean water before mixing TOPAS Fungicide.
- 2) Fill premix tank 1/2 full with clean water. Engage gentle agitation.
- 3) Add the required amount of TOPAS Fungicide and agitate thoroughly.
- 4) Continue filling the tank with water until the tank is 9/10 full and, if applicable, add the required amount of tankmix partner.
- 5) Complete filling the premix tank with water.
- 6) Maintain gentle agitation during mixing.
- 7) Transfer the premix contents into the aircraft spray tank.
- 8) Maintain sufficient agitation during the mixing and spraying operation to ensure TOPAS Fungicide remains in suspension.
- 9) Use nozzle screens no finer than 50 mesh. Keep by-pass line on or near the bottom of the tank to minimize foaming.

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. Where no rate for aerial application appears for a specific use, this product cannot be applied by any type of aerial equipment. Ensure unifo rm application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

#### **AERIAL APPLICATION USE PRECAUTIONS**

Apply only when meteorological conditions at the treatment site allow for complete and 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. Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Coarse sprays are less likely to drift; therefore, avoid combinations of pressure and nozzle type that will result in 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 a shelter-belt) or aquatic habitat.

#### **AERIAL APPLICATION OPERATOR 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. The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the label recommendations on the ground application section. 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.

PRODUCT SPECIFIC PRECAUTIONS: Read and understand the entire label before opening this product. If you have questions call the manufacturer at 1-800–315-2422 or obtain technical advice from the distributor or your provincial agricultural representative.

# Fertilizer - Mixing and Spraying Instructions

If desired, small amounts of nitrogen may be applied with TOPAS Fungicide. The appropriate amount of urea can be dissolved in water and added to the spray tank before adding TOPAS Fungicide. The rate of actual nitrogen must not exceed 10 kg/ha.

CAUTION: Excessive nitrogen concentrations may injure the crop.

NOTE: DO NOT add nitrogen when tank-mixing TOPAS Fungicide with a herbicide.

NOTE: Do not graze livestock on treated crop.

RUTABAGAS - SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Powdery Mildew	400 mL	Make two applications per season; the first 50 days after planting and the second 20 days later. Apply to vegetative foliage. Use 200 L of water per hectare.
LAST APPLICATION MUST BE MADE PRIOR TO 21 DAYS BEFORE HARVEST.		

WESTERN RED CEDAR - SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Keithia Foliar Blight	500 mL	Apply, using ground application equipment, every four weeks. Make a maximum of 6 applications per year. Apply in a volume of 1000 L of water per hectare.

HIGHBUSH BLUEBERRY- SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Mummyberry ( <i>Monilinia vaccinii-</i> <i>corymbosi</i> )	500 mL	Apply first application at or near flower bud swelling; make a second application at leaf bud swelling. Apply by ground only, making no more than two applications per year. In BC only, apply by ground, a third application at pink bloom and a fourth application 7 to 10 days later at early bloom, making no more than 4 applications per year. Use a minimum of 200 litres of water per hectare.
LAST APPLICATION MUST BE MADE PRIOR TO 60 DAYS BEFORE HARVEST.		

LOWBUSH BLUEBERRY- SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Monilinia Blight	500 mL	Apply first application when flower bud scales first appear and make a second application 10 days later. Use ground application or aerial application equipment, making no more than two applications per year. Use a minimum of 200 litres of water per hectare if applying by ground equipment; use 40-50 litres of water per hectare if applying by air.
LAST APPLICATION MUST BE MADE PRIOR TO 60 DAYS BEFORE HARVEST.		

CRANBERRY - SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Cottonball ( <i>Monilinia oxycocci</i> )	500 mL	Apply the first application at leaf bud break.  Make a second application 10 – 14 days later, a third application at early bloom and a fourth application 10 – 14 days after the third application. Make no more than four applications per year.
LAST APPLICATION MUST BE MADE PRIOR TO 45 DAYS BEFORE HARVEST.		

SASKATOON BERRY- SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Entomosporium Leaf and Berry Spot and Saskatoon Juniper Rust	500 mL	As a foliar spray, apply up to three applications per season. The first application to occur at "white tip", the second application at "petal fall", and the third application at "green fruit". Use a minimum of 200 litres of water per hectare by ground, applying to runoff.
LAST APPLICATION MUST BE MADE PRIOR TO 38 DAYS BEFORE HARVEST.		

PEACHES, NECTARINES, PLUMS, SWEET & SOUR CHERRIES, APRICOTS – SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Brown Rot, Blossom Blight	500 mL	Apply 500 mL of TOPAS FUNGICIDE in 500 L. of water per hectare. Make 1 <sup>st</sup> application at early bloom with 2 <sup>nd</sup> application at 50% - 75% bloom. If disease conditions persist, make 3 <sup>rd</sup> application at petal fall.
Fruit Brown Rot	500 mL	Apply no more than 2 applications in the 3 weeks prior to harvest. Apply 500 mL of product in 500 L of water per hectare.
Suppression of Black Knot (Plums and sour cherries only)	500 ml	Apply 500 mL of TOPAS FUNGICIDE in a minimum of 500 L of water per hectare by ground. Make 1st application at early bloom with 2nd application at 50% - 75% bloom. If disease conditions persist, make 3rd application at petal fall.

DO NOT APPLY WITHIN 3 DAYS OF HARVEST. DO NOT REENTER TREATED AREAS WITHIN 3 DAYS OF APPLICATION. IF REQUIRED, INDIVIDUALS MAY REENTER TREATED AREAS WITHIN 3 DAYS OF APPLICATION FOR SHORT TERM TASKS WHICH DO NOT REQUIRE HAND LABOUR IF AT LEAST 4 HOURS HAS PASSED SINCE APPLICATION AND PROVIDED LONG PANTS, LONG SLEEVED SHIRTS, AND CHEMICAL RESISTANT GLOVES ARE WORN.

#### For SOUR CHERRIES:

a) It is recommended that no more than 2 consecutive applications of TOPAS FUNGICIDE be made before switching to another fungicide with a different mode of action according to disease management practices. b) Apply a MAXIMUM of 5 APPLICATIONS PER SEASON of TOPAS FUNGICIDE.

KENTUCKY BLUEGRASS FOR SEED PRODUCTION - SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Powdery Mildew	500 mL	Apply as a foliar spray. Make no more than 2 applications per crop year with the 1 <sup>ST</sup> application at pre-heading and the 2 <sup>ND</sup> at 50-100% heading. Apply in 200-300 L/ha of water by ground or 40 - 50 L/ha of water by air.

ASPARAGUS- SPRAY SCHEDULE		
DISEASE	RATE/HA	REMARKS
Rust (Puccinia asparagi)	250 mL	Apply TOPAS Fungicide to asparagus ferns in Ontario and Quebec only. Once harvest is complete, make the 1 <sup>ST</sup> application of TOPAS Fungicide as soon as fern growth begins, followed by applications at 14 to 21 day intervals. For new, non-harvested plantings, apply TOPAS Fungicide when 1 <sup>ST</sup> sign of rust is visible, followed by applications at 14 to 21 day intervals. Apply by ground only, making no more than 3 applications per year. Use a minimum of 370 L of water per hectare.
LAST APPLICATION MUST BE MADE PRIOR TO 8 MONTHS BEFORE HARVEST.		

#### **NOTICE TO BUYER/USER:**

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Syngenta Crop Protection Canada, Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Syngenta Crop Protection 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 liability arising, and agree to hold Syngenta Crop Protection Canada, Inc. harmless, from any clai ms based on efficacy and/or phytotoxicity in connection with the uses described below.

SWEET AND SOUR CHERRIES		
DISEASE	RATE/HA	REMARKS
Cherry leaf spot (Blumeriella jaapii)	500 mL	Maximum of three applications per season; ground application by airblast sprayer; retreatment interval 7 – 10 days; phi 3 days.

It is recommended that no more than 2 consecutive applications of TOPAS Fungicide be made before switching to another fungicide with a different mode of action according to disease management practices.

# CANEBERRIES (Crop Group 13A; cultivars and/or varieties of red and black raspberry, loganberry and blackberry)

DISEASE	RATE/HA	REMARKS
Yellow rust 500 mL	500 mL	Apply 500 mL product per hectare in 500 L water by ground application at first detection of disease in the field and then 14 days later.
		Apply a maximum of two applications per season. Do not apply within 30 days of harvest

STRAWBERRIES			
DISEASE	RATE/HA	REMARKS	
Common leaf spot (Mycosphaerella fragariae)	500 mL	Apply 500 mL of TOPAS Fungicide per hectare by ground in enough water to ensure thorough coverage. Make first application when disease levels are no more than 5%. Apply at 10 day intervals for control of leaf spot.	

It is recommended that no more than 2 consecutive applications of TOPAS Fungicide be made before switching to another fungicide with a different mode of action, according to disease management practices.

APPLY A MAXIMUM OF 4 APPLICATIONS PER SEASON OF TOPAS Fungicide TO STRAWBERRIES. DO NOT APPLY WITHIN 1 DAY OF HARVEST.

# **Resistance Management Recommendations**

For resistance management, TOPAS Fungicide contains a Group 3 Fungicide. Any fungal population may contain individuals naturally resistant to TOPAS Fungicide and other 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 TOPAS Fungicide or other Group 3 Fungicides with different groups that control the same pathogens.

Avoid application of more than the maximum number listed in the label and consecutive sprays of TOPAS Fungicide or other fungicides in the same group in a season.

Fungicide use should be based on an IPM program that includes scouting, historical information related to pesticide use and crop rotation and considers cultural, biological and other chemical control practices.

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, if available.

Contact your local extension specialist or ce rtified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and disease problems ir your area.

For further information or to report suspected re sistance, contact company representatives at 1-87-SYNGENTA (1-877-964-3682) or at <a href="https://www.syngenta.ca">www.syngenta.ca</a>.

TOPAS<sup>®</sup> is a trademark of a Syngenta Group Company.

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