

2020-4382  
2021-09-24

**GROUP M5 FUNGICIDE**

**Chlorothalonil 720F**

Suspension

COMMERCIAL

Turf and Ornamental Fungicide

ACTIVE INGREDIENT: Chlorothalonil 720 g/L

Contains 1,2-benzisothiazolin-3-one at 0.01% as a preservative

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

WARNING: EYE IRRITANT

REGISTRATION NO. 32030 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 2 -1050 Litres

ADAMA Agricultural Solutions Canada Ltd.  
300 – 191 Lombard Avenue  
Winnipeg, Manitoba R3B 0X1  
1 855-264-6262

For emergency medical help and health/safety inquiries call ProPharma Group at 1.877.250.9291  
(24 hours a day)  
For spill, leak or fire call INFOTRAC at 1.800.535.5053 (24 hours a day)

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## **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.

## **FIRST AID**

**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.

**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. 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 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.

Take container, label or product name and Pest Control Product Registration Number with you, when seeking medical attention.

## **TOXICOLOGICAL INFORMATION**

Treat symptomatically.

Note to Physician: Persons having an allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.

## **PRECAUTIONS**

### **KEEP OUT OF REACH OF CHILDREN.**

Causes eye irritation.

DO NOT get in eyes.

Wear coveralls over long pants, and a long-sleeved shirt, goggles or a face shield, apron, and chemical resistant gloves during mixing, loading, clean-up and repair activities. Wear pants, a long sleeved shirt and chemical resistant gloves during application.

AVOID contact with skin or clothing. Wash exposed areas of skin with soap and warm water after handling or using. DO NOT take internally. AVOID breathing spray mist. This product may produce temporary allergic side effects, characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. DO NOT store near feed or foodstuffs. Store in a cool place. Protect from excessive heat. Apply only to areas specified on label.

Do not re-enter treated areas until dry.

Apply only when the potential for drift to non-target areas of human habitation and areas of 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.

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Not for use on greenhouse ornamental cut flowers.

Not for use on roses grown for cut flowers.

Do not allow the public to enter into treated golf courses following late fall application for snow mould.

### **ENVIRONMENTAL PRECAUTIONS**

**TOXIC** to aquatic organisms. Observe buffer zones specified under **DIRECTIONS FOR USE**.

To reduce run-off 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 run-off 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. If frozen, allow to thaw and agitate thoroughly prior to use.

### **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 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.

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## **PRODUCT INFORMATION**

**A BROAD SPECTRUM FUNGICIDE FOR USE ON GOLF COURSE TEES, GREENS AND FAIRWAYS, ORNAMENTAL TURFGRASS AND ORNAMENTALS.**

Read entire label carefully and use only as directed.

Chlorothalonil 720F is formulated for use on golf course tees, greens and fairways, ornamental turfgrass and ornamental herbs, shrubs and trees. It is highly effective for the control of a broad spectrum of turf and ornamental plant diseases when it is used according to the directions on this product label. Thorough, uniform coverage of plant surfaces is essential for good disease control.

### **Mixing Instructions Chlorothalonil 720F Only**

Apply Chlorothalonil 720F as a spray, using sufficient water to obtain adequate coverage of plant surfaces. Volume of spray to be used may vary, depending on crop and plant growth, from 200 to 4,000 liters per hectare for dilute sprays, and 50 to 100 liters per hectare for concentrate sprays. Use the higher spray volumes when foliage is dense and coverage is more difficult.

**Note:** Before preparing the spray mix, slowly invert the Chlorothalonil 720F container several times to assure uniform mixture.

Add the required amount of Chlorothalonil 720F to the spray tank while filling with water. Keep agitator running when filling spray tank and during spray operations.

DO NOT combine Chlorothalonil 720F in the spray tank with pesticides, surfactants or fertilizers unless your prior use has shown the combination physically compatible, effective and non-injurious under your conditions of use.

**DO NOT APPLY BY AIR**

### **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 run-off from greenhouses and mushroom houses containing this product to enter lakes, streams, ponds or other waters.

Field sprayer application: DO NOT apply during periods of dead calm. Avoid application of this

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product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.

### **Groundboom**

If handling more than [340 kg a.i.] in one day, mixers and loaders must use a closed system.

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

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 windspeed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

Wear coveralls over a long-sleeved shirt and long pants, chemical resistant gloves, socks and shoes during mixing, loading, clean-up, and repair activities. Wear a long sleeved-shirt, long pants, chemical resistant gloves, socks and shoes during application. Gloves are not required during application within a closed cab. Wear chemical-resistant gloves when leaving the cab for clean-up and repair.

In addition, wear chemical-resistant headgear during open cab airblast application. Chemical resistant headgear includes Sou'Wester hat, chemical-resistant rain hat or large brimmed waterproof hat and hood with sufficient neck protection.

If handling more than [122 kg a.i./day], an applicator must wear a respirator with a NIOSH approved organic vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH-approved canister approved for pesticides or use airblast equipment with an enclosed cab.

### **Vegetative Filter Strips**

A Vegetative Filter Strip (VFS) of at least 10 metres wide must be constructed and maintained. The VFS is required between the field edge and adjacent, downhill aquatic habitats to reduce risk to aquatic organisms from run-off. Aquatic habitats include, but are not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, and estuaries.

The VFS is to be composed of grasses and may also include shrubs, trees, or other vegetation. Additional guidance can be found on the PMRA Environmental Risk Mitigation webpages.

Both VFS and spray drift buffer zones must be observed.

### **Spray Drift 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 spray drift buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers,

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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:			
			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*	Conifers - outdoor		5	1	5	3
	Turf (golf courses)		15	2	15	5
Airblast	Outdoor Ornamentals (excluding <i>Pachysandra</i> )	Early growth stage	35	10	35	25
		Late growth stage	25	5	25	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 (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 Pesticides portion of the Canada.ca web site. This tool cannot be used to reduce the vegetative filter strips.

Sod farm turf treated with Chlorothalonil 720F prior to harvest must be mechanically cut, rolled and harvested.

This product is not to be used around homes or other residential areas such as parks, school grounds, and playing fields. It is not for use by homeowners or other uncertified users.

Do not apply this product in a way that will contact workers or other persons or pets either directly or indirectly through drift.

**Turf:** DO NOT mow or water after treatment until spray deposit on turfgrass is thoroughly dry; Chlorothalonil 720F should always be used in conjunction with good turf management practices.

**On Golf Course Tees, Greens, Fairways and Ornamental Turfgrass:**

Apply Chlorothalonil 720F in an adequate amount of water to provide complete coverage. See table below for rates of product and application intervals. Apply Chlorothalonil 720F when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions, use the curative rates.

**\*Application of any product containing chlorothalonil cannot be made more frequently than the Retreatment Intervals stated below.**

Crop Group	Disease	Interval of Application Maximum 2 applications per season	Rate: mL of Product per 100 sq. Meters	
			Preventive*	Curative**
Fairways	Sclerotinia dollar spot ( <i>Sclerotinia homoeocarpa</i> )	7 days	33-66	
	Helminthosporium leafspot ( <i>Bipolaris</i> sp., <i>Drechslera</i> sp., <i>Exosporium</i> sp.)	7 or 14 days	66 (7 days) 132 (14 days)	
	Rhizoctonia brown patch ( <i>Rhizoctonia solani</i> )	7 or 14 days	66 (7 days) 132 (14 days)	
Tees, Greens, Ornamental Turfgrass	Dollar spot	7 or 14 days	66 (7 days) 132 (14 days)***	132
	Helminthosporium leafspot and melting out ( <i>Drechslera poae</i> )	7 or 14 days	66 (7 days) 132 (14 days)	132
	Large brown patch	7 or 14 days	66 (7 days) 132 (14 days)	132
	Anthracnose ( <i>Colletotrichum cereale</i> )	7 or 14 days	66 (7 days) 132 (14 days)	Not recommended
	Gray snow mould ( <i>Typhula incarnata</i> ) and Pink snow mould ( <i>Microdochium nivale</i> )	Once per season, in the fall	167****	Not recommended

\* Recommended rates for preventing disease establishment; use lower rate as when disease conditions are light to moderate, higher indicated rates when conditions are severe.

\*\* Higher indicated rate should be applied under severe conditions.

\*\*\* Apply Chlorothalonil 720F at 132 milliliters as a tank mix with 26 milliliters of QUALI-PRO® PROPICONAZOLE 14.3 ME per 100 sq. metres and an interval of 21- 28 days to control Dollar Spot.

\*\*\*\* Apply Chlorothalonil 720F at 167 milliliters or apply 167 milliliters as a tank mix with Quali-Pro Iprodione 240 SE prior to snow cover in the fall.

#### Tank Mixture:

Chlorothalonil 720F can be tank mixed with QUALI-PRO® T-NEX 11.3 ME or Quali- Pro Iprodione 240 SE for control of Grey snow mould and Pink snow mould only.

Read the QUALI-PRO® T-NEX 11.3 ME, QUALI-PRO® PROPICONAZOLE 14.3 ME and Quali-Pro Iprodione 240 SE labels and follow the precautionary statements and directions for use. Follow the most restrictive instructions and the greatest interval of application on the labels of the products to be tank-mixed.

1. Always check the tank mix compatibility of QUALI-PRO® T-NEX 11.3 ME, QUALI-PRO® PROPICONAZOLE 14.3 ME or Quali-Pro Iprodione 240 SE using a jar test with proportionate amounts of Chlorothalonil 720F, and water, before mixing in the spray tank.
2. Provide sufficient jet or mechanical agitation during filling and application to keep the

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tank mix uniformly suspended.

3. Fill tank at least ½ full of clean water.
4. If using using Quali-Pro Iprodione 240 SE, QUALI-PRO® T-NEX 11.3 ME or QUALI-PRO® PROPICONAZOLE 14.3 ME as a tank mix partner add them first then add Chlorothalonil 720F next.
5. Do not leave tank mix combinations in the spray tank for prolonged periods without agitation. Mix and apply them at the same day.

## **ORNAMENTALS AND CONIFERS**

Apply Chlorothalonil 720F at rate of 1.7 liters per 1000 liters of water unless other directions are given in the tables below. For outdoor ornamentals, apply sufficient spray to obtain adequate coverage, but do not exceed 2000 liters of water per hectare. For uncut flowers, begin application as directed for each species and disease condition cited and repeat once after 7 days, for a maximum of 2 total applications a year. For cut flowers, apply once only. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, use the higher rate specified and the shortest indicated interval between applications.

Chlorothalonil 720F may be used in a greenhouse, except on cut flowers. For greenhouse use, apply once at a rate of 1.7 liters per 1000 liters of water, with a maximum spray volume of 1000 L/ha, unless other directions are given in the tables below. Applicators and attending personnel should wear protective clothing including long sleeves, gloves, goggles or eye shield plus a face-fitting respirator specifically designed to remove organic pesticide vapors and particulates. DO NOT use mistblowers or high pressure spray equipment when making applications of Chlorothalonil 720F in greenhouses. Use of Chlorothalonil 720F is recommended for disease control on the ornamentals and conifers listed in the tables below. Use of Chlorothalonil 720F is not recommended for species that are not listed.

### **ORNAMENTALS:**

#### **Re-Entry Intervals (REI) unless otherwise indicated:**

Greenhouse ornamentals: All activities – 12 hours

Outdoor ornamentals (uncut flowers): Handset irrigation – 3 days, all other activities - 12 hours

Outdoor ornamentals (cut flowers): Hand harvesting, disbudding, hand pruning – 10 days, all other activities - 12 hours

**\*Application of any product containing chlorothalonil cannot be made more frequently than the Retreatment Intervals stated**

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**BROADLEAF SHRUBS AND TREES:**

<b>Species</b>	<b>Diseases Controlled</b>	<b>Suggested First Application</b>
Ash (Fraxinus)	Cercospora ( <i>Cercospora</i> sp.), Cercosporidium ( <i>Cercosporidium</i> sp.), Cylindrosporium ( <i>Cylindrosporium fraxini</i> ) leafspots	Spring bud break
Azalea*	Phytophthora die-back ( <i>Phytophthora</i> spp.)	New leaf emergence
Rhododendron*	Ovulinia flower blight ( <i>Ovulinia azalea</i> )	Early bloom
Buckeye, Horsechestnut	Leaf blotch ( <i>Guignardia aesculi</i> ), Anthracnose ( <i>Glomerella cingulata</i> )	Spring bud break
Cherry B Laurel	Cercospora leafspot ( <i>Cercospora</i> sp.)	Petal fall
Crabapple	Scab ( <i>Venturia inaequalis</i> ), Cedar-apple rust ( <i>Gymnosporangium juniper- virginianae</i> ), Sphaeropsis leafspot ( <i>Botryosphaeria obtusa</i> )	Spring bud break
Dogwood	Septoria leafspot ( <i>Septoria</i> sp.)	Early bloom
Euonymus	Anthracnose ( <i>Colletotrichum gloeosporioides</i> )	Spring bud break
Firethorn	Scab ( <i>Spilocaea pyracanthae</i> )	Spring bud break
Flowering Almond, Quince, Sand Cherry	Monilinia blossom/branch blight ( <i>Monilinia fructicola</i> )	Early bloom
Hawthorn	Rust ( <i>Gymnosporangium</i> sp.), Fabraea leafspot ( <i>Fabraea maculata</i> )	Pre-bloom
Holly	Rhizoctonia web blight ( <i>Rhizoctonia</i> sp.)	Warm, moist conditions
Mountain Laurel	Cercospora leafspot ( <i>Cercospora kalmiae</i> )	Spring bud break
Oak (red group only)	Taphrina blister ( <i>Taphrina caerulescens</i> ), Actinopelte Leafspot ( <i>Actinopelte dryina</i> ), Anthracnose ( <i>Apiognomonina quercina</i> )	Dormant budswell
Oregon B Grape (Mahonia)	Rust ( <i>Cumminsiaella mirabilissima</i> and <i>Puccinia graminis</i> )	Spring bud break
Photinia	Fabraea (Entomosporium) leafspot ( <i>Diplocarpon mespili</i> )	Spring bud break
Pieris (Andromeda)	Phytophthora die-back ( <i>Phytophthora cinnamomi</i> )	New leaf emergence
Poplar	Marssonina leafspot ( <i>Marssonina</i> spp.)	Spring bud break
Privet	Cercospora leafspot ( <i>Cercospora</i> sp.)	Prolonged wet conditions
Sycamore, Planetree	Anthracnose ( <i>Platanus occidentalis</i> )	Spring bud break
Viburnum	Powdery mildew ( <i>Erysiphe sparsa</i> )	Mid-summer

**BULBS AND FLOWERING PLANTS:**

<b>Species</b>	<b>Diseases Controlled</b>	<b>Suggested First Application</b>
Carnation	Alternaria leafspot/branch rot ( <i>Alternaria dianthi</i> and <i>A. dianthicola</i> ), Botrytis flower blight ( <i>Botrytis cinerea</i> )	Transplant of cuttings; cool, moist conditions
Chrysanthemum/Daisy	Mycosphaerella ray blight ( <i>Mycosphaerella ligulicola</i> ), Septoria leafspot ( <i>Septoria</i> sp.), Botrytis flower blight (gray mould) ( <i>Botrytis cinerea</i> )	Transplant of cuttings Pre-bloom
Geranium	Botrytis blight ( <i>Botrytis cinerea</i> ), rust ( <i>Puccinia pelargonii-zonalis</i> )	Cool, moist conditions
Gladiolus	Curvularia leaf/flower spot ( <i>Curvularia trifolli</i> f. sp. <i>gladioli</i> ), Botrytis leaf/flower spot ( <i>Botrytis gladiolorum</i> )	Early propagation
Hollyhock	Rust ( <i>Puccinia malvacearum</i> )	Early seedling stage
Hydrangea* (foliage only)	Cercospora leafspot ( <i>Cercospora hydrangeae</i> ) and Septoria leafspot ( <i>Septoria</i> sp.), Rust	Early propagation
Iris	Botrytis blossom blight ( <i>Botrytis cinerea</i> ), Didymellina leafspot ( <i>Didymellina macrospora</i> )	Cool, moist conditions
Lily	Botrytis gray mould ( <i>Botrytis cinerea</i> )	Pre-bloom
Petunia*	Phytophthora blight (foliar phase) ( <i>Phytophthora infestans</i> ), Botrytis blight ( <i>Botrytis cinerea</i> )	Pre-bloom
Roses (greenhouse): Use 1.3 L per 1000 L	Black spot ( <i>Diplocarpon rosae</i> ), Botrytis blight ( <i>Botrytis cinerea</i> )	Spring bud break. Not for use on roses grown for cut flowers. Maximum spray volume 1000 L/ha. Apply treatment only once.
Roses (outdoor): Use 2.6 L per 1000 L	Black spot ( <i>Diplocarpon rosae</i> ), Botrytis blight ( <i>Botrytis cinerea</i> )	Spring bud break. Not for use on roses grown for cut flowers. Maximum 2 applications per year, with a 7 day interval. REI: Handset irrigation – 1 day, all other activities 12 hours
Statice	Anthrachnose ( <i>Colletotrichum gloeosporioides</i> ), Cercospora blight ( <i>Cercospora insulana</i> ), Alternaria blight ( <i>Alternaria</i> sp.), Botrytis leaf blight ( <i>Botrytis cinerea</i> )	Spring bud break
Zinnia	Powdery mildew ( <i>Golovinomyces cichoracearum</i> )	First sign of disease

\* Discoloration of blooms has been noted on certain varieties when applications are made during flowering.

**FOLIAGE PLANTS:**

Species	Diseases Controlled	Suggested First Application
Dracaena	Fusarium leafspot ( <i>Fusarium moniliforme</i> )	Pre-transplant
Pachysandra (Use 3.5 L per 1000 L)	Volutella leaf blight ( <i>Pseudonectria pachysandricola</i> )	Spring bud break. Greenhouse application is not permitted. Apply treatment only once. REI: Handset irrigation – 2 day, all other activities 12 hours
Leatherleaf fern	Ascochyta blight ( <i>Ascochyta</i> sp.), Cercospora leafspot ( <i>Cercospora</i> sp.), Cylindrocladium leafspot ( <i>Cylindrocladium</i> ), Rhizoctonia blight ( <i>Rhizoctonia solani</i> )	Spring bud break
Parlor palm (Chamaedorea)	Bipolaris ( <i>Helminthosporium</i> sp.) leafspot	Cool, moist conditions
Prayer plant (Maranta)	Helminthosporium leafspot ( <i>Helminthosporium</i> sp.)	Early propagation
Oyster plant (Rhoeo)	Tan leafspot ( <i>Curvularia eragrostidis</i> )	Early propagation
Syngonium	Cephalosporium leafspot ( <i>Cephalosporium cinnamomeum</i> )	Warm, moist conditions
Philodendron	Phytophthora blight ( <i>Phytophthora</i> sp.), Dactylaria leafspot ( <i>Dactylaria humicola</i> )	Moist conditions

**CONIFERS:**

**Re-Entry Intervals (REI) unless otherwise indicated:**

Conifers (outdoors): Harvesting (seedling production) – 15 days; Handset irrigation – 11 days; Harvest (seed cone), Christmas trees – 7 days; Scouting, shaping – 1 day; All other activities - 12 hours. Conifer nursery beds (greenhouse): All activities – 12 hours

**\*Application of any product containing chlorothalonil cannot be made more frequently than the Retreatment Intervals stated**

2020-4382

2021-09-24

Diseases Controlled	Chlorothalonil 720F Rate/Hectare	Application Directions
Scleroderris Canker ( <i>Gremmeniella abietina</i> ) (pines), Swiss Needlecast ( <i>Phaeocryptopus gaeumannii</i> ) and Rhabdocline Needlecast ( <i>Rhabdocline weirii</i> ) (Douglas fir)	1.7-3.3 L	Apply in 100 to 1000 litres of water per hectare. Make first application in spring when new shoot growth is 1 to 5 cm in length. Make no more than 2 applications per season. Make 2nd application at 3 to 4 week interval. For use in outdoor nursery beds, apply the highest rate specified on at a maximum of 2 times per season. For use in greenhouse nursery beds, apply once at rate of 1.6 L/ha.
Sirococcus Tip Blight ( <i>Sirococcus conigenus</i> )	2.5-4.2 L	
Rhizosphaera Needlecast ( <i>Rhizosphaera kalkhoffii</i> ) (spruces), Scirrhia brown spot ( <i>Scirrhia acicola</i> ) (pines)	6.6 L	
Lophodermium Needlecast ( <i>Lophodermium seeditiosum</i> )	1.7-3.3 L	Apply in 100 to 1000 litres of water per hectare. Begin applications in mid-July to early August before infection occurs. Make one additional applications at a 3 to 4 week interval. For use in outdoor nursery beds, apply 3.3 L/ha at a maximum 2 times per season. For use in greenhouse nursery beds, apply once at rate of 1.6L/ha.
Botrytis seedling blight ( <i>Botrytis cinerea</i> ), Phoma twig blight ( <i>Phoma</i> spp.)	1.7-3.3 L	Apply in 100 to 1000 litres of water per hectare. Begin applications in outdoor nursery beds when seedlings are 10 cm tall and when cool, moist conditions favour disease development. Make only one additional application at a 7 to 14 day interval. For use in greenhouse nursery beds, apply once at rate of 1.6L/ha.

## **RESISTANCE MANAGEMENT RECOMMENDATIONS**

For resistance management, Chlorothalonil 720F contains a Group M5 fungicide. Any fungal population may contain individuals naturally resistant to Chlorothalonil 720F and other Group M5 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 Chlorothalonil 720F or other Group M5 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 Chlorothalonil 720F or other fungicides in the same group in a season.
- Use tank mixtures with fungicides from a different group that is effective on target pathogen when such use is permitted.
- Fungicide use should be based on an IPM 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 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 Adama Agricultural Solutions Canada Ltd. if reduced sensitivity of the pathogen to Chlorothalonil 720F 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, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance management and/or IPM recommendations for specific crops and disease problems in your area.

For further information or to report suspected resistance, contact company representatives at 1.855.264.6262 or [www.adama.com/canada/en/](http://www.adama.com/canada/en/).