

GROUP	7	FUNGICIDE
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Penthiopyrad 20SC

SUSPENSION

FOR USE ON TURFGRASS

COMMERCIAL

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

ACTIVE INGREDIENT: Penthiopyrad 210 g/L

Contains 1,2-Benzisothiazolin-3-one at 0.02% as a preservative

REGISTRATION NO. 35025 PEST CONTROL PRODUCTS ACT

NET CONTENTS: 1L – 1000 LITRES

CAUTION – EYE IRRITANT

Mitsui Chemicals Crop & Life Solutions, Inc
1-19-1, Nihonbashi
Chuo-ku, Tokyo 103-0027, JAPAN

Landis International, Inc.
c/o Nailor Regulatory Consulting Inc.
935 Rosinke Drive, Kincardine, Ontario N2Z 2X3

Tel. No. (519) 837-8704

PRECAUTIONS:

- **KEEP OUT OF REACH OF CHILDREN.**
- May irritate eyes.
- Avoid contact with eyes.
- Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair.
- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Sod Farms: **DO NOT** enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. Golf Courses: **DO NOT** enter or allow entry into treated areas until sprays have dried.
- Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.
- **DO NOT** apply to turf in residential areas, including lawns, gardens, parks, playing fields, cemeteries and schools. Penthiopyrad 20SC can be applied to all areas of golf course including greens, tees, fairways, roughs, collars and sod farms only.

FIRST AID:

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.

In case of emergency involving a poisoning or major spill call (416) 506-9900.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS:

- Toxic to aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE
- 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 filter strip between the treated area and the edge of the water body.

STORAGE:

Store this product away from food or feed.

Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home. Keep container closed.

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 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 containers that can be refilled for the user by the distributor/dealer:

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 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.

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.

<<DFU Booklet>>

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GENERAL INFORMATION

Penthiopyrad 20SC is a broad-spectrum fungicide, for control or suppression of foliar and soil-borne plant diseases and has curative and locally systemic activity. Penthiopyrad 20SC should be applied in a regularly scheduled protective spray program in rotation with other fungicides. See directions below for specific disease recommendations.

Penthiopyrad 20SC can be applied with ground application equipment using sufficient water to obtain thorough coverage of plants. Refer to crop-specific instructions for spray volumes.

PRECAUTIONS:

- **KEEP OUT OF REACH OF CHILDREN.**
- May irritate eyes.
- Avoid contact with eyes.
- Wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes during mixing, loading, application, clean-up and repair. In addition, wear protective eyewear (goggles or face shield) during mixing, loading, clean-up and repair.
- Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
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- Apply only when the potential for drift beyond the area to be treated is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.
- **DO NOT** apply to turf in residential areas, including lawns, gardens, parks, playing fields, cemeteries and schools. Penthiopyrad 20SC can be applied to all areas of golf course including greens, tees, fairways, roughs, collars and sod farms only.

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In case of emergency involving a poisoning or major spill call (416) 506-9900.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

ENVIRONMENTAL PRECAUTIONS:

- Toxic to aquatic organisms. Observe spray buffer zones specified under DIRECTIONS FOR USE
- 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 filter strip between the treated area and the edge of the water body.

STORAGE:

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Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home. Keep container closed.

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.

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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 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.

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.

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) fine classification. Boom height must be 60 cm or less above the turf or ground.

DO NOT apply by air.

Spray Buffer zones:

A spray buffer zone is NOT required for:

- uses with hand-held application equipment permitted on this label.

The spray 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, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop	Spray Buffer Zones (metres) Required for the Protection of:			
		Freshwater Habitats 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	Turf	10	3	1	1

When tank mixes are permitted, consult the labels of the tank-mix partners and observe the largest (most restrictive) spray 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 spray buffer zones for this product can be modified based on weather conditions and spray equipment configuration by accessing the Spray Buffer Zone Calculator on the Pesticides portion of the Canada.ca website.

TURFGRASS

Penthiopyrad 20SC may only be used on turfgrasses that are being grown for golf courses (tee box areas, roughs, fairways, greens, collars etc.) and commercial sod farms.

Penthiopyrad 20SC is a broad spectrum fungicide recommended for the control of many important diseases of turfgrass. For maximum performance Penthiopyrad 20SC should be applied preventatively but also may be used curatively for some diseases.

USE Penthiopyrad 20SC IN A PREVENTATIVE DISEASE CONTROL PROGRAM

Apply in sufficient water to ensure thorough coverage.

Apply the rates as indicated in the directions for use in spray volumes up to 40 L/ 100 m² or 4,000 L/ha. Apply with a properly calibrated sprayer.

Apply after mowing OR allow sprayed area to completely dry before mowing.

For control of foliar diseases, allow sprayed area to completely dry before irrigation.

Under conditions optimum for high disease pressure, use the higher rate.

For optimum turf quality and disease control, use Penthiopyrad 20SC in conjunction with turf management practices that promote good plant health and optimum disease control.

Before use of any fungicide, proper diagnosis of the organism causing the disease is important. Use of diagnostic kits or other means of identification of the disease organism is essential to determine the best control measures.

USE DIRECTIONS

Turf	
Disease Controlled	Dollar Spot (<i>Claviceps jacksonii</i> syn. <i>Sclerotinia homeocarpa</i>)
Location	Golf course tees and greens, fairways, all other golf course turfgrass, and sod
Use rate/100m ²	21.4-35.7 mL
Use rate/ha	2.14-3.57 L
Application Interval (days)	14 days for golf course tees and greens 14-21 days for golf course fairways all other golf course turfgrass, and sod

Comments	Begin application prior to or at the early stages of disease development. Use the high rate for moderate to high disease pressure and/or for curative situations
Disease Controlled	Brown Patch (<i>Rhizoctonia solani</i>)
Location	Golf course tees and greens, fairways, all other golf course turfgrass, and sod
Use rate/100m ²	21.4-35.7 mL
Use rate/ha	2.14-3.57 L
Application Interval (days)	14
Comments	Begin application at the early stages of disease development. Use high rate for moderate to high disease pressure or for curative situations
Disease Controlled	Anthrachnose foliar blight (<i>Colletotrichum cereale</i>)
Location	Golf course tees and greens, fairways, all other golf course turfgrass, and sod
Use rate/100m ²	21.4-35.7 mL
Use rate/ha	2.14-3.57 L
Application Interval (days)	14
Comments	Begin applications at the early stages of disease development. Penthiopyrad 20SC may be applied in a tank mix with Daconil 2787, which is registered for anthrachnose control on turf. Use high rate of Penthiopyrad 20SC for high disease pressure
Disease Suppressed	Summer patch (<i>Magnaporthe poae</i>)
Location	Golf course tees and greens, fairways, all other golf course turfgrass, and sod
Use rate/100m ²	21.4-35.7 mL
Use rate/ha	2.14-3.57 L
Application Interval (days)	14
Comments	Begin applications at the early stages of disease development. Use high rate of Penthiopyrad 20SC for high disease pressure or for curative situations.
Disease Controlled	Grey snow mould (<i>Typhula incarnata, Typhula ishikariensis</i>)
Location	Golf course tees and greens, fairways, all other golf course turfgrass, and sod
Use rate/100m ²	50.7 mL
Use rate/ha	5.07 L
Application Interval (days)	Apply once per year.
Comments	Apply in late fall before snow cover. Do not apply on top of snow.

USE RESTRICTIONS FOR TURFGRASS

- DO NOT apply this product through any type of irrigation system.
- DO NOT apply more than 161.5 mL of Penthiopyrad 20SC per 100m² per year or 16.15 L of Penthiopyrad 20SC per hectare per year (3392 g penthiopyrad per hectare per year).
- Keep people and pets away from areas treated with Penthiopyrad 20SC until treated area has dried.

APPLICATION INFORMATION

Mixing Instructions

1. Fill clean spray tank 1/4 - 1/2 full of water.

2. While agitating, add the required amount of Penthiopyrad 20SC, continuing agitation until the product is completely dispersed.
3. Continue filling the tank, with agitation, adding desired additives

Mix thoroughly to fully disperse the fungicide; once dispersed continued agitation is required. Use mechanical or hydraulic means; do not use air agitation.

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose labels also allow tank mixing, provided the entirety of both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact Mitsui Chemicals Crop & Life Solutions, Inc. at (416) 506-9900 for information before applying any tank mix that is not specifically recommended on this label.

SPRAYER CLEANUP:

Prior to application, start with clean, well maintained application equipment. Immediately following application, thoroughly clean all spray equipment to reduce the risk of forming hardened deposits which might become difficult to remove.

Drain spray equipment. Thoroughly rinse sprayer and flush hoses, boom and nozzles with clean water. Clean all other associated application equipment. Take all necessary safety precautions when cleaning equipment. Do not clean near wells, water sources or desirable vegetation.

Dispose of waste rinse water in accordance with local regulations.

RESISTANCE-MANAGEMENT RECOMMENDATIONS:

For resistance management, Penthiopyrad 20SC contains a Group 7 Fungicide. Any fungal population may contain individuals naturally resistant to Penthiopyrad 20SC and other group 7 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 Penthiopyrad 20SC or other Group 7 fungicides with different groups that control the same pathogens.
- ◆ Use tank mixtures with fungicides from different groups 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 resistance development. Notify Mitsui Chemicals Crop & Life Solutions, Inc. if reduced sensitivity of the pathogen to Penthiopyrad 20SC 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, 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 pathogens.
- ◆ For further information and to report suspected resistance, contact Mitsui Chemicals Crop & Life Solutions, Inc. representatives at (416) 506-9900.

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.