UNITED STATES , SNIBP

## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

October 31, 2017

William R. Berti, Ph.D. Manager, Reg. Affairs Nichino America, Inc. 4550 Linden Hill Rd. Wilmington, DE 19808

Subject: Notification per PRN 98-10 – Minor label changes. Product Name: FLUTOLANIL 40 SC FUNGICIDE EPA Registration Number: 71711-28 Application Date: 09/26/2017 Decision Number: 534619

Dear Mr William R. Berti:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

If you have any questions, you may contact Gene Kaudy at 703-347-0585 or via email at kaudy.gene@epa.gov.

Shaya Blogue

Shaja B. Joyner, Product Manager 20 Fungicide-Herbicide Branch Registration Division 7505P





## Flutolanil 40SC Fungicide

**ACTIVE INGREDIENT:** 

Flutolanil: Benzamide, N-[3-(1-methylethoxy)phenyl]-2-(trifluoromethyl)	40.0%
OTHER INGREDIENTS:	<u>60.0%</u>
TOTAL	100.0%

Contains 3.8 lbs flutolanil as active ingredient per U.S. gallon

EPA Reg. No. 71711-28 EPA Est. No. \_\_\_\_

[Alternate Brand Names: CONVOY<sup>®</sup> Fungicide; Lantana<sup>™</sup> ST Fungicide; Elegia<sup>™</sup> Fungicide; MONCUT<sup>®</sup> SC Fungicide]

## KEEP OUT OF REACH OF CHILDREN CAUTION

	FIRST AID			
If swallowed	Call a poison control center or doctor immediately for treatment advice.			
	<ul> <li>Have person sip a glass of water if able to swallow.</li> </ul>			
	• Do not induce vomiting unless told to by a poison control center or doctor.			
	<ul> <li>Do not give anything to an unconscious person.</li> </ul>			
If on skin or	Take off contaminated clothing.			
clothing	Rinse skin immediately with plenty of water for 15-20 minutes.			
	Call a poison control center or doctor for treatment advice.			
	HOTLINE NUMBER			
Have the product of	container or label with you when calling a poison control center or doctor or going for			
	itional information on this pesticide product, including human health concerns and medical 1-800-348-5832. In case of fire or spills, information may be obtained by calling 1-800-			

<u>{Note to Reviewer: This language will be on the front of the booklet:} See inside booklet for Precautionary</u> <u>Statements and Directions for Use</u> <u>{Note to Reviewer: This language will be on the label permanently affixed to the container:} See attached</u> <u>booklet for Precautionary Statements and Directions for Use</u>

Net Contents: \_\_\_\_\_

[Manufactured in \_\_\_,] [formulated in \_\_\_,] [and] [packaged in \_\_] for: **Nichino America Inc.** 4550 <del>New</del>-Linden Hill Road Wilmington, DE 19808 888-740-7700

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

#### Applicators and other handlers must wear:

- · Long-sleeved shirt and long pants
- · Chemical resistant gloves made of any waterproof material such as barrier laminate or polyvinyl chloride
- · Shoes plus socks

## **User Safety Requirements**

Follow the 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.

## **User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- 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.

#### **ENGINEERING CONTROLS**

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### **ENVIRONMENTAL HAZARDS**

This product is toxic to fish and aquatic invertebrates. For terrestrial uses, except when applying over rice crops: do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water.

This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of flutolanil from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

To reduce hazard to birds and other wildlife, cover or collect treated seed spilled during loading and planting. Dispose of all excess treated seed and seed packaging by burial away from bodies of water.

## **DIRECTIONS FOR USE**

## It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency in your state responsible for pesticide regulation.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material such as barrier laminate or polyvinyl chloride
- Shoes plus socks

## **USE INFORMATION**

FLUTOLANIL 40SC fungicide is a systemic fungicide for control of Brown Patch (*Rhizoctonia solani*), Brown Ring Patch (*Waitea circinata var. circinata*), Fairy Ring, Red Thread (*Laetisaria fuciformis*), Pink Patch (*Limonomyces roseipellis*), Yellow Patch (*Rhizoctonia cerealis*), Gray snow mold (*Typhula* spp.), Large Patch (*Rhizoctonia solani* AG 2-2LP) and Leaf and Sheath spot (*Rhizoctonia zeae, Rhizoctonia oryzae*), White mold, Southern stem rot, Southern blight (*Sclerotium rolfsii*) and the Limb/Pod rot complex caused by *Rhizoctonia solani*, in peanuts\*; Sheath blight (*Rhizoctonia solani*) in rice\*; Black scurf (*Rhizoctonia solani*) in potatoes; *Rhizoctonia solani* in seed treatments for cotton, soybeans, and sugar beets; and wirestem in brassica (cole) leafy vegetables.

## \*not for use on peanuts and rice in California

If other diseases are present in the field, FLUTOLANIL 40SC fungicide can be tank mixed with other fungicides registered for use on those diseases.

Not for sale, sale into, distribution, and or use in Nassau and Suffolk counties of New York State.

## **ROTATIONAL CROP RESTRICTIONS**

Crop/Crop Group	Plantback Timing
Brassica (cole) leafy vegetables (crop group 5)	
Cotton	
Peanuts*	
Potatoes	0 days following application
Rice*	
Soybeans	
Turnip greens	
Wheat	30 days following application
Leafy vegetables (such as lettuce, spinach, or celery)	150 days following application
Small grain crops, other than wheat (such as barley, rye, or oats)	130 days following application
Corn (such as field, sweet, or popcorn)	240 days following application
Sorghum	240 days following application
All Other Crops	365 days following application
*not for use on peanuts and rice in California	

## **RESISTANCE MANAGEMENT**

The active ingredient in FLUTOLANIL 40SC fungicide is flutolanil and belongs to the succinate dehydrogenase inhibitor class (FRAC Group 7). Because resistance development cannot be predicted, the use of this product should conform to resistance management strategies established for the crop and use area. Such strategies may include rotating and/or tank mixing with products having different modes of action or limiting the total number of applications per season. Nichino America, Inc. encourages responsible product stewardship to ensure effective long-term control of the fungal diseases on this label.

## **MIXING DIRECTIONS**

**FLUTOLANIL 40SC Fungicide Alone:** Fill spray tank with <sup>3</sup>/<sub>4</sub> of the amount of water needed for the intended application and then turn on agitation. Pour specified amount of product on the surface of the water in the spray tank. Add the balance of the water to the spray tank with agitation running. Keep agitation running during filling and spraying operations. If spraying must be stopped before emptying the sprayer, resume agitation before spraying the remainder of the load. Mix only as much spray solution as can be sprayed within four hours. Storage and use of the previous day's spray mix may result in reduced activity.

**FLUTOLANIL 40SC Fungicide in Tank Mixtures:** Begin with clean equipment. Fill spray tank with <sup>3</sup>/<sub>4</sub> of the amount of water needed for the intended application and turn on agitation. If using a buffering agent, add after filling the tank with <sup>3</sup>/<sub>4</sub> amount of water. Do not use oil as carrier or include other additives in the finished spray. Add the recommended amount of tankmix products in the following order while maintaining agitation:

- 1) products in water-soluble packets
- 2) wettable powders
- 3) water-dispersible granulars and/or soluble powders
- 4) flowable liquids (including Flutolanil 40SC Fungicide)
- 5) emulsifiable concentrates
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

Always follow the labeled mixing instructions of any partner products. Keep agitation running during filling and spraying operations. If spraying must be stopped before emptying the sprayer, resume agitation before spraying the remainder of the load. Mix only as much spray solution as can be sprayed within four hours. Storage and use of the previous day's spray mix may result in reduced activity.

## SPRAY DRIFT MANAGEMENT

Spray equipment and weather affect spray drift. Consider all factors when making application decisions. Where states have more stringent regulations, they must be observed. Avoiding spray drift is the responsibility of the applicator or grower. To reduce the potential for drift, the application equipment must be set to apply medium or larger droplets (i.e. ASABE Standard 572) with corresponding spray pressure. Use high flow rate

nozzles to apply the highest practical spray volume, using the appropriate droplet size to ensure adequate canopy distribution, coverage, and penetration. With most nozzle types, narrow spray angles produce larger droplets. Follow the nozzle manufacturer's directions on pressure, orientation, spray volume, etc., in order to minimize drift and optimize coverage and control.

The interaction of many equipment and weather related factors determines the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

- 1. The distance of the outermost nozzles on the boom must not exceed <sup>3</sup>/<sub>4</sub> the length of the wingspan or rotor.
- 2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

The applicator must be familiar with, and take into account, the information covered in the **Aerial Drift Reduction Advisory Information**.

## Aerial Drift Reduction Advisory Information

(This section is advisory in nature and does not supersede the mandatory label requirements.)

## Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

## **Controlling Droplet Size**

**Volume** – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** – Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

Number of Nozzles – Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation** – Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

**Nozzle Type** – Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Maintenance of Nozzles –** Periodically inspect and then replace nozzles to ensure proper chemical application.

## **Boom Length**

For some use patterns, reducing the effective boom length to less than <sup>3</sup>/<sub>4</sub> of the wingspan or rotor length may further reduce drift without reducing swath width.

## **Application Height**

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

## Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of

the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

## Wind

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

#### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light and variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

#### **Sensitive Areas**

Only apply the pesticide when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## FLUTOLANIL 40SC FUNGICIDE APPLICATION RATE CHART

## Brassica (Cole) Leafy Vegetables (Crop Group 5)

Broccoli; broccoli, Chinese (gai lon); broccoli raab (rapini); Brussels sprouts; cabbage; cabbage, Chinese (bok choy); cabbage, Chinese (napa); cabbage, Chinese mustard (gai choy); cauliflower; cavalo broccolo; collards; kale; kohlrabi; mizuna; mustard greens; mustard spinach; rape greens

## **Turnip Greens**

Disease	Rate/Acre	Directions for Use
Wirestem	26.0 fl oz/acre	If transplanted, apply in a narrow band directed at plant bases immediately after transplanting in 30 to 50 gallons per acre.
	(0.772 lb ai/acre)	<ul> <li>Apply to the row at planting, as an in-furrow or directed spray at the base of transplants.</li> <li>Use a minimum of 3 gallons of spray volume per acre.</li> <li>Preharvest Interval (PHI): 45 days if applied as soil drench at planting</li> </ul>

• Do not make more than 2 applications per calendar year.

• Do not apply more than 52.0 fl oz (1.544 lbs ai/acre) per calendar year.

Disease White mold, Southern stem rot, Southern blight (Sclerotium rolfsii)	Rate/Acre           20.0 to 32.0           fl oz/acre           (0.594 to	Directions for Use     For ground application, use a minimum of 10 gallons of water per acre.
Southern stem rot, Southern blight	fl oz/acre	• •
Southern blight		water per acre.
	(0.504 to	
(Sclerotium rolfsii)	(0.504 + 0.00)	For aerial application, use a minimum of 5 gallons of water
	<b>`</b>	per acre.
	0.950 lb	Begin applications approximately 45 to 60 days after
Limb/Pod rot complex	ai/acre)	planting, depending on disease development. Initial
(Rhizoctonia solani)		application may be prior to, or at, first sign of disease.
		Make sequential applications as needed at 21 to 30 day
		intervals, depending on severity of disease.
		• Use higher rate in fields where known heavy infestations o
		white mold or limb/pod rot may have occurred. In such
		situations, sequential applications will provide more
		effective control than a single application.
		• For ground application, use a minimum of 10 gallons of
	10.0 to 16.0	water per acre.
	fl oz/acre	<ul> <li>For aerial application, use a minimum of 5 gallons of water</li> </ul>
	11 02, 0010	per acre.
	(0.297 to	Begin applications approximately 45 to 60 days after
	0.475 lb	planting, depending on disease development. Initial
	ai/acre)	application may be prior to, or at, first sign of disease.
	al/aoroj	<ul> <li>Make sequential applications as needed at 10 to 14 day</li> </ul>
		intervals.
		<ul> <li>Use higher rate in fields where known heavy infestations o</li> </ul>
		white mold or limb/pod rot may have occurred. In such
		situations, sequential applications will provide more
USE RESTRICTIONS		effective control than a single application.

• Do not apply more than 64.0 fl oz (1.90 lbs ai) per acre per calendar year.

• Do not apply within 40 days of harvest.

#### Directions for In-Furrow Application - Peanuts Only Use Rate and Method of Application (to control *Rhizoctonia* spp.)

Prior to covering with soil, apply 25 fl oz (0.742 lb ai) per acre (see referenced chart) as an in-furrow spray by directing spray uniformly over the seed, bottom, and walls of the seed furrow and soil that is used to cover the seed in a 4-8 inch band. Use a minimum of 3 gallons of spray volume per acre.

In-Furrow Application Rates			
	25 fl oz rate per acre		
Row Spacing	fl oz product/1000 row ft		
40" Row	1.86		
38" Row	1.76		
36" Row	1.68		
32" Row	1.57		
30" Row	1.48		

## **Directions for Chemigation Application - Peanuts Only**

- 1. Determine the size of the area to be treated.
- 2. Determine the time required to apply ¼ to ½ inch of water over the area to be treated when the system and injection equipment are operated at normal pressures as recommended by the equipment manufacturer.
- 3. Using water, determine the injection pump output when operated at normal line pressure.
- 4. Determine the amount of FLUTOLANIL 40SC fungicide required to treat the area covered by the irrigation system.
- 5. Add the required amount of FLUTOLANIL 40SC fungicide to the solution tank with sufficient water to meet the injection time requirements.
- 6. Make certain the system is fully charged with water before starting injection of the FLUTOLANIL 40SC fungicide solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
- 7. Maintain constant solution tank agitation during the entire injection period.
- 8. Stop injection equipment after treatment is completed. Continue to operate the system until the FLUTOLANIL 40SC fungicide solution has cleared the last sprinkler head. (Also see **Application and Calibration Techniques for Sprinkler Irrigation** section below).

## Application and Calibration Techniques for Sprinkler Irrigation

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set, or portable (wheel move, side roll, end tow, or hand move) irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system. 'Public water system' means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-

operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. Do not apply when wind speed favors drift beyond the area intended for treatment.

This product may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place; then refer to the appropriate directions provided for each type.

## A. Center Pivot, Motorized Lateral Move, and Traveling Gun Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump, of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems. Thoroughly mix specified amount of this product for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until this product has been cleared from last sprinkler head.

## B. Solid Set and Portable (Wheel Move, Side Roll, End Tow, or Hand Move) Irrigation Equipment

With stationary systems, an effectively designed in-line Venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used. Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a 30 to 45 minute period. Mix specified amount of this product for acreage to be covered with water so that the total mixture of this product plus water in the injection tank is equal to the quantity of water used during calibration, and operate entire system at normal pressures recommended by the manufacturer of injection equipment used, for amount of time established during calibration. Mixture in the chemical supply tank must be continuously agitated during the injection run. This product can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until this product has been cleared from last sprinkler head.

Potato (in-furrow use	only)			
Disease	Rate/Acre		Directions for Use	
Black scurf ( <i>Rhizoctonia solani</i> )	16 0 to 25 0	around and over t	row spray by directing spray uniformly the seed piece in a 4 to 8 inch band prior	
Powdery scab (Spongospora subterranea) Suppression only	16.0 to 25.0 fl oz/acre (0.475 to 0.742 lb ai/acre)	<ul> <li>Use the higher rate</li> </ul>	f 3 gallons of spray volume per acre. te where disease pressure is expected field has a history of <i>Rhizoctonia</i>	
In-Furrow Application	(see reference chart below)	<ul> <li>USE RESTRICTION</li> <li>Do not apply FLU through chemigat</li> </ul>	TOLANIL 40SC fungicide to potatoes	
	16.	.0 fl oz/acre	25.0 fl oz/acre	
Row Width		ounces Product/ 00 Row Ft.	Fluid Ounces Product/ 1000 Row Ft.	
40" Row	1.22		1.91	
38" Row	1.16		1.82	
36" Row	1.10		1.72	
34" Row	1.04		1.63	
32" Row		0.98	1.53	

Seed-piece tre	Seed-piece treatment - Potato			
Disease	Rate/Acre Using 0.5 fl oz/100 lbs seed		Directions for Use	
Black scurf	Planting Rate/Acre (Ibs cut seed)	Ib/ai/A	<ul> <li>Apply 0.5 fl oz of product per 100 lbs of seed pieces using a spray system or spray table equipped with shielding for this purpose.</li> </ul>	
Rhizoctonia stem canker	1,600	0.24	<ul> <li>Dilute in a 3:1 ratio, or less, of water to the product. Maintain agitation of the spray solution</li> </ul>	
(Rhizoctonia solani)	1,800	0.27	during application. • Dust formulations (with or without fungicides) may	
	2,000	0.30	be applied to the seed pieces following application of FLUTOLANIL 40SC fungicide.	
	2,200	0.33	Make sure application area is well-ventilated or made in areas with equipment to remove airborne	
	2,400	0.36	particles or mists.	

Rice				
Disease	Rate/Acre	Directions for Use		
		One Application Program		
Sheath blight ( <i>Rhizoctonia</i> <i>solani</i> )	12.0 to 32.0 fl oz/acre	<ul> <li>For ground application, use a minimum of 10 gallons of water per acre.</li> <li>For aerial application, use a minimum of 5 gallons of water</li> </ul>		
Solarii)	(0.356 to 0.950	per acre.		
	b ai/acre)	<ul> <li>Apply Flutolanil 40SC Fungicide at or near the first sign of disease development. Consult local extension authorities to determine proper application timing based on economic thresholds.</li> </ul>		
		Two Application Program		
	12.0 to 16.0 fl oz/acre	<ul> <li>For ground application, use a minimum of 10 gallons of water per acre.</li> <li>For aerial application, use a minimum of 5 gallons of water</li> </ul>		
	(0.356 to 0.475	per acre.		
	lb ai/acre)	<ul> <li>Apply Flutolanil 40SC Fungicide at or near the first sign of disease development. Consult local extension authorities to determine proper application timing based on economic thresholds.</li> </ul>		
		<ul> <li>Second application should be made 10 to 14 days after initial application.</li> </ul>		
USE RESTRICTIO	NS	•		

Do not apply more than 32.0 fl oz (0.950 lb ai) per acre per calendar year.
Do not apply within 30 days prior to harvest or beyond 75% heading development stage, whichever occurs first.

• This pesticide is toxic to shrimp. Do not apply this product within three miles of any estuarine/marine waterways or watershed.

Flooded fields may be used for aquaculture of crayfish only following rice harvest.

Seed Treatment - Cotton, Soybean, Sugar Beet			
Disease	Rate (fl oz/100 lbs seed)	Rate (Ib ai/100 Ibs seed)	Directions for Use
<i>Rhizoctonia</i> spp.	2.0 to 4.0 fl oz/100 lbs seed	0.06 to 0.12 lb ai/100 lbs seed	<ul> <li>Apply using a spray system, spray table, or seed treatment equipment for this purpose.</li> <li>If using a spray system, dilute 1 part product to three parts water or less. Maintain agitation of the spray solution during application.</li> <li>USE RESTRICTION</li> </ul>
			• Do not apply more than 4.0 fl oz (0.12 lb ai) per 100 lbs seed.

The purchaser of this product is responsible for ensuring that all seed treated with this product are adequately dyed with a suitable color to prevent accidental use as food for man or feed for animals. As indicated in 40 CFR 153.155 – seed treatment products, any dye added to treated seed must be cleared for use in accordance with 40 CFR 180.910, 180.920, 180.950, 180.2010 or 180.2020.

## Commercially treated seed must be labeled:

"This seed is treated with FLUTOLANIL 40SC fungicide, a flutolanil product. Do not use treated seed for food, feed, oil production or any other purpose except planting. Do not allow children, pets or livestock to have access to treated seeds. Wear long pants, long sleeved shirt and protective gloves when handling treated seed. Treated seeds exposed on soil surface may be hazardous to wildlife. Cover or collect treated seed spilled during loading and planting. Dispose of all excess treated seed by burying seed away from bodies of water. Do not contaminate bodies of water when disposing of planting equipment wash water. Dispose of seed packaging or containers in accordance with local requirements."

## FLUTOLANIL 40SC FUNGICIDE APPLICATION RATE CHART FOR TURF

#### **Use Information**

Flutolanil 40SC Fungicide is a systemic fungicide for control of Basidiomycete diseases on turf. This product has shown excellent safety on Kentucky bluegrass, annual bluegrass, annual and perennial ryegrass, red fescue, tall fescue, bentgrass, Bermudagrass, zoysiagrass, and St. Augustine grass.

#### **Use Restrictions for Turf Application**

For use rates greater than 4.4 fl oz per 1,000 square feet, do not apply Flutolanil 40SC Fungicide within 100 feet of any freshwater or marine estuary, ditches, drainage tiles, or other waterway that drains directly (within  $\frac{1}{2}$  mile) into estuaries. Do not apply more than 13.25 fl oz per 1,000 square feet per calendar year as a broadcast application.

#### **Applications**

Apply Flutolanil 40SC Fungicide at the dosage rates in the table below as a broadcast application in 2 to 5 gallons of water per 1,000 square feet. For best results, avoid mowing within 24 hours after application. Do not irrigate until sprays have dried. Flutolanil 40SC Fungicide may be tank mixed with other labeled fungicides if other diseases not listed on this label are present.

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions
Brown patch ( <i>Rhizoctonia solani</i> ) Preventive	2.2 to 3.25 fl oz	14 to 21	<ul> <li>Apply 2.2 to 3.25 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water prior to disease development.</li> <li>Repeat application after a 14 to 21 day interval if conditions favor disease development.</li> </ul>
Curative	4.4 fl oz	14	<ul> <li>Apply 4.4 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water to turf with active brown patch.</li> <li>Repeat application after a 14 day interval if conditions favor disease development.</li> </ul>

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions
Large Patch (or Zoysia Patch) ( <i>Rhizoctonia solani</i> )	3.25 fl oz	30	<ul> <li>Apply 3.25 fl oz of Flutolanil 40SC Fungicide per 1,000 sq ft.</li> <li>Apply Flutolanil 40SC Fungicide in the fall or spring for control of large brown patch on zoysiagrass.</li> <li>Disease control is more effective if made prior to or after initial symptom development.</li> <li>Apply by broadcast application using 2 to 5 gallons of water.</li> <li>Repeat 30 days later if symptoms persist.</li> <li>A nonionic surfactant is recommended for best results.</li> <li>Fall applications may suppress disease development in the following spring.</li> </ul>

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions	
Fairy Ring (caused by <i>Marasmius</i> spp., <i>Agaricus</i> spp., and <i>Lepiota</i> spp.) Preventive	3.25 fl oz	21 to 28	<ul> <li>Apply 3.25 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water for suppression of the development of fairy ring.</li> <li>A second application may be made at a 21 to 28 day interval if needed.</li> </ul>	
	6.6 fl oz	30	<ul> <li>Apply 6.6 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water for suppression of existing fairy ring colonies caused by various basidomycete pathogens.</li> <li>Application should be made to the area at the first sign of ring development.</li> <li>Aerification of the treatment area prior to application may assist in preventing further disease development.</li> <li>Use of a nonionic surfactant is recommended to maximize coverage and penetration of existing thatch and the upper soil layer.</li> <li>Treated areas should be irrigated prior to and following application to maintain healthy growth of turf.</li> <li>Repeat application after a 30 day interval if conditions continue to favor disease development.</li> </ul>	
USE RESTRICTION Do not treat more than 10,000 square feet per acre of continuous turf area.				

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions
Red Thread ( <i>Laetisaria fuciformis</i> ) Pink Patch ( <i>Limonomyces</i> <i>roseipellis</i> ) Yellow Patch ( <i>Rhizoctonia cerealis</i> ) Southern Blight ( <i>Sclerotium rolfsii</i> )	2.2 fl oz	21 to 28	<ul> <li>Apply 2.2 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water prior to or at the first sign of disease development.</li> <li>A second application may be made if needed at a 21 to 28 day interval.</li> </ul>

Disease	Rate per 1000 sq ft	Spray interval	Use Directions	
Gray Snow Mold ( <i>Typhula</i> spp)	4.4 to 6.6 fl oz	Before snow cover	<ul> <li>Apply 4.4 to 6.6 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water prior to snow cover.</li> <li>Use of a nonionic surfactant may enhance control.</li> <li>Flutolanil 40SC Fungicide may be tank mixed with other fungicides if Pink Snow Mold is present.</li> </ul>	
USE RESTRICTION				
Do not treat more than 10,000 square feet per acre of turf area.				

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions
Leaf and Sheath spot ( <i>Rhizoctonia zeae,</i> <i>Rhizoctonia oryzae</i> ) Preventive	3.25 to 4.4 fl oz	14 to 21	<ul> <li>Apply 3.25 to 4.4 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water for suppression of leaf and sheath spot.</li> <li>A second application may be made at a 14 to 21 day interval if needed.</li> </ul>
Curative	4.4 to 6.6 fl oz	14	<ul> <li>Apply 4.4 to 6.6 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water to turf with active leaf and sheath spot.</li> <li>Repeat application after a 14 day interval if conditions continue to favor disease development.</li> </ul>

Disease	Rate per 1000 sq ft	Spray interval (days)	Use Directions
Brown Ring Patch of zoysiagrass ( <i>Waitea circinata var</i> <i>circinata</i> ) Preventive	3.25 to 4.4 fl oz	30	<ul> <li>Apply prior to, or at first sign of, disease at a rate of 3.25 to 4.4 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water.</li> <li>A second application may be made 30 days after the first, if needed.</li> </ul>
Curative	4.4 to 6.6 fl oz	30	<ul> <li>Apply 4.4 to 6.6 fl oz per 1,000 square feet.</li> <li>Apply by broadcast application using 2 to 5 gallons of water if Brown Ring Patch is active.</li> <li>A second application may be made 30 days after the first, if needed.</li> </ul>

## STORAGE AND DISPOSAL

## Do not contaminate water, food, or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in original container, and keep tightly closed when not in use. Store in a cool, dry place.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

#### CONTAINER HANDLING:

#### Nonrefillable plastic container (Less than 5 gallons)

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## Nonrefillable plastic container (Greater than 5 gallons)

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Or, if too large to be tipped, rolled, or turned upside down, pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## Nonrefillable metal container (Greater than 5 gallons)

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Or, if too large to be tipped, rolled, or turned upside down, pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

## **Refillable plastic container**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Return to point of sale or offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by incineration or by other procedures approved by state and local authorities.

## **Refillable metal container**

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Return to point of sale or offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

## Refillable fiber drum with liner

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment or a mix tank. Return to point of sale or offer for recycling if available or reconditioning if appropriate or dispose of in a sanitary landfill or by incineration, or, if allowed by local and state authorities, by burning. If burned, stay out of smoke. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

## IMPORTANT: READ BEFORE USE

By using this product, user or buyer accepts the following conditions, warranty, disclaimer of warranties and limitations of liability.

**CONDITIONS:** The directions for use of this product are believed to be accurate and must be followed carefully. However, because of extreme weather and soil conditions, use methods and other factors beyond the control of Nichino America, Inc. (NAI), it is impossible for NAI to eliminate all risks associated with the use of this product. As a result, crop injury or ineffectiveness is always possible. To the extent consistent with applicable law, all such risks are assumed by the user or buyer.

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**LIMITATIONS OF LIABILITY:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE PAID, OR AT THE ELECTION OF NICHINO AMERICA, THE REPLACEMENT OF PRODUCT.

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## [Appendix]

# [Text that may be included on the container label or promotional information supporting this product:]

[For control of various diseases on brassica (cole) leafy vegetables, cotton, peanut, potato, rice, soybean, sugar beet, turf, turnip greens]