



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

November 19, 2018

Ms. Regiane Pereira  
Regulatory Manager  
Nichino America  
4550 Linden Hill Road  
Wilmington, DE 19808

Subject: PRIA Label Amendment – New Uses (First Food and Outdoor Uses)  
Product Name: Pyrifluquinazon Insecticide  
EPA Registration Number: 71711-37  
Application Date: August 1, 2016  
Decision Number: 520081

Dear Ms. Pereira:

The application referred to above, submitted under the Federal Insecticide, Fungicide and Rodenticide Act, as amended is acceptable under FIFRA sec 3 (c)(5). You must submit and/or cite all data required for registration/reregistration/registration review of your product when the Agency requires all registrants of similar products to submit such data.

A stamped copy of your labeling is attached for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

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.

Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance

Page 2 of 2  
EPA Reg. No. 71711-37  
Decision No. 520081

with FIFRA section 6. If you have any questions, please contact Debra Rate by phone at (703) 306-0309, or via email at [rate.debra@epa.gov](mailto:rate.debra@epa.gov).

Sincerely,

A handwritten signature in dark ink, appearing to read 'R. Gebken', written in a cursive style.

Richard Gebken  
Product Manager 10  
Invertebrate & Vertebrate Branch 2  
Registration Division (7505P)  
Office of Pesticide Programs

Attachment

**NICHINO**  
AMERICA®  
**Pyrifluquinazon Insecticide**

PYRIFLUQUINAZON GROUP 9B INSECTICIDE

**ACCEPTED**  
11/19/2018  
Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 71711-37

**Active Ingredient:**

**Pyrifluquinazon** 2(1H)-Quinazolinone,  
1-acetyl-3,4-dihydro-3-[(3-pyridinylmethyl)amino]-6-[1,2,2,2-tetrafluoro-1-(trifluoromethyl)ethyl]- ..... **20.2%**

**Other Ingredients:** ..... **79.8%**

**Total** ..... **100.0%**

Contains 1.87 lbs. active ingredient per U.S. gallon

**EPA Reg No. 71711-37**

**EPA Est. No.** \_\_\_\_\_

[Alternate brand names: PQZ™ Insecticide; Pyrifluquinazon 20% SC insecticide, Pyrifluquinazon 20SC insecticide, Rycar® insecticide]

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

<b>FIRST AID</b>	
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>HOTLINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this pesticide product, including human health concerns and medical emergencies, call 1-800-348-5832.	

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

[Manufactured in \_\_\_\_,] [formulated in \_\_\_\_,] [and] [packaged in \_\_] for:

**NICHINO AMERICA, INC.**  
4550 Linden Hill Rd, suite 501.  
Wilmington, DE 19808  
888-740-7700

## **PRECAUTIONARY STATEMENTS**

### **Hazards to Humans and Domestic Animals**

# **CAUTION**

Harmful if absorbed through skin. Harmful if swallowed. 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. Wear long-sleeved shirt and long pants, socks, shoes, and chemical-resistant gloves. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### **Personal Protective Equipment (PPE)**

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, made of barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, polyvinyl chloride (PVC)  $\geq$  14 mils, or Viton<sup>®</sup>  $\geq$  14 mils.
- 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 thoroughly 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.

#### **ENVIRONMENTAL HAZARDS**

- This pesticide is toxic to aquatic invertebrates.
- 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.

#### **Surface Water Advisory:**

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 medium potential for reaching both surface water and aquatic sediment via runoff for several days after application.

#### **Vegetative Buffer Zone Advisory:**

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 pyrifluquinazon 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.

### **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. Fill the container  $\frac{1}{4}$  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 other procedures approved by state and local authorities.

##### **[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  $\frac{1}{4}$  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. 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 other procedures approved by state and local authorities.

In case of fire or spills, information may be obtained by calling 1-800-424-9300.

## 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 state or tribal agency 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.

For early entry into 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, wear:

- Coveralls
- Chemical-resistant gloves, made of barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, polyvinyl chloride (PVC)  $\geq$  14 mils, or Viton<sup>®</sup>  $\geq$  14 mils
- Shoes plus socks

### **GENERAL INFORMATION**

PYRIFLUQUINAZON insecticide is formulated as a suspension concentrate containing 1.87 lbs. of active ingredient per gallon. PYRIFLUQUINAZON insecticide works primarily through contact action, by ingestion, and is translaminar.

PYRIFLUQUINAZON insecticide should be used in a program with other products to provide season long protection. Apply as a spray as directed in the "Application Directions" section of this label.

### **RESISTANCE MANAGEMENT**

For resistance management, Pyrifluquinazon Insecticide contains a Group 9B insecticide. Any insecticide population may contain individuals naturally resistant to Pyrifluquinazon Insecticide and other Group 9B insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

## [Sub-Label A: Outdoor Crop Use]

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of Pyrifluquinazon Insecticide or other Group 9B insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Nichino America representatives at 1-888-740-7700.

### **MIXING DIRECTIONS**

Shake well before using. Read and follow all label directions for each tankmix product prior to any tank mixing with PYRIFLUQUINAZON insecticide. This product can be mixed with other registered pesticides for use on labeled crops or sites, in accordance with the most restrictive use directions and precautions. Do not exceed any labeled dose rate.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**PYRIFLUQUINAZON Insecticide Alone:** Begin with clean equipment. Fill spray tank with  $\frac{3}{4}$  of the amount of water needed for the intended application and then turn on agitation. Pour recommended amount of product on the surface of water in the spray tank. Add the remaining water volume 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.

PYRIFLUQUINAZON insecticide is physically and biologically compatible with many registered pesticides, fertilizers, or micronutrients. Contact your supplier for advice when considering mixing PYRIFLUQUINAZON insecticide with other pesticides, fertilizers, or micronutrients. If you have no experience with the combination you are considering, you should conduct a test to determine physical compatibility. To determine physical compatibility, add the recommended proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

**PYRIFLUQUINAZON Insecticide Tank Mixtures:** Begin with clean equipment. Fill spray tank with  $\frac{3}{4}$  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  $\frac{3}{4}$  amount of water. 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 PYRIFLUQUINAZON insecticide)
- 5) emulsifiable concentrates
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

#### **APPLICATION DIRECTIONS**

- Applications should be made immediately after the spray solution is prepared.
- Apply with properly calibrated spray equipment.
- Apply by ground using the recommended water spray volume found in the **Application Rate Chart for PYRIFLUQUINAZON Insecticide** section of this label.
- Applications may be made by ground with high or low volume spray equipment that provides thorough spray coverage of the plant.
- Do not apply PYRIFLUQUINAZON insecticide through any type of irrigation system, except those described in the CHEMIGATION section.



[Sub-Label A: Outdoor Crop Use]

- For best results, apply when pest populations are beginning to build, before reaching economic thresholds. Consult your local agricultural advisor, state cooperative extension service, or regional Nichino America representative for further information.

**USE RECOMMENDATIONS**

- Use sufficient water volume to ensure thorough coverage of foliage. Thorough spray coverage is critical to obtain control of the target pest(s).
- Apply when pest populations are beginning to build, or as directed under application directions for specific crops.

**APPLICATION RESTRICTIONS**

- Chemigation is limited to [*Brassica* head and stem vegetables (crop group 5-16),] [cotton,] [cucurbit vegetables (crop group 9),] [fruiting vegetables (crop group 8-10),] [leaf petiole vegetables (crop subgroup 22B),] [leafy vegetables (crop group 4-16),] [tuberous and corm vegetables (crop subgroup 1C)] only.
- Do not apply by air.

**ROTATIONAL CROP RESTRICTIONS:**

Crop	Plantback Timing
All crops on this label	0 days after application
Herbs (Crop Subgroup 19A) Stalk and Stem Vegetable (Crop Subgroup 22A)	60 days after application
All other crops	365 days after application

**CHEMIGATION**

Apply this product alone or in combination with other products which are registered for application through irrigation systems.

- Apply this product only through center pivot, solid set, hand move, or moving wheel irrigation systems. Do not apply this product through any other type of irrigation system.
- Crop injury, lack of performance, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
- If you have questions about calibration, 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 unless the pesticide label-prescribed safety devices for public water systems are in place.
- 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.

### **Chemigation Systems Connected to Public Water Systems**

- 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 out of the year.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
- 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, or in cases where there is no water pump, 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.
- Apply by chemigation using a minimum of 0.10 to 0.25 acre-inches of water.

### **Sprinkler Chemigation**

- 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 backflow.
- 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.

[Sub-Label A: Outdoor Crop Use]

- 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.

### **Chemigation Calibration and Application Instructions**

Apply PYRIFLUQUINAZON insecticide under the schedule specified in the Use Directions, not according to the irrigation schedule unless the events coincide. The following calibration and application techniques are provided for user reference, but do not constitute a warranty of fitness for application through sprinkler irrigation equipment. Check with state and local regulatory agencies for potential use restrictions before applying any agricultural chemical through sprinkler irrigation equipment.

### **Center Pivot Irrigation Equipment:**

Notes: (1) Use only drive systems which provide uniform water distribution. (2) Do not use end guns when chemigating PYRIFLUQUINAZON insecticide to avoid non-uniform application. (3) Plug the first nozzle closest to the well head to protect the water source.

1. Determine the size of the area to be treated.
2. Determine the time required to apply  $\frac{1}{4}$  -  $\frac{1}{2}$  inch of water over the area to be treated when the system and injection system area operate at normal pressures as recommended by the equipment manufacturer. Run the system at 80-95% of the manufacturer's rated maximum travel speed.
3. Using water, determine the injection pump output when operated at normal line pressure.
4. Determine the amount of PYRIFLUQUINAZON insecticide and any tankmix partners required to treat the area covered by the irrigation system.
5. Add to the solution tank the required amount of PYRIFLUQUINAZON insecticide and tankmix partners, and sufficient water to meet the injection time requirements.
6. Make sure the system is fully charged with water before starting injection of the PYRIFLUQUINAZON insecticide solution. Time the injection to last at least as long as it takes to bring the system to full pressure.
7. Maintain constant agitation in the solution tank during the injection period.
8. Inject the specified amount of PYRIFLUQUINAZON insecticide per acre continuously for one complete revolution of the system.
9. Stop the injection equipment after treatment is completed. Continue to operate the system until the PYRIFLUQUINAZON insecticide solution has cleared all of the sprinkler heads.

[Sub-Label A: Outdoor Crop Use]

10. Allow time for all lines to flush the PYRIFLUQUINAZON insecticide solution through all nozzles before turning off irrigation water.
11. Apply using a minimum of 0.10 to 0.25 acre-inches of water.

**Solid Set, Hand Move, and Moving Wheel Irrigation Equipment:**

1. Determine the acreage covered by the sprinklers.
2. Fill injector solution tank with plain water and calibrate the flow rate of the system to deliver the contents of the tank over a 20-40 minute time interval.
3. Determine the amount of PYRIFLUQUINAZON insecticide required to treat the area covered by the irrigation system.
4. Add the required amount of PYRIFLUQUINAZON insecticide and any other tankmix partners into the same quantity of water used to calibrate the injection period.
5. Operate the system at the same pressure and time interval established during the calibration.
6. Inject specified amount of PYRIFLUQUINAZON insecticide per acre for: (1) a 20-40 minute period at the end of a regular irrigation set; or (2) as a 20-40 minute injection as a separate application not associated with a regular irrigation to maximize retention of the insecticide on the foliage.
7. Maintain constant agitation in the solution tank during the injection period.
8. Stop injection equipment after treatment is completed. Continue to operate the system until the PYRIFLUQUINAZON insecticide solution has cleared the last sprinkler head. To ensure lines are flushed and free from remaining pesticides, a dye indicator may be injected into the lines to mark the end of the application period.
9. Apply using a minimum of 0.10 to 0.25 acre-inches of water.

**Chemigation Monitoring:** A person knowledgeable of the chemigation system and equipment responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Follow the appropriate personal protective equipment (PPE) guidelines.

**SPRAY ADJUVANTS**

For maximum performance, the use of an agricultural spray adjuvant with PYRIFLUQUINAZON insecticide is recommended to increase spray coverage of the crops and pests being treated. Select an adjuvant that is labeled for agricultural use and follow its use directions.

**SPRAY DRIFT MANAGEMENT**

Avoid spray drift to all other crops and nontarget areas. Do not apply when weather conditions may cause drift. Do not allow this product to drift onto nontarget areas. Drift may result in illegal residues or injury to adjacent crops and vegetation.

## **AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.**

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

Droplet size, boom height, and wind speed are the primary factors determining drift. The specific application conditions required for the use of this product are described below.

### **Controlling Droplet Size – General Techniques:**

#### **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. Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. **WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**

#### **Boom Height:**

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

#### **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. Do not apply when wind speed is greater than 10 mph. Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY CONDITIONS. Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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 close to the ground and move laterally 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**

The pesticide should only be applied 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).

### **Shielded Sprayers**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with the uniform deposition of the product.

### **Air Assisted (Air Blast) Field Crop Sprayers**

Air assisted field crop sprayers carry droplets to the target via a downward directed air stream. Some may reduce the potential for drift, but if a sprayer is unsuitable for the application and/or set up improperly, high drift potential can result. It is the responsibility of the applicator to determine that a sprayer is suitable for the intended application, is configured properly, and that drift is not occurring.

**Note:** Air assisted field sprayers can affect product performance by affecting spray coverage and canopy penetration.

### **Air Assisted (Air Blast) Tree and Vine Sprayers**

Air assisted tree and vine sprayers carry droplets into the canopy of trees and vines via a radially or laterally directed air stream. In addition to the general drift management practices already described, the following specific practices will further reduce the potential for drift:

- Adjust the deflectors and aiming devices so that spray is only directed into the canopy.
- Block off upward pointed nozzles when there is no overhanging canopy.
- Use only enough air volume to penetrate the canopy and provide good coverage.
- Do not allow spray to go beyond the edge of the cultivated area. Spray the outside row only from outside the planting.

**APPLICATION RATE CHART FOR PYRIFLUQUINAZON INSECTICIDE**

<b>Brassica Head and Stem Vegetables (Crop Group 5-16) [Not for use in California]</b>		
broccoli; Brussels sprouts; cabbage; cabbage, Chinese napa; cauliflower; cultivars, varieties, and hybrids of these commodities		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not apply more than 14.4 fl oz (0.210 lb ai) per acre per year.</li> <li>• Do not make more than 6 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> </ul>
Whiteflies	1.6 to 3.2 fl oz  (0.023 to 0.047 lb ai)	

[Sub-Label A: Outdoor Crop Use]

<b>Citrus Fruits (Crop Group 10-10) [Not for use in California]</b>		
Australian desert lime; Australian finger lime; Australian round lime; Brown River finger lime; calamondin; citron; citrus hybrids; grapefruit; Japanese summer grapefruit; kumquat; lemon; lime; Mediterranean mandarin; Mount White lime; New Guinea wild lime; orange, sour; orange, sweet; pummelo; Russell River lime; satsuma mandarin; sweet lime; tachibana orange; Tahiti lime; tangelo; tangerine (mandarin, clementine); tangor; trifoliolate orange; uniq fruit; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Citrus thrips	6.4 fl oz (0.094 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 100 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply through any type of irrigation system.</li> <li>• Do not apply to citrus nurseries or citrus in greenhouses.</li> <li>• Do not apply by Alternate Row Middle (ARM) spray method.</li> <li>• In Florida, do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• In all other states, do not apply more than 12.8 fl oz (0.187 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> <li>• Do not apply this product while bees are foraging.</li> <li>• Do not apply this product until flowering is complete and all petals have fallen.</li> </ul>
Aphids	2.4 to 3.2 fl oz (0.035 to 0.047 lb ai)	

<b>Cotton [Not for use in California]</b>		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 7 days</li> </ul>
Whiteflies	1.6 to 3.2 fl oz (0.023 to 0.047 lb ai)	



[Sub-Label A: Outdoor Crop Use]

<b>Cucurbit Vegetables (Crop Group 9) [Not for use in California]</b>		
chayote (fruit); Chinese waxgourd (Chinese preserving melon); citron melon; cucumber; gherkin; gourd, edible (includes hyotan, cucuzza, hechima, Chinese okra); <i>Momordica spp</i> (includes balsam apple, balsam pear, bitter melon, Chinese cucumber); muskmelon (hybrids and/or cultivars of <i>Cucumis melo</i> ) (includes true cantaloupe, cantaloupe, casaba, crenshaw melon, golden pershaw melon, honeydew melon, honey balls, mango melon, Persian melon, pineapple melon, Santa Claus melon, and snake melon); pumpkin; squash, summer (includes crookneck squash, scallop squash, straightneck squash, vegetable marrow, zucchini); squash, winter (includes butternut squash, calabaza, hubbard squash, acorn squash, spaghetti squash); watermelon (includes hybrids and/or varieties of <i>Citrullus lanatus</i> ).		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not apply more than 9.6 fl oz (0.140 lb ai) per acre per year.</li> <li>• Do not make more than 4 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> </ul>
Leafhoppers	3.2 fl oz  (0.047 lb ai)	
Whiteflies	1.6 to 3.2 fl oz  (0.023 to 0.047 lb ai)	

[Sub-Label A: Outdoor Crop Use]

<b>Fruiting Vegetables (Crop Group 8-10) [Not for use in California]</b>		
African eggplant; bush tomato; cocona; currant tomato; eggplant; garden huckleberry; goji berry; groundcherry; martynia; naranjilla; okra; pea eggplant; pepino; pepper, bell; pepper, nonbell; roselle; scarlet eggplant; sunberry; tomatillo; tomato; tree tomato; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not apply more than 9.6 fl oz (0.140 lb ai) per acre per year.</li> <li>• Do not make more than 4 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> </ul>
Leafhoppers	3.2 fl oz  (0.047 lb ai)	
Whiteflies	1.6 to 3.2 fl oz  (0.023 to 0.047 lb ai)	

<b>Leaf Petiole Vegetables (Crop Subgroup 22B) [Not for use in California]</b>		
cardoon; celery; celery, Chinese; fuki; rhubarb; udo; zuiki; cultivars, varieties, and hybrids of these commodities		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not apply more than 14.4 fl oz (0.210 lb ai) per acre per year.</li> <li>• Do not make more than 6 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> </ul>
Whiteflies	1.6 to 3.2 fl oz  (0.023 to 0.047 lb ai)	

[Sub-Label A: Outdoor Crop Use]

<b>Leafy Vegetables (Crop Group 4-16) [Not for use in California]</b>		
amaranth, Chinese; amaranth, leafy; arugula; aster, Indian; blackjack; broccoli, Chinese; broccoli raab; cabbage, abyssinian; cabbage, Chinese, bok choy; cabbage, seakale; cat's whiskers; cham-chwi; cham-na-mul; chervil, fresh leaves; chipilin; chrysanthemum, garland; cilantro, fresh leaves; collards; corn salad; cosmos; cress, garden; cress, upland; dandelion, leaves; dang-gwi, leaves; dillweed; dock; dol-nam-mul; ebolo; endive; escarole; fameflower; feather cockscomb; Good King Henry; hanover salad; huauzontle; jute, leaves; kale; lettuce, bitter; lettuce, head; lettuce, leaf; maca, leaves; mizuna; mustard greens; orach; parsley, fresh leaves; plantain, buckhorn; primrose, English; purslane, garden; purslane, winter; radicchio; radish, leaves; rape greens; rocket, wild; shepherd's purse; spinach; spinach, Malabar; spinach, New Zealand; spinach, tanier; Swiss chard; turnip greens; violet, Chinese, leaves; watercress; cultivars, varieties, and hybrids of these commodities		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• For applications made to watercress, production fields must be drained of water at least 24 hours prior to application and water must not be reapplied to the field for a minimum of 24 hours following the application.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not apply more than 14.4 fl oz (0.210 lb ai) per acre per year.</li> <li>• Do not make more than 6 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 1 day</li> </ul>
Whiteflies	1.6 to 3.2 fl oz  (0.023 to 0.047 lb ai)	

[Sub-Label A: Outdoor Crop Use]

<b>Pome Fruits (Crop Group 11-10) [Not for use in California]</b>		
apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids (excluding woolly apple aphid)	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 100 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply through any type of irrigation system.</li> <li>• Do not apply by Alternate Row Middle (ARM) spray method.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 14 days</li> </ul>

<b>Small Fruit Vine Climbing (Crop Subgroup 13-07F) excluding fuzzy kiwifruit [Not for use in California]</b>		
Amur River grape; gooseberry; grape; kiwifruit, hardy; Maypop; schisandra berry; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Leafhoppers Mealybugs	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 100 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply through any type of irrigation system.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 3 days</li> </ul>

[Sub-Label A: Outdoor Crop Use]

<b>Stone Fruits (Crop Group 12-12) [Not for use in California]</b>		
apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; sloe; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 100 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply through any type of irrigation system.</li> <li>• Do not apply by Alternate Row Middle (ARM) spray method.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 7 days</li> </ul>

[Sub-Label A: Outdoor Crop Use]

<b>Tree Nuts (Crop Group 14-12) [Not for use in California]</b>		
African nut-tree; almond; beechnut; Brazil nut; Brazilian pine; bunya; bur oak; butternut; Cajou nut; candlenut; cashew; chestnut; chinquapin; coconut; coquito nut; dika nut; ginkgo; Guiana chestnut; hazelnut (filbert); heartnut; hickory nut; Japanese horse-chestnut; macadamia nut; mongongo nut; monkey-pot; monkey puzzle nut; Okari nut; Pachira nut; peach palm nut; pecan; pequi; Pili nut; pine nut; pistachio; Sapucaia nut; tropical almond; walnut, black; walnut, English; yellowhorn; cultivars, varieties, and/or hybrids of these		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 100 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• Do not apply through any type of irrigation system.</li> <li>• Do not apply by Alternate Row Middle (ARM) spray method.</li> <li>• Do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 7 days between applications.</li> <li>• Preharvest interval (PHI): 7 days</li> </ul>
Mealybugs	3.2 fl oz  (0.047 lb ai)	

<b>Tuberous and Corm Vegetables (Crop Subgroup 1C) [Not for use in California]</b>		
arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; canna, edible; cassava, bitter and sweet; chayote (root); chufa; dasheen (taro); ginger; leren; potato; sweet potato; tanier; turmeric; yam bean; yam, true		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Directions for Use</b>
Aphids	2.4 to 3.2 fl oz  (0.035 to 0.047 lb ai)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• Apply by ground using a minimum of 20 gallons of water per acre.</li> <li>• Do not apply by air.</li> <li>• In Florida, do not apply more than 4.8 fl oz (0.070 lb ai) per acre per year.</li> <li>• In all other states, do not apply more than 6.4 fl oz (0.094 lb ai) per acre per year.</li> <li>• Do not make more than 2 applications per year.</li> <li>• Allow a minimum of 14 days between applications.</li> <li>• Preharvest interval (PHI): 14 days</li> <li>• Do not feed tops to livestock.</li> </ul>
Potato psyllid	3.2 fl oz  (0.047 lb ai)	

**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.

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of NAI is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, NAI disclaims any liability whatsoever for incidental or consequential damages, including, but not limited to, liability arising out of breach of contract, express or implied warranty (including warranties of merchantability and fitness for a particular purpose), tort, negligence, strict liability, or otherwise.

**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.

**Protected by Patent Number 645535**

PQZ is a trademark of Nichino America, Inc.

Rycar and Nichino America logo are registered trademarks of Nichino America, Inc.

Viton is a registered trademark of E.I. du Pont de Nemours and Company

©2018 Nichino America, Inc.

**For Indoor Greenhouse Use on Lettuce, Tomato, Pepper, Cucumber, and Ornamental Plants**

**DIRECTIONS FOR USE**

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

**Use of this product in residential areas is prohibited.**

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 state or tribal agency 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.

For early entry into 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, wear:

- Coveralls
- Chemical-resistant gloves, made of barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, polyvinyl chloride (PVC)  $\geq$  14 mils, or Viton<sup>®</sup>  $\geq$  14 mils.
- Shoes plus socks

**GENERAL INFORMATION**

PYRIFLUQUINAZON Insecticide is formulated as a suspension concentrate containing 1.87 lbs. of active ingredient per gallon. PYRIFLUQUINAZON Insecticide works primarily through contact action, by ingestion, and is translaminar.

PYRIFLUQUINAZON Insecticide should be used in a program with other products to provide season long protection. Apply as a spray as directed in the "Application Directions" section of this label.

**RESISTANCE MANAGEMENT**

For resistance management, Pyrifluquinazon Insecticide contains a Group 9B insecticide. Any insecticide population may contain individuals naturally resistant to Pyrifluquinazon Insecticide and other Group 9B insecticides. The resistant individuals



## [Sub-Label B: Greenhouse Crop and Greenhouse Ornamental Use]

may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay insecticide/acaricide resistance, take the following steps:

- Rotate the use of Pyriproxyfen Insecticide or other Group 9B insecticides within a growing season, or among growing seasons, with different groups that control the same pests.
- Use tank mixtures with insecticides from a different group that are equally effective on the target pest when such use is permitted. Do not rely on the same mixture repeatedly for the same pest population. Consider any known cross-resistance issues (for the targeted pests) between the individual components of a mixture. In addition, consider the following recommendations provided by the Insecticide Resistance Action Committee (IRAC):
  - Individual insecticides selected for use in mixtures should be highly effective and be applied at the rates at which they are individually registered for use against the target species.
  - Mixtures with components having the same IRAC mode of action classification are not recommended for insect resistance management.
  - When using mixtures, consider any known cross-resistance issues between the individual components for the targeted pest(s).
  - Mixtures become less effective if resistance is already developing to one or both active ingredients, but they may still provide pest management benefits.
  - The insect resistance management benefits of an insecticide mixture are greatest if the two components have similar periods of residual insecticidal activity. Mixtures of insecticides with unequal periods of residual insecticide activity may offer an insect resistance management benefit only for the period where both insecticides are active.
- Adopt an integrated pest management program for insecticide/acaricides use that includes scouting, uses historical information related to pesticide use, crop rotation, record keeping, and which considers cultural, biological and other chemical control practices.
- Monitor after application for unexpected target pest survival. If the level of survival suggests the presence of resistance, consult with your local university specialist or certified pest control advisor.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance contact Nichino America representatives at 1-888-740-7700.

### **MIXING DIRECTIONS**

Shake well before using. Read and follow all label directions for each tankmix product prior to any tank mixing with PYRIFLUQUINAZON Insecticide. This product can be mixed with other registered pesticides for use on labeled crops or sites, in accordance with the most restrictive use directions and precautions. Do not exceed any labeled dose rate.

It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

**PYRIFLUQUINAZON Insecticide Alone:** Begin with clean equipment. Fill spray tank with  $\frac{3}{4}$  of the amount of water needed for the intended application and then turn on agitation. Pour recommended amount of product on the surface of water in the spray tank. Add the remaining water volume 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.

**PYRIFLUQUINAZON Insecticide** is physically and biologically compatible with many registered pesticides, fertilizers, or micronutrients. Contact your supplier for advice when considering mixing PYRIFLUQUINAZON Insecticide with other pesticides, fertilizers, or micronutrients. If you have no experience with the combination you are considering, you should conduct a test to determine physical compatibility. To determine physical compatibility, add the recommended proportions of each chemical with the same proportion of water, as will be present in the chemical supply tank, into a suitable container, mix thoroughly and allow to stand for five minutes. If the combination remains mixed, or can be readily re-mixed, the mixture is considered physically compatible.

**PYRIFLUQUINAZON Insecticide Tank Mixtures:** Begin with clean equipment. Fill spray tank with  $\frac{3}{4}$  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  $\frac{3}{4}$  amount of water. 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 PYRIFLUQUINAZON Insecticide)
- 5) emulsifiable concentrates
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

## **APPLICATION DIRECTIONS**

The use directions for this product are based on the results of product testing programs on a wide variety of plants. No evidence of phytotoxic effects was observed. However, not all plant species and their varieties and cultivars have been tested with possible tank-mix combinations, sequential pesticide treatments, and adjuvants and surfactants. Local conditions also can influence crop tolerance and may not match those under which testing has been conducted. Therefore, before using PYRIFLUQUINAZON Insecticide, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur as a result of applications.

## [Sub-Label B: Greenhouse Crop and Greenhouse Ornamental Use]

PYRIFLUQUINAZON Insecticide works primarily through contact action, by ingestion, and is translaminar, so thorough spray coverage is necessary for control of listed insects on the label. Applications should be made immediately after the spray solution is prepared. Under severe insect pressure, use the maximum rates and the shorter spray interval as specified on the label. Dense foliage or excessive growth will often prevent adequate coverage; adjust spray volumes accordingly. Mix with sufficient water and apply as a foliar spray to obtain uniform coverage. Treat plants when pests are immature or at a susceptible stage and populations are building, before crop damage occurs.

Applications may be made with high or low volume spray equipment that provides thorough coverage of the plant. Apply with properly calibrated spray equipment. A wetting agent or other spray adjuvant, approved for use on the crop, may be added to spray solutions according to the manufacturer's use instructions to achieve optimum control.

### **USE RECOMMENDATIONS**

Apply in sufficient water to obtain complete coverage of all plant parts. Follow the spray equipment manufacturer's directions to determine the amount of spray solution required to obtain thorough coverage. Consult the spray equipment manufacturer's operator's manual, spray nozzle catalogs and/or your crop advisor for more information.

### **APPLICATION RESTRICTIONS**

Chemigation is limited to [greenhouse lettuce,] [greenhouse tomato,] [greenhouse pepper,] [and] [greenhouse cucumber] only.

### **CHEMIGATION**

Apply PYRIFLUQUINAZON Insecticide only through overhead irrigation, or handheld or motorized calibrated irrigation equipment.

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. Do not connect an irrigation system used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts.

The normal dilution ratio is 1:10 to 1:200, depending on the system. Always meter the product into the irrigation water during the first part of the irrigation cycle. The product may be mixed separately prior to injection. Agitation may be necessary if the mixture is allowed to stand more than 24 hours.

Remove scale, pesticide residue and other foreign matter from the tank and entire irrigation system.

**Chemigation Monitoring:** A person knowledgeable of the chemigation system and equipment responsible for its operation, or under the supervision of a responsible person, shall shut the system down and make necessary adjustments should the need arise. Follow the appropriate personal protective equipment (PPE) guidelines.

#### **USE RESTRICTIONS FOR INDOOR GREENHOUSE USE**

- **Florida:** Do not compost any discarded plant materials that have been treated within this product.
- Do not apply this product as a smoke or aerosol.
- Do not harvest cut flowers for 48 hours after spraying.
- Do not compost any discarded plant materials that have been treated with this product.
- Do not apply this product to plants used for food or animal feed that are not listed on this label.
- Do not apply to fruit trees and vines that will bear harvestable fruit within 12 months.

#### **CONTROLLING PESTICIDE RUNOFF IN GREENHOUSES**

Do not allow pesticide spray solution to run off outside of the application area. Do not use in greenhouses that discharge irrigation runoff to surface water drains. If applied in an area with a non-permeable floor and a floor drainage system, excess application spray or irrigation runoff must be collected and subjected to secondary wastewater treatment.

**APPLICATION RATE CHART FOR PYRIFLUQUINAZON INSECTICIDE**

<b>GREENHOUSE CUCUMBERS, LETTUCE, PEPPERS, AND TOMATOES</b>		
<b>[Not for use in California]</b>		
<b>Pest</b>	<b>Dilution Rate</b>	<b>Directions for Use</b>
Whiteflies	1.6 to 3.2 fl oz / 100 gallons  47 to 95 mL / 100 gallons  (0.023 to 0.047 lb ai / 100 gallons)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• 100 gallons of finished spray solution will typically cover 20,000 sq. ft. of greenhouse.</li> <li>• .</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Lettuce, tomatoes and cucumbers: Allow a minimum of 10 days between applications.</li> <li>• Peppers: Allow a minimum of 7 days between applications.</li> <li>• Preharvest Interval (PHI): 1 day</li> <li>• Do not apply in Ultra Low Volume Equipment.</li> </ul>
Aphids	2.4 to 3.2 fl oz / 100 gallons  71 to 95 mL / 100 gallons  (0.035 to 0.047 lb ai / 100 gallons)	
Leafhoppers (except lettuce)	3.2 fl oz / 100 gallons  95 mL / 100 gallons  (0.047 lb ai / 100 gallons)	

[Sub-Label B: Greenhouse Crop and Greenhouse Ornamental Use]

<b>GREENHOUSE ORNAMENTAL PLANTS</b>		
<b>Pests</b>	<b>Dilution Rate</b>	<b>Directions for Use</b>
Whiteflies	1.6 to 3.2 fl oz / 100 gallons 47 to 95 mL / 100 gallons (0.023 to 0.047 lb ai / 100 gallons)	<b>USE RESTRICTIONS</b> <ul style="list-style-type: none"> <li>• 100 gallons of finished spray solution will typically cover 20,000 sq. ft. of greenhouse.</li> <li>• Do not apply more than 12.8 fl oz or 378 mL (0.187 lb ai) per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Allow a minimum of 10 days between applications.</li> <li>• Use in sufficient volume to obtain uniform plant coverage.</li> <li>• Do not harvest cut flowers for 48 hours after spraying.</li> </ul>
Aphids Leafhoppers Chilli Thrips	2.4 to 3.2 fl oz / 100 gallons 71 to 95 mL / 100 gallons (0.035 to 0.047 lb ai / 100 gallons)	
Mealybugs	6.4 fl oz / 100 gallons 189 mL / 100 gallons (0.094 lb ai / 100 gallons)	

**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.

**DISCLAIMER OF WARRANTIES:** TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE, WHICH EXTEND BEYOND THE STATEMENTS MADE ON THIS LABEL. No agent of NAI is authorized to make any warranties beyond those contained herein or to modify the warranties contained herein. To the extent consistent with applicable law, NAI disclaims any liability whatsoever for incidental or consequential damages, including, but not limited to, liability arising out of breach of contract, express or implied warranty (including warranties of merchantability and fitness for a particular purpose), tort, negligence, strict liability, or otherwise.

**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.

**Protected by Patent Number 645535**

PQZ is a trademark of Nichino America, Inc.

Rycar and Nichino America logo are registered trademarks of Nichino America, Inc.

Viton is a registered trademark of E.I. du Pont de Nemours and Company

©2018 Nichino America, Inc.