

71711-31

12/23/2013

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Ms. Marie Maks
Senior Manager, Regulatory Affairs
Nichino America, Inc.
4550 New Linden Hill Road, Suite 501
Wilmington, DE 19808

DEC 23 2013

Subject: Label Amendment – Adding First Food Uses
Product Name: Tolfenpyrad 15EC Insecticide
EPA Registration Number: 71711-31
Submission Date: September 29, 2010
Decision Number: 440583
Associated Tolerance Petition: 0F7791

Dear Ms. Maks:

The label amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is **acceptable**.

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.

Products released for shipment after 18 months from the date on this notice or the next printing of the master label whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA. Your release for shipment of this product constitutes acceptance of these conditions. As required by 40 CFR 156.10(6), you must submit one copy of the final printed label before the product is released for shipment.

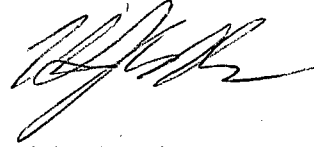
If you have any questions regarding this action, please feel free to contact me.

SEE NEXT PAGE

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Sincerely,



Michael Walsh
Acting Product Manager (13)
Insecticide Branch
Registration Division

Enclosure

3 8 26

GROUP 21A INSECTICIDE

ACCEPTED

DEC 23 2013

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.

71711-31

NICHINO AMERICA

TOLFENPYRAD 15EC Insecticide

Active Ingredient:

Tolfenpyrad

(4-chloro-3-ethyl-1-methyl-N-[4-(p-tolyloxy)benzyl]pyrazole-5-carboxamide) 15.0%

Other Ingredients* 85.0%

Total 100.0%

Contains 1.29 lbs active ingredient per U.S. gallon

*Contains petroleum distillates

EPA Reg. No. 71711-31

EPA Est. No. _____

[Alternate brand name: Hachi-Hachi® Insecticide, Rycar™ Insecticide, Torac™ Insecticide]

KEEP OUT OF REACH OF CHILDREN WARNING - AVISO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

FIRST AID

Table with 2 columns: Condition (If swallowed, If on skin or clothing, If in eyes, If inhaled) and First Aid instructions.

HOT LINE NUMBER

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-348-5832 for emergency medical treatment information. In case of fire or spills, information may be obtained by calling 1-800-424-9300.

NOTE TO PHYSICIAN: There is no specific antidote. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

Net Contents: _____

NICHINO AMERICA, INC. 4550 New Linden Hill Road Wilmington, DE 19808 888-740-7700

PRECAUTIONARY STATEMENTS
Hazards to Humans and Domestic Animals
WARNING - AVISO

May be fatal if swallowed. Causes skin irritation. Causes substantial but temporary eye injury. Harmful if absorbed through skin. Harmful if inhaled. Avoid breathing spray mist. Do not get in eyes, on skin or clothing. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of material such as barrier laminate or Viton
- Chemical-resistant footwear plus socks
- Protective eyewear (goggles, face-shield or safety glasses)
- When mixing and loading wear a chemical-resistant apron

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 thoroughly with soap and water after handling and 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.
- Discard clothing and personal protective equipment that cannot be reused, including clothing and other absorbent materials that have been drenched or thoroughly contaminated with this product's concentrate.
- Wash clothing and personal protective equipment (including both the inside and outside of gloves) before each day of reuse according to manufacturer's directions or, if no such directions, in detergent and hot water. Keep and wash PPE separately from other laundry.

ENGINEERING CONTROLS STATEMENT

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 pesticide is very highly toxic to fish and aquatic invertebrates.

For terrestrial uses, 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 apply when weather conditions favor drift from treated areas. Drift and runoff may be hazardous to aquatic organisms in water adjacent to

treated areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.


This product is highly toxic to bees and other pollinating insects exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees or other pollinating insects are visiting the treatment area. Application must be made at least 8 hours prior to bees foraging.

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 medium to high potential for reaching both surface water and aquatic sediment via runoff for several weeks after application. A level, well-maintained vegetative filter (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 this chemical from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

PROTECTION OF POLLINATORS



APPLICATION RESTRICTIONS EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon  in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at:

<http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to: www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at: www.npic.orst.edu or directly to EPA at: beekill@epa.gov

ENDANGERED SPECIES RESTRICTIONS

This product may pose a hazard to endangered aquatic species. Follow all use directions.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

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.



1. FOR CROPS UNDER CONTRACTED POLLINATION SERVICES

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless the following condition has been met. If an application must be made when managed bees are at the treatment site, the beekeeper providing the pollination services must be notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.



2. FOR FOOD CROPS AND COMMERCIALY GROWN ORNAMENTALS NOT UNDER CONTRACT FOR POLLINATION SERVICES BUT ARE ATTRACTIVE TO POLLINATORS

Do not apply this product while bees are foraging. Do not apply this product until flowering is complete and all petals have fallen unless one of the following conditions is met:

- The application is made to the target site after sunset
- The application is made to the target site when temperatures are below 55°F
- The application is made in accordance with a government-initiated public health response
- The application is made in accordance with an active state administered apiary registry program where beekeepers are notified no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying
- The application is made due to an imminent threat of significant crop loss, and a documented determination consistent with an IPM plan or predetermined economic threshold is met. Every effort should be made to notify beekeepers no less than 48-hours prior to the time of the planned application so that the bees can be removed, covered or otherwise protected prior to spraying.

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 worn over short-sleeved shirt and short pants
- Chemical-resistant gloves made of material such as barrier laminate or Viton
- Chemical-resistant footwear plus socks
- Protective eyewear (goggles, face-shield or safety glasses)

NONAGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses. Do not enter or allow people (or pets) to enter the treated areas until sprays have dried.

USE INFORMATION

TOLFENPYRAD 15EC insecticide is formulated as an emulsifiable concentrate containing 1.29 lbs of active ingredient tolfenpyrad per gallon. This product is a contact insecticide used for the control of several orders of insects. Complete and thorough spray coverage is necessary for maximum results. TOLFENPYRAD 15EC 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.

Mix with sufficient water and apply as a foliar spray to obtain uniform coverage. Adjust water volumes and tractor speed accordingly for crops with dense foliage or excessive growth. Unless otherwise specified under Application Directions, apply when pest populations are beginning to build, before crop damage or injury is observed. Consult your local agricultural advisor or state cooperative extension service for recommendations.

DIRECTIONS FOR USE OF TOLFENPYRAD 15EC INSECTICIDE AS A FUNGICIDE

For crops and diseases where the level of activity of Tolfenpyrad 15EC insecticide is listed as "control," this product may be used alone as a contact fungicide or mixed with other registered fungicide products to broaden spectrum of disease control. For crops and diseases where the level of activity of Tolfenpyrad 15EC insecticide is listed as "suppression" this product should NOT be substituted for labeled fungicidal products.

APPLICATION DIRECTIONS

- Applications should be made immediately after the spray solution is prepared.
- Thorough spray coverage is critical to obtain control of the target pest(s).
- Applications may be made by air or ground with high or low volume spray equipment that provides thorough spray coverage of the plant.
- For ground applications, use coarse droplet size
- For aerial applications, use larger droplet size (greater than 200 microns).
- Use sufficient water volume to ensure thorough coverage of foliage.
- Do not apply TOLFENPYRAD 15EC insecticide through any type of irrigation system except those described in the CHEMIGATION section.
- **RESTRICTION:** Not for sale or use in the state of New York.

BUFFER ZONES

Vegetative Filter (Buffer) Strip

All crops except tree nut (crop group 14-12): 15 foot vegetative filter (buffer) strip

Tree nut (crop group 14-12): 25 foot vegetative filter (buffer) strip

Construct and maintain the vegetative filter (buffer) strip of grass or other permanent vegetation between field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds). Only apply products containing tolfenpyrad onto fields where a maintained vegetative filter (buffer) strip of at least 15 feet exists between the field edge and down gradient aquatic habitat. For guidance, refer to the following publication for information on constructing and maintaining effective buffers: Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, <http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>

Buffer Zone for Ground Application

Do not apply within 15 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

Buffer Zone for Aerial Application

Do not apply within 150 feet of aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

CHEMIGATION

For chemigation use in potato and vegetable crops only. TOLFENPYRAD 15EC insecticide may be applied only through overhead center pivot, solid set, hand move and moving wheel 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 TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC insecticide solution has cleared all of the sprinkler heads.
10. Allow time for all lines to flush the TOLFENPYRAD 15EC insecticide solution through all nozzles before turning off irrigation 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 TOLFENPYRAD 15EC insecticide required to treat the area covered by the irrigation system.
4. Add the required amount of TOLFENPYRAD 15EC 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 TOLFENPYRAD 15EC 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. Stop injection equipment after treatment is completed. Continue to operate the system until the TOLFENPYRAD 15EC 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.

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 Tolfenpyrad 15EC insecticide is recommended to increase spray coverage of the plants and pests being treated. Select an adjuvant that is labeled for agricultural use and follow its use directions.

CROP ROTATION RESTRICTIONS:

CROP/CROP GROUP	PLANTBACK TIMING
All crops on this label	0 days following application
All other crops	14 days following application

FOR DIRECT-SEEDED AND TRANSPLANTED LEAFY VEGETABLES (Crop Group 4)

Do not apply Tolfenpyrad 15EC insecticide until at least fourteen (14) days after emergence or after transplanting to allow time for root establishment. This period of time should be extended if conditions at time of emergence or transplanting are not favorable to crop growth.

USE LIMITATIONS AND PRECAUTIONS FOR GREENHOUSE ORNAMENTAL CROPS

- Do not apply this product as a smoke or aerosol.
- Do not apply to *Salvia* spp., *Impatiens* spp., *Gypsophila* spp. and New Guinea impatiens due to potential crop injury.
- Do not apply to Poinsettias with bracts with color.
- In Florida, do not use on bearing or nonbearing commercial fruit trees and vines.
- Do not use this product through any type of irrigation system.

RESISTANCE MANAGEMENT

Tolfenpyrad 15EC insecticide contains the active ingredient tolfenpyrad, an IRAC Group 21A insecticide. Use of the same mode of action repeatedly in the same field or area may result in reduced control and/or insect resistance. Unless targeting a single generation of a pest, Tolfenpyrad 15EC insecticide applications should be alternated with other insecticidal modes of action. If targeting a single generation of a pest, do not apply more than two consecutive applications of Tolfenpyrad 15EC insecticide before rotating to an insecticide with a different mode of action.

Resistance management strategies recommend that you DO NOT apply rates lower than recommended on the label. Contact your local extension specialist or certified crop adviser for additional Insecticide Resistance Management (IRM) or IPM recommendations. For more information about IRM visit the Insecticide Resistance Action Committee (IRAC) website at <http://www.irac-online.org>.

MIXING DIRECTIONS

Shake well before using. Read and follow all label directions for each tankmix product prior to any tank mixing with TOLFENPYRAD 15EC 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. No labeled dose rate should be exceeded.

TOLFENPYRAD 15EC insecticide is physically and biologically compatible with many registered pesticides, fertilizers or micronutrients. Contact your supplier for advice when considering mixing TOLFENPYRAD 15EC 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.

TOLFENPYRAD 15EC Insecticide Alone: Begin with clean equipment. Fill spray tank with ¼ 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.

TOLFENPYRAD 15EC Insecticide Tank Mixtures: Begin with clean equipment. Fill spray tank with ¼ 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 ¾ 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
- 5) emulsifiable concentrates (including Tolfenpyrad 15EC insecticide)
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

COMPATIBILITY STATEMENT REGARDING CERTAIN FUNGICIDE PRODUCTS

Tolfenpyrad 15EC insecticide has been found to be compatible in mixes with several different fungicide products and has been found to be safe to labeled crops under most conditions. However, care should be taken when applying Tolfenpyrad 15EC insecticide in tankmixes with fungicide products in FRAC Group 3 (sterol biosynthesis inhibitors) and FRAC Group 11 (QOL) if environmental conditions are known to be conducive to adverse crop response to those products.

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. To avoid spray drift, DO NOT apply aerially when wind speed is greater than 10 mph or during periods of temperature inversions. Use of larger droplet size will also reduce spray drift.

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.

Controlling Droplet Size – Aircraft:

Number of Nozzles

Use the minimum number of nozzles with the highest flow rate 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.

Boom Height and Length – Ground and Aircraft:

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

Boom Height (aircraft): Application more than 10 feet above the canopy increases the potential for spray drift.

Boom Length (aircraft): The minimum boom length should not exceed $\frac{3}{4}$ of the wing length; using shorter booms decreases drift potential. For helicopters, the minimum boom length should not exceed $\frac{9}{10}$ of the rotary blade to prevent droplets from entering the rotor vortices.

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 must be avoided below 2 mph due to variable wind direction and high inversion potential. AVOID GUSTY OR WINDLESS 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. Consult the application equipment section of this label to determine if use of an air assisted sprayer is recommended.

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.

INDOOR GREENHOUSE USE ON ORNAMENTAL CROPS

ORNAMENTAL PLANTS: Tolfenpyrad 15EC insecticide is recommended for use on ornamental plants. The use directions of this product are based on the results of product testing programs on a wide variety of ornamental plants. However, it is impossible to test this product on all species and cultivars. The phytotoxicity of Tolfenpyrad 15EC insecticide has been assessed on a wide variety of common ornamental plants with no phytotoxic effects. However, not all plant species and their varieties and cultivars have been tested with possible tankmix 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 Tolfenpyrad 15EC 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.

Tolfenpyrad 15EC insecticide works primarily through contact action, so good 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.

Tolfenpyrad 15EC insecticide has been tested on a wide variety of common finished greenhouse crops (listed below). For greenhouse crops not listed below and all young herbaceous crops, such as bedding plant plugs, the user should test the tolerance of Tolfenpyrad 15EC insecticide on a small area under their local conditions and observe treated crops for 4 to 7 days prior to broad scale use. Tolfenpyrad 15EC insecticide is recommended for use on ornamental plantings listed below.

List of Plant Species Tested for Tolerance to Tolfenpyrad 15EC Insecticide¹

Common Name	Scientific Name
Arrowwood	<i>Viburnum spp.</i>
Ash	<i>Fraxinus spp.</i>
Cherry	<i>Prunus spp.</i>
Chrysanthemum	<i>Chrysanthemum spp.</i>
Coleus	<i>Solenostemon spp.</i>
Evening Primrose	<i>Oenothera spp.</i>
Gerbera (Transvaal Daisy)	<i>Gerbera spp.</i>
Gladiolus	<i>Gladiolus spp.</i>
Lantana (Yellow Sage)	<i>Lantana camera</i>
Marigold	<i>Tagetes spp.</i>
Moss Rose	<i>Portulaca spp.</i>
Petunia ²	<i>Petunia spp.</i>
Poinsettia ³	<i>Euphorbia pulcherrima</i>
Schefflera	<i>Brassaia actinophylla</i>
Yew	<i>Taxus media</i>

1. Local conditions can influence crop tolerance and may not match those under which these species were tested. Before using **Tolfenpyrad 15EC** insecticide, test the product on a small sample of the crop to be treated.
2. Direct sprays of **Tolfenpyrad 15EC** insecticide to blooms of some species of Petunia at higher use rates may cause phytotoxicity to existing blooms.
3. Do not apply to poinsettias if bracts with color.

Temporary phytotoxicity may occur to some species of *Ageratum*, *Colocasia*, *Geranium*, *Lobelia*, *Pansy (flowers)*, *Verbena*, and *Vinca*. Users should test the tolerance of Tolfenpyrad 15EC insecticide under their local conditions and observe these crops for 4 to 7 days prior to broad scale use.

DO NOT APPLY TOLFENPYRAD 15EC INSECTICIDE TO SALVIA SPP., IMPATIENS SPP., GYPSOPHILA SPP., AND NEW GUINEA IMPATIENS DUE TO POTENTIAL CROP INJURY.

APPLICATION RATE CHART FOR TOLFENPYRAD 15EC INSECTICIDE

CITRUS FRUIT GROUP (Crop Group 10-10)		
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, orange, clementine); tangor; trifoliate orange; unqi fruit; cultivars, varieties, and/or hybrids of these		
Pest	Rate/Acre	Use Directions
Asian citrus psyllid Katydid	14.0 – 27.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not apply by air. • For ground applications, do not use less than 100 gallons of water per acre. • For high air velocity, low volume or air curtain sprayers, do not use less than 30 gallons of water per acre. • Do not apply more than 27.0 fluid ounces per acre per growing season. • Do not make more than 1 application per growing season. • Do not make more than 2 applications per year. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 14 days • Do not use on nursery stock. <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> • 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.
Aphids	17.0 – 27.0 fl oz/acre	
Soft scale insects, including Citricola scale, Barnacle scale, and Brown soft scale Citrus bud mite Citrus mealybug Citrus thrips	21.0 – 27.0 fl oz/acre	
Citrus peelminer Citrus rust mite (silver mite) Citrus red mite Leafminer Mealybugs Citrus orangedog (suppression) Citrus weevil (suppression) Cutworms (suppression)	24.0 – 27.0 fl oz/acre	

COTTON (Limited to the states of Arizona, California and New Mexico)		
<i>Pest</i>	<i>Rate/Acre</i>	<i>Use Directions</i>
Aphids	14.0 – 21.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • For ground applications, do not use less than 10 gallons of water per acre. • For aerial applications, do not use less than 5 gallons of water per acre. • Do not apply more than 42.0 fluid ounces per acre per growing season. • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 14 days <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> • 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.
Fleahopper	17.0 – 21.0 fl oz/acre	
Thrips Armyworms (suppression) Bollworms (suppression) Pink bollworm (suppression) Plant bugs (suppression) Stink bugs (suppression) Tobacco budworm (suppression) Whiteflies (suppression)	21.0 fl oz/acre	

GRAPES (Limited to the states of California, Oregon and Washington)

Raisin; Table; Wine

<i>Pest/Disease</i>	<i>Rate/Acre</i>	<i>Use Directions</i>
Leafhoppers	12.0 – 21.0 fl oz/acre	USE RESTRICTIONS <ul style="list-style-type: none"> • Do not apply by air. • For ground applications, do not use less than 50 gallons of water per acre. • Do not apply more than 41.0 fluid ounces per acre per growing season. • Do not make more than 2 applications per growing season. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 7 days USE RECOMMENDATIONS <ul style="list-style-type: none"> • 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. • TOLFENPYRAD 15EC insecticide only provides contact efficacy against vine mealybug and should be tank mixed with another insecticide to add residual control.
Grape berry moth Leaffolders Leafrollers Mealybugs Thrips	21.0 – 27.0 fl oz/acre	
Japanese beetle adults (topical application) Grapeleaf skeletonizer (suppression) Powdery mildew (suppression)	24.0 – 27.0 fl oz/acre	

LEAFY VEGETABLES (EXCEPT BRASSICA VEGETABLES) (Crop Group 4)		
Amaranth (Chinese spinach); arugula (roquette); cardoon; celery; celery, Chinese; celtuce; chervil; chrysanthemum, edible-leaved; chrysanthemum, garland; corn salad; cress, garden; cress, upland; dandelion; dock (sorrel); endive (escarole); fennel, Florence; lettuce, head and leaf; orach; parsley; purslane, garden; purslane, winter; radicchio (red chicory); rhubarb; spinach; spinach, New Zealand; spinach, vine; Swiss chard		
Pest/Disease	Rate/Acre	Use Directions
Leafhoppers	14.0 – 21.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not apply by air in TX or East of the Mississippi River. • Do not apply Tolfenpyrad 15EC insecticide until at least fourteen (14) days after emergence or after transplanting to allow time for root establishment. This period of time should be extended if conditions at time of emergence or transplanting are not favorable to crop growth. • For ground applications, do not use less than 20 gallons of water per acre. • For aerial applications, do not use less than 5 gallons of water per acre. • Do not apply more than 42.0 fluid ounces per acre per crop cycle. • Do not make more than 2 applications per crop cycle. • Do not make more than 4 applications per year. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 1 day <p>USE RECOMMENDATIONS-PESTS</p> <ul style="list-style-type: none"> • 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.
Aphids (excluding lettuce aphid) Flea beetle	17.0 – 21.0 fl oz/acre	
Thrips Powdery mildew (<i>Erysiphe cichoracearum</i>) Armyworms (suppression) Corn earworm (suppression) Cutworm species (suppression) European corn borer (suppression) Imported cabbageworm (suppression) Tobacco budworm (suppression) Tomato hornworm (suppression) Whiteflies (suppression) Downy mildew (suppression)	21.0 fl oz/acre	

		<p>USE RECOMMENDATIONS-DISEASES</p> <ul style="list-style-type: none">• Begin applications prior to onset of disease.• Use sufficient water volume to achieve thorough coverage.• Use of an agriculturally approved non-ionic surfactant at 0.25% v/v may improve disease control.• If weather conditions remain conducive to disease development, apply another registered fungicide product with a different mode of action 7-10 days later.• Consult local extension recommendations or your agricultural consultant for information specific to your area.
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POTATOES (Limited to states west of the Mississippi River)		
<i>Pest</i>	<i>Rate/Acre</i>	<i>Use Directions</i>
Colorado potato beetle Leafhoppers	14.0 – 21.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • No aerial applications in TX • For ground applications, do not use less than 20 gallons of water per acre. • For aerial applications, do not use less than 5 gallons of water per acre. • See CHEMIGATION statement in Application Directions. • Do not apply more than 42.0 fluid ounces per acre per crop cycle. • Do not make more than 2 applications per crop cycle. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 14 days <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> • 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.
Aphids Potato psyllid Thrips	17.0 – 21.0 fl oz/acre	

STONE FRUITS (Crop Group 12-12), PERSIMMON, and POMEGRANATE		
Apricot; apricot, Japanese; capulin; cherry, black; cherry, Nanking; cherry, sweet; cherry, tart; Jujube, Chinese; nectarine; peach; persimmon; plum; plum, American; plum, beach; plum, Canada; plum, cherry; plum, Chickasaw; plum, Damson; plum, Japanese; plum, Klamath; plum, prune; plumcot; pomegranate; sloe; cultivars, varieties, and/or hybrids of these		
<i>Pest/Disease</i>	<i>Rate/Acre</i>	<i>Use Directions</i>
Cherry fruit fly Leafhoppers Katydid	14.0 – 27.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not apply by air. • For ground applications, do not use less than 50 gallons of water per acre. • Do not apply by Alternate Row Middle (ARM) spray method • Do not apply more than 54.0 fluid ounces per acre per growing season. • Do not make more than 2 applications per growing season. • Allow at least 10 days between applications. • Pre-harvest interval (PHI): 14 days <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> • 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.
Aphids	17.0 – 27.0 fl oz/acre	
Apple maggot Leafrollers Mealybugs Plum curculio Green fruitworm (suppression) Peach twig borer (suppression) Spotted wing drosophila (suppression) Stink bugs (suppression) Thrips (suppression) Powdery mildew (suppression)	21.0 – 27.0 fl oz/acre	

TREE NUTS (Crop Group 14-12)

Africa nut-tree; Almond; beech nut; 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

<i>Pest</i>	<i>Rate/Acre</i>	<i>Use Directions</i>
Aphids	17.0 – 27.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> • Do not apply by air. • Maintain a minimum of 25 feet of vegetative filter (buffer) strip. • For ground applications, do not use less than 50 gallons of water per acre. • Do not apply by Alternate Row Middle (ARM) spray method • Do not apply more than 27.0 fluid ounces per acre per growing season. • Do not make more than 1 application per growing season. • Allow at least 14 days between applications. • Pre-harvest interval (PHI): 14 days <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> • 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.
<p>Hickory shuckworm Leafrollers Mealybugs Pecan nut casebearer Pecan weevil</p> <p>Navel orangeworm (suppression) Peach twig borer (suppression) Plant bugs (suppression) Stink bugs (suppression)</p>	21.0 – 27.0 fl oz/acre	

APPLICATION RATE CHART FOR TOLFENPYRAD 15EC INSECTICIDE

ORNAMENTAL PLANTS		
In greenhouses		
<i>Pest</i>	<i>Dilution Rate FL OZ/100 Gallons</i>	<i>Use Directions</i>
Aphids Leafhoppers Lepidopteran insects (early instars) Mealybugs Scale Thrips Whitefly (suppression) Powdery mildew (suppression)	21 – 32 fl oz per 100 gal	<ul style="list-style-type: none"> • The maximum single application rate is 1.36 lb ai/acre (139 fl oz/A) or 0.31 lb a.i. per 10,000 square feet. • Apply no more than 100 gallons of spray solution per 10,000 sq. ft. per application. • 100 gallons of finished spray solution will typically cover 20,000 square feet of greenhouse. • Apply no more than 2 applications per crop cycle. • Apply no more than 64 fluid ounces per 10,000 square feet. • Allow at least 10 days between applications. • Apply in sufficient water to obtain complete coverage of all plant parts. Applications may be made with high volume or low volume ground equipment only. Spray to the point of runoff. 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.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in original container, unopened 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 content 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 or 50 pounds)

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple Rinse as follows: Empty 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.

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.

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.

Refillable plastic containers

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 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. Then 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.

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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NICHINO AMERICA, INC.
4550 New Linden Hill Road
Wilmington, DE 19808
888-740-7700

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