



**GROUP 21A INSECTICIDE**

**TORAC™**

**INSECTICIDE**

**ACTIVE INGREDIENT:**

**Tolfenpyrad:** (4-chloro-3-ethyl-1-methyl-  
*N*-[4-(*p*-tolylloxy)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. 67545-AZ-1 70815-GA-001**  
superscript corresponds with lot number

**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.)

*See inside booklet for First Aid, Precautionary Statements,  
and Directions for Use*

**NET CONTENTS: 1 gallon** **301500**  
**01/14**

**NICHINO**  
**AMERICA®**

Nichino America, Inc.  
4550 New Linden Hill Road  
Wilmington, DE 19808

**FIRST AID**

<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Call a 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 do so by a poison control center or doctor.</li><li>• Do not give anything to an unconscious person.</li></ul>
<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 in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If inhaled</b>	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>

**HOTLINE 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.

**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.

*(continued)*

**User Safety Recommendations** *(continued)*

- 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 rainwater. 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 onto beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site pollinator attractive habitat can result in bee kills.

*(continued)*

**PROTECTION OF POLLINATORS** *(continued)*

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](http://www.aapco.org/officials.html). Pesticide incidents should also be reported to the National Pesticide Information Center at: [www.npic.orst.edu](http://www.npic.orst.edu) or directly to EPA at: [beekill@epa.gov](mailto: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)

#### **USE INFORMATION**

**TORAC™** 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. **TORAC** 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 TORAC INSECTICIDE AS A FUNGICIDE**

For crops and diseases where the level of activity of **TORAC** 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 **TORAC** 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 **TORAC** 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:** 15-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.** TORAC insecticide may be applied only through overhead center pivot, solid set, hand move, and moving wheel irrigation equipment.

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

##### **Notes:**

- Use only drive systems which provide uniform water distribution.
  - Do not use end guns when chemigating TORAC insecticide to avoid non-uniform application.
  - 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  $\frac{1}{4}$  to  $\frac{1}{2}$  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 to 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 TORAC 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 TORAC 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 TORAC 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 **TORAC** 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 **TORAC** insecticide solution has cleared all of the sprinkler heads.
10. Allow time for all lines to flush the **TORAC** 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 to 40 minute time interval.
3. Determine the amount of **TORAC** insecticide required to treat the area covered by the irrigation system.
4. Add the required amount of **TORAC** 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 **TORAC** insecticide per acre for: (1) a 20 to 40 minute period at the end of a regular irrigation set; or (2) as a 20 to 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 **TORAC** 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 **TORAC** 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 **TORAC** 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.

**RESISTANCE MANAGEMENT**

**TORAC** 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, **TORAC** 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 **TORAC** 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 advisor 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.irc-online.org>.

### **MIXING DIRECTIONS**

Shake well before using. Read and follow all label directions for each tankmix product prior to any tank mixing with **TORAC** 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.

**TORAC** insecticide is physically and biologically compatible with many registered pesticides, fertilizers, or micronutrients. Contact your supplier for advice when considering mixing **TORAC** 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 remixed, the mixture is considered physically compatible.

**TORAC 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.

**TORAC 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
- 5) emulsifiable concentrates (including **TORAC** insecticide)
- 6) adjuvants and/or oils
- 7) remaining amount of water to achieve the desired level

#### **COMPATIBILITY STATEMENT REGARDING CERTAIN FUNGICIDE PRODUCTS**

**TORAC** 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 **TORAC** insecticide in tankmixes with fungicide products in FRAC Group 3 (sterol biosynthesis inhibitors) and FRAC Group 11 (QoI) 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.

## APPLICATION RATE CHART FOR TORAC INSECTICIDE

Cotton (limited to states of Arizona, California, New Mexico)		
Pest	Rate/Acre	Use Directions
Aphids	14.0 to 21.0 fl oz/acre	USE RESTRICTIONS <ul style="list-style-type: none"> <li>For <b>ground applications</b>, do not use less than 10 gallons of water per acre.</li> <li>For <b>aerial applications</b>, do not use less than 5 gallons of water per acre.</li> </ul>
Fleahopper	17.0 to 21.0 fl oz/acre	<ul style="list-style-type: none"> <li>Do not apply more than 42.0 fluid ounces per acre per growing season.</li> <li>Do not make more than 2 applications per growing season.</li> </ul>
Thrips	21.0 fl oz/acre	<ul style="list-style-type: none"> <li>Allow at least 14 days between applications.</li> <li>Preharvest Interval (PHI): 14 days</li> </ul>
Armyworms (suppression)		USE RECOMMENDATIONS <ul style="list-style-type: none"> <li>Use sufficient water volume to ensure thorough coverage of foliage. Thorough spray coverage is critical to obtain control of the target pest(s).</li> <li>Apply when pest populations are beginning to build.</li> </ul>
Bollworms (suppression)		
Pink bollworm (suppression)		
Plant bugs (suppression)		
Stink bugs (suppression)		
Tobacco budworm (suppression)		
Whiteflies (suppression)		

(continued)

**APPLICATION RATE CHART FOR TORAC INSECTICIDE** *(continued)*

<b>Leafy Vegetables (Crop Group 4) - except brassica vegetables</b> 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		
<b>Pest/Disease</b>	<b>Rate/Acre</b>	<b>Use Directions</b>
Leafhoppers	14.0 to 21.0 fl oz/acre	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• <b>Do not apply by air in Texas or east of the Mississippi River.</b></li> <li>• Do not apply <b>TORAC</b> 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.</li> </ul>
Aphids (excluding lettuce aphid) Flea beetle	17.0 to 21.0 fl oz/acre	<ul style="list-style-type: none"> <li>• For <b>ground applications</b>, do not use less than 20 gallons of water per acre.</li> <li>• For <b>aerial applications</b>, do not use less than 5 gallons of water per acre.</li> <li>• Do not apply more than 42.0 fluid ounces per acre per crop cycle.</li> </ul>
Thrips Powdery mildew ( <i>Erysiphe cichoracearum</i> )  Armyworms (suppression) Corn earworm (suppression) Cutworm species (suppression)	21.0 fl oz/acre	<ul style="list-style-type: none"> <li>• Do not make more than 2 applications per crop cycle.</li> <li>• Do not make more than 4 applications per year.</li> <li>• Allow at least 14 days between applications.</li> <li>• Preharvest Interval (PHI): 1 day</li> </ul> USE RECOMMENDATIONS - PESTS <ul style="list-style-type: none"> <li>• Use sufficient water volume to ensure thorough coverage of foliage. Thorough spray coverage is critical to obtain control of the target pest(s).</li> <li>• Apply when pest populations are beginning to build.</li> </ul>

**APPLICATION RATE CHART FOR TORAC INSECTICIDE** *(continued)*

**Leafy Vegetables (Crop Group 4) - except brassica vegetables**  
 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
European corn borer (suppression) Imported cabbageworm (suppression) Tobacco budworm (suppression) Tomato hornworm (suppression) Whiteflies (suppression) Downy mildew (suppression)	21.0 fl oz/acre	USE RECOMMENDATIONS - DISEASES <ul style="list-style-type: none"> <li>• Begin applications prior to onset of disease.</li> <li>• Use sufficient water volume to achieve thorough coverage.</li> <li>• Use of an agriculturally approved nonionic surfactant at 0.25% v/v may improve disease control.</li> <li>• If weather conditions remain conducive to disease development, apply another registered fungicide product with a different mode of action 7-10 days later.</li> <li>• Consult local extension recommendations or your agricultural consultant for information specific to your area.</li> </ul>

*(continued)*

**APPLICATION RATE CHART FOR TORAC INSECTICIDE** *(continued)*

<b>Potato</b> (limited to states west of the Mississippi River)		
<b>Pest</b>	<b>Rate/Acre</b>	<b>Use Directions</b>
Colorado potato beetle Leafhoppers	14.0 to 21.0 fl oz/acre	<p>USE RESTRICTIONS</p> <ul style="list-style-type: none"> <li>• <b>No aerial applications in Texas.</b></li> <li>• For <b>ground applications</b>, do not use less than 20 gallons of water per acre.</li> <li>• For <b>aerial applications</b>, do not use less than 5 gallons of water per acre.</li> <li>• See <b>Chemigation</b> statement in <b>Application Directions</b>.</li> <li>• Do not apply more than 42.0 fluid ounces per acre per crop cycle.</li> <li>• Do not make more than 2 applications per crop cycle.</li> </ul>
Aphids Potato psyllid Thrips	17.0 to 21.0 fl oz/acre	<ul style="list-style-type: none"> <li>• Allow at least 14 days between applications.</li> <li>• Preharvest Interval (PHI): 14 days</li> </ul> <p>USE RECOMMENDATIONS</p> <ul style="list-style-type: none"> <li>• Use sufficient water volume to ensure thorough coverage of foliage. Thorough spray coverage is critical to obtain control of the target pest(s).</li> <li>• Apply when pest populations are beginning to build.</li> </ul>

### **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 container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container  $\frac{1}{4}$  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 incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### **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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Wilmington, DE 19808  
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SL-81 080911-18  
12/23/2013





GROUP 21A INSECTICIDE

# TORAC™

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

(GM)

(CB)

EPA Reg. No. 71711-31 EPA Est. No. 67545-AZ-1 70815-GA-001

superscript corresponds with lot number

**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.)

See attached booklet for First Aid, Precautionary Statements, and Directions for Use

**NET CONTENTS: 1 gallon**

301500

01/14

**NICHINO  
AMERICA®**

Nichino America, Inc.  
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Wilmington, DE 19808