

**Nichino America, Inc.**

# APPLAUD® 70DF

Insect Growth Regulator

**ACTIVE INGREDIENT:**

Buprofezin: 2-*tert*-butylimino-3-isopropyl-5-phenyl-1,3,5-thiadiazinan-4-one

**OTHER INGREDIENTS:**

**TOTAL:**

**70.0%**

**30.0%**

**100.0%**

Contains 0.70 lbs. buprofezin per pound of product

EPA Reg. No. 71711-21

EPA Est. No. 67545-AZ-1

## KEEP OUT OF REACH OF CHILDREN CAUTION

### FIRST AID

<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 by mouth to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</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. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>Call poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</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 treatment 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 CAUTION

Harmful if swallowed. Wash thoroughly with soap and water after handling. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Harmful if inhaled. Avoid breathing spray mist. Remove contaminated clothing and wash before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### User Safety Recommendations

Users should: Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

### 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

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 contaminate water by cleaning of equipment or disposal of equipment washwaters.

**IMPORTANT** – Read the entire Directions for Use and Disclaimer of Warranties before using this product.

### 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 responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during 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 over long-sleeved shirt and long pants
- Waterproof gloves
- Socks and chemical-resistant footwear

## **GENERAL INFORMATION**

APPLAUD® 70DF INSECT GROWTH REGULATOR contains the active ingredient, buprofezin. It is effective against the nymph stages of whitefly, scales, mealybugs, planthoppers, and leafhoppers by inhibiting chitin biosynthesis, suppressing oviposition of adults, and reducing viability of eggs. Treated susceptible pests may remain alive on the plant for 3-7 days, but feeding damage during this time is typically very low. APPLAUD 70DF INSECT GROWTH REGULATOR is not disruptive to beneficial insects and mites.

Good coverage is essential. Apply by ground or air in sufficient water volume. Orient nozzles to assure good coverage. Use of higher volume of water will assure better coverage, especially under adverse conditions such as hot, dry weather, and/or a dense canopy. The entire field should be treated. Apply when economic infestations occur based on local information.

APPLAUD 70DF INSECT GROWTH REGULATOR is not for sale, sale into, distribution, and or use in Nassau and Suffolk counties of New York state.

## **INSECTS CONTROLLED**

**Whiteflies:** Ash whitefly; Banded wing whitefly; Greenhouse whitefly; Silverleaf whitefly; Sweet potato whitefly

**Mealybugs:** Citrus mealybug; Comstock mealybug; Gill's mealybug; Grape mealybug; Longtailed mealybug; Mexican mealybug; Obscure mealybug; Striped mealybug; Vine mealybug;

**Leafhoppers and Planthoppers:** Brown planthopper; Cherry leafhopper; Eastern grape leafhopper; Glassy-winged sharpshooter; Potato leafhopper; Variegated leafhopper; Western grape leafhopper, White apple leafhopper

### **Scales:**

**Soft Scales:** Barnacle scale; Black scale; Brown soft scale; Citricola scale; False oleander scale; Hemispherical scale; Indian wax scale and other wax scales; Tessellated scale; White peach scale

**Armored Scales:** Boisduval scale; Cactus scale; California red scale; Coconut scale; Fern scale; Florida red scale; Oystershell scale; San Jose scale

**Margarodid Scale:** Cottony cushion scale

## **RESISTANCE MANAGEMENT**

APPLAUD 70DF INSECT GROWTH REGULATOR is classified by IRAC in Group 16 – chitin synthesis inhibitors and is not known to be cross-resistant to other classes of insecticides. However, insect pests are known to develop resistance to products used repeatedly. Because resistance development cannot be predicted, the use of this product should conform to resistance management strategies established for the crop and use area. Such strategies may include rotating with insecticides with different modes of action. Consult your local pest control advisor or extension office for details. If resistance to this product develops in your area, it may not provide adequate control. If you experience difficulty with control, and resistance is a likely cause, consult your local state university horticultural specialist or local agricultural authorities for the best alternative method of control. To preserve the usefulness of APPLAUD 70DF INSECT GROWTH REGULATOR, do not make more than two consecutive applications. Prior to subsequent applications, use an alternative chemistry with a different mode of action. Always consult your local crop advisor for the most appropriate control decision for your area. Resistance management strategies advise against applying rates lower than those recommended on the label.

## **MIXING, LOADING, AND HANDLING INSTRUCTIONS**

### **SPECIFIC MIXING INSTRUCTIONS**

**APPLAUD 70DF INSECT GROWTH REGULATOR Alone:** 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 balance of the water to the spray tank with agitation running. Keep agitation running during filling and spraying operations. If spraying must be stopped before emptying the sprayer, resume agitation before spraying the remainder of the load.

**APPLAUD 70DF INSECT GROWTH REGULATOR Tank Mixtures:** Follow all use directions as listed above under **APPLAUD 70DF INSECT GROWTH REGULATOR Alone** with the following exception: after the APPLAUD 70DF INSECT GROWTH REGULATOR is thoroughly mixed and the tank is  $\frac{3}{4}$  full, add the recommended amount of wettable powder, soluble powder, flowable, emulsifiable concentrate, or soluble liquid product, **while maintaining agitation**. If a spray additive is needed, add a liquid fertilizer, surfactant, or crop oil concentrate to the spray tank at this time. Then continue adding water to the tank to achieve the desired level, while maintaining agitation.

**APPLAUD 70DF INSECT GROWTH REGULATOR Tank Mixtures With Products In Water-Soluble Packaging:** Follow all use directions as listed above under **APPLAUD 70DF INSECT GROWTH REGULATOR Alone** with the following exception: add the desired number of water-soluble bags to the tank (if allowed by their label instructions) at the same time the APPLAUD 70DF INSECT GROWTH REGULATOR is added. **Note:** If using products in water soluble packaging, do not tank mix with products that contain boron, chromium, or other micronutrients.

### **APPLICATION DIRECTIONS**

Applications should be made immediately after the spray solution is prepared. Thorough spray coverage is essential for effective control. Applications may be made with high or low volume spray equipment that provides thorough coverage of the plant. Apply with properly calibrated spray equipment. For best results, apply when pest populations are beginning to build, before reaching economic thresholds. Consult your local agricultural advisor, state cooperative extension service, or regional Nichino America representative for recommendations.

### **USE RESTRICTIONS**

- Do not apply this product through any type of irrigation system.
- Crop Rotational Restrictions:

<b>CROP</b>	<b>PLANTBACK TIMING</b>
All crops registered for use with buprofezin	0 days following application
Leafy vegetables not registered for use with buprofezin	30 days following application
Root and tuber vegetables	60 days following application
All other crops	365 days following application

### **USE PRECAUTIONS**

- Apply in a minimum finished spray volume of 5 gallons per acre by air. For gallonage per acre by ground, refer to Application Rate Chart.

**APPLICATION RATE CHART FOR APPLAUD 70DF INSECT GROWTH REGULATOR**

Crop	Pest	Formulated Product/A	Directions for Use
Acerola Atemoya Avocado Biriba Cherimoya Custard apple Feijoa Guava Ilima Jaboticaba Passion fruit Soursop Starfruit Sugar apple Wax jambu	Scales	34.5 oz/A  (2.156 lbs/A)	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• <b>Limited to Florida, Hawaii, and Puerto Rico</b></li> <li>• Apply by ground application using a minimum of 20 gallons of water per acre.</li> <li>• Do not make more than 2 applications per growing season.</li> <li>• Allow at least 14 days between applications.</li> <li>• Do not apply more than 69.0 oz (4.3 lbs) per acre per growing season.</li> <li>• Do not apply within 21 days of harvest.</li> </ul>
Jaboticaba Passion fruit Soursop Starfruit Sugar apple Wax jambu	Leafhoppers Mealybugs Whiteflies	9.0 to 12.0 oz/A  (0.56 to 0.75 lbs/A)	RECOMMENDATIONS <ul style="list-style-type: none"> <li>• Treatment should be made when peak crawler emergence occurs. Consult local and State agricultural authorities for details.</li> <li>• Good coverage is essential.</li> </ul>
Black sapote Canistel Mamey sapote Mango Papaya Sapodilla Star apple	Leafhoppers Mealybugs Scales Whiteflies	9.0 to 12.0 oz/A  (0.56 to 0.75 lb/A)	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• <b>Limited to Florida, Hawaii, and Puerto Rico</b></li> <li>• Apply by ground application using a minimum of 20 gallons of water per acre.</li> <li>• Do not make more than 5 applications per growing season.</li> <li>• Allow at least 14 days between applications.</li> <li>• Do not apply more than 45.0 oz (2.8 lbs) per acre per growing season.</li> <li>• Do not apply within 3 days of harvest.</li> </ul> RECOMMENDATIONS <ul style="list-style-type: none"> <li>• Treatment should be made when peak crawler emergence occurs. Consult local and State agricultural authorities for details.</li> <li>• Good coverage is essential.</li> </ul>
Bananas	Leafhoppers Mealybugs Scales Whiteflies	7.0 oz/A  (0.438 lbs/A)	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• Apply by ground application using a minimum of 15 gallons of water per acre.</li> <li>• Do not make more than 4 applications per growing season.</li> <li>• Allow at least 14 days between applications.</li> <li>• Do not apply within 1 day of harvest.</li> </ul> RECOMMENDATIONS <ul style="list-style-type: none"> <li>• Treatment should be applied when population level reaches economic threshold. Consult local or State agricultural authorities for details.</li> <li>• Good coverage is essential. Use of a higher volume of water will assure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.</li> </ul>
<b>Citrus Crop Group:</b> Calamondin Citrus citron Citrus hybrids (includes chironja, tangelo, tangor) Grapefruit Kumquat Lemon Lime Mandarin (tangerine) Orange, sour Orange, sweet Pummelo Satsuma mandarin White sapote (Casimiroa spp.)	Black scale California red scale Citricola scale Cottony cushion scale Glassy-winged sharpshooter Mealybugs	34.5 to 46.0 oz/A  (2.156 to 2.875 lbs/A)	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• Apply by ground application using a minimum of 750 gallons of water per acre.</li> <li>• Do not make more than 2 applications per growing season.</li> <li>• Allow at least 60 days between applications.</li> <li>• Do not apply within 3 days of harvest.</li> </ul> RECOMMENDATIONS <ul style="list-style-type: none"> <li>• Treatment should be made when peak crawler emergence occurs. Consult local and State agricultural authorities for details.</li> <li>• Good coverage is essential.</li> </ul>
Coffee	Mealybugs Scales	23.0 oz/A  (1.43 lbs/A)	USE RESTRICTIONS <ul style="list-style-type: none"> <li>• Apply by ground application using a minimum of 50 gallons of water per acre.</li> <li>• Do not make more than 4 applications per year.</li> <li>• Allow at least 14 days between applications.</li> <li>• Do not apply more than 91.0 oz (5.72 lbs) per acre per year.</li> <li>• Harvest on application date permitted (0 day PHI).</li> </ul> RECOMMENDATIONS <ul style="list-style-type: none"> <li>• Treatment should be applied when population level reaches economic threshold. Consult local and State agricultural authorities for details.</li> <li>• Good coverage is essential.</li> </ul>

Crop	Pest	Formulated Product/A	Directions for Use
Grapes	Leafhoppers Mealybugs	9.0 to 12.0 oz/A (0.56 to 0.75 lb/A)	<p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Apply by ground application using a minimum of 50 gallons of water per acre per season depending on the size of the grapevine canopy.</li> <li>Do not make more than 2 applications per growing season.</li> <li>Allow at least 14 days between applications.</li> <li>Do not apply more than 24.0 oz (1.5 lbs) per acre per growing season.</li> <li>Do not apply within 7 days of harvest.</li> </ul> <p><b>RECOMMENDATIONS</b></p> <ul style="list-style-type: none"> <li><b>Leafhopper:</b> Apply when majority of the population is at the early nymphal stage.</li> <li><b>Mealybug:</b> Apply at the beginning of crawler emergence.</li> <li>Good coverage is essential. Orient nozzles to assure good coverage. Use of a higher volume of water will assure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.</li> </ul>
Longan Lychee Pulasan Rambutan Spanish Lime	Scales	34.5 oz/A (2.156 lbs/A)	<p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Apply by ground application using a minimum of 75 gallons per acre spray volume.</li> <li>Allow at least 14 days between applications.</li> <li>Do not make more than 2 applications per year.</li> <li>Do not apply more than 69.0 oz (4.3 lbs) per acre per growing season.</li> <li>Do not apply within 21 days of harvest.</li> </ul>
Olives	Scales	34.5 to 46.0 oz/A (2.156 to 2.875 lbs/A)	<p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Apply by ground application using a minimum of 110 gallons of water per acre, depending on the size of the olive trees.</li> <li>Do not apply more than 92.0 oz (5.75 lbs) per acre per growing season.</li> <li>Allow at least 50 days between applications.</li> <li>Do not apply within 21 days of harvest.</li> </ul> <p><b>RECOMMENDATIONS</b></p> <ul style="list-style-type: none"> <li>Treatment should be applied when population level reaches economic threshold. Consult local and State agricultural authorities for details.</li> <li>Good coverage is essential. Orient nozzles to assure good coverage. Use of a higher volume of water will assure better coverage, especially under adverse conditions, such as hot, dry weather and/or a dense canopy.</li> </ul>
Pomegranates	Whiteflies	12.0 to 34.5 oz/A (0.75 to 2.156 lbs/A)	<p><b>USE RESTRICTIONS</b></p> <ul style="list-style-type: none"> <li>Apply by ground application using a minimum of 50 gallons of water per acre.</li> <li>Do not make more than 2 applications per growing season.</li> <li>Allow at least 14 days between applications.</li> <li>Do not apply more than 69 oz per acre per growing season.</li> <li>Do not apply within 14 days of harvest.</li> </ul> <p><b>RECOMMENDATIONS</b></p> <ul style="list-style-type: none"> <li><b>Whitefly:</b> Apply at early nymph threshold.</li> <li><b>Mealybugs:</b> Application should be applied when peak crawler emergence occurs. Consult local or State agricultural authorities for details.</li> </ul>
	Mealybugs Scales	34.5 to 46.0 oz/A (2.156 to 2.875 lbs/A)	<ul style="list-style-type: none"> <li><b>Scale:</b> Application can be made at delayed dormant (or when San Jose scale is at the white or black cap stage) and in-season at peak crawler hatch.</li> <li>Good coverage is essential.</li> </ul>

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container, unopened, in a cool, dry place.

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

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) 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, 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.

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

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

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