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02/17/2009

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

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Bill Washburn
Regulatory Manager
Arysta LifeScience North America LLC
15401 Weston Parkway, Suite 150
Cary, NC 27513

FEB 17 2009

Subject: Label Notification(s) for Pesticide Registration Notices 2007-4 and 98-10

1. **Update of company name**
2. **Added emergency telephone number(s)**
3. **Updated warranty statement**

Dear Mr. Washburn:

The Agency is in receipt of your Application(s) for Pesticide Notification under Pesticide Registration Notices (PRN) 2007-4 and 98-10 dated January 16, 2009 for:

EPA Registration 66330-330

Bifenthrin 11.7% TC

The Registration Division (RD) has conducted a review of this request for applicability under PR Notices 2007-4 and 98-10 and finds that the label changes requested falls within the scope of PR Notices 2007-4 and 98-10. The label has been date-stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact me directly at 703-305-6249 or Nicole Williams of my staff at 703-308-5551.

Sincerely,



Linda Arrington
Notifications & Minor Formulations Team Leader
Registration Division (7505P)
Office of Pesticide Programs

3/31

**EPA**

United States
Environmental Protection Agency
Washington, DC 20460

☐ Registration
☐ Amendment
☒ Other:

OPP Identifier Number

Application for Pesticide - Section I

1. Company/Product Number 66330-330	2. EPA Product Manager GEORGE LAROCCA	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) BIFENTHRIN 11.7% TC	PM# 13	
5. Name and Address of Applicant (Include ZIP Code) Arysta LifeScience North America, LLC 15401 Weston Parkway, Suite 150 Cary, NC 27513 <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to: NOTIFICATION EPA Reg. No. _____ Product Name _____ FEB 17 2009	

Section - II

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below

Explanation: Use additional page(s) if necessary. (For Section I and Section II.)

Notification of label change per PR Notice 2007-4. This notification is consistent with guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 USC Sec 1001 to willfully make any false statement to EPA. I further understand that if the amendment is not consistent with the requirements of 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Notification of label change per PR Notice 98-10. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal	<input checked="" type="checkbox"/> Plastic
	If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
*Certification must be submitted				<input type="checkbox"/> Other (Specify)	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container 1.0 gal., 2.5 gal, 5.0 gal		5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product		<input type="checkbox"/> Lithograph <input type="checkbox"/> Other			
		<input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)			
Name Bill Washburn	Title Regulatory Manager	Telephone No. (Include Area Code) 901-432-5118	
Certification I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.			6. Date Application Received (Stamped)
2. Signature <i>Bill Washburn</i>	3. Title Regulatory Manager		
4. Typed Name Bill Washburn	5. Date 01/16/09		



January 16, 2009

Mr. George Larocca
Document Processing Desk (NOTIF)
Office of Pesticide Programs – 7504P
U.S. Environmental Protection Agency
One Potomac Yard, Room S-4900
2777 South Crystal Drive
Arlington, VA 22202

**Subject: BIFENTHRIN 11.7% TC
EPA Reg. No. 66330-330**

***Notification of Label Change per PR Notice 2007-4
and PR Notice 98-10***

Dear Mr. Larocca:

Please find the following enclosed:

- Application for Pesticide Registration (Other) dated 01/16/09.
- One highlighted copy of subject label, showing all changes.
- One clean copy of the subject label.

Notification of label change per PR Notice 2007-4. This notification is consistent with guidance in PR Notice 2007-4 and the requirements of EPA's regulations at 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156. No other changes have been made to the labeling or the Confidential Statement of Formula for this product. I understand that it is a violation of 18 USC Sec 1001 to willfully make any false statement to EPA. I further understand that if the amendment is not consistent with the requirements of 40 CFR §§ 156.10, 156.140, 156.144, 156.146, and 156.156, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Also in this submission, we are using PR Notice 98-10 to update the name of the company, emergency telephone numbers and warranty. Arysta LifeScience North America Corporation was changed to Arysta LifeScience North America, LLC.

Please acknowledge acceptance of this notification by stamping the extra copy of this letter and returning in the enclosed self-addressed stamped envelope. Should you have any questions or comments, please do not hesitate to contact me at 901-432-5118 or by e-mail at bill.washburn@arystalifescience.com

Sincerely,

Bill Washburn
Regulatory Manager

5

ACTIVE INGREDIENT:

By Wt.

Bifenthrin*	11.7%
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INERT INGREDIENTS:	88.3%
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TOTAL:	100.0%
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BIFENTHRIN 11.7% TC contains 1 pound active ingredient per gallon.

*Cis isomers 97% minimum, trans isomers 3% maximum.

KEEP OUT OF REACH OF CHILDREN

CAUTION

EPA Reg. No. 66330-330

EPA Est. No. 51036-GA-001

NET CONTENTS:

Manufactured For:

Arysta LifeScience North America, LLC

15401 Weston Parkway, Suite 150

Cary, NC 27513

NOTIFICATION

FEB 17 2009

FIRST AID**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting unless told to do so by the poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

IF ON SKIN OR CLOTHING:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

IF IN EYES:

- 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.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

NOTE TO PHYSICIAN: This product is a pyrethroid. If large amounts have been ingested, the stomach and intestine should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided.

EMERGENCY TELEPHONE NUMBERS: Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300

PRECAUTIONARY STATEMENTS**Hazards to Humans (and Domestic Animals)**

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

All pesticide handlers (mixers, loaders and applicators) must wear:

- Long sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves

7/31

After the product is diluted in accordance with label directions for use, and/or when mixing and loading using a closed spray tank transfer system (such as U-Turn), or an in-line injector system, shirt, pants, socks, shoes and waterproof gloves are sufficient. In addition, all pesticide handlers must wear a respiratory protection device¹ when working in a non-ventilated space. All pesticide handlers must wear protective eyewear when working in a non-ventilated space or when applying miticide by rodding or sub-slab injection.

¹ A NIOSH approved respirator with any R, P, or HE filter or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE prefilter.

When treating adjacent to an existing structure, the applicator must check the area to be treated, and immediately adjacent areas of the structure, for visible and accessible cracks and holes to prevent any leaks or significant exposures to persons occupying the structure. People present or residing in the structure during application must be advised to remove their pets and themselves from the structure if they see any signs of leakage. After application, the applicator is required to check for leaks. All leaks resulting in the deposition of termiticide in locations other than those prescribed on this label must be cleaned up prior to leaving the application site. Do not allow people or pets to contact contaminated areas or to reoccupy contaminated areas of the structure until the clean-up is completed.

ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to fish and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and run-off from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow to drift to blooming crops if bees are visiting the treatment area.

PHYSICAL AND CHEMICAL HAZARDS

Do not apply water-based dilutions of BIFENTHRIN 11.7% FL TC to electrical conduits, motor housings, junction boxes, switch boxes or other electrical equipment because of possible shock hazard.

DIRECTIONS FOR USE

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

Do not apply a broadcast application to interior surfaces of homes.

Do not apply by air.

Do not apply in greenhouses, nurseries.

Do not apply this product through any kind of irrigation system.

Not for use on sod farm turf, golf course turf, or grass grown for seed

STORAGE AND DISPOSAL

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

Pesticide Storage: Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use replace lids and close tightly. Do not put concentrate or dilute material into food or drink container.

In Case of Spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills.

To Confine Spill: If liquid, dike surrounding area or absorb with sand, cat litter or commercial clay. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

Pesticide Disposal: Pesticide wastes are toxic. Do not contaminate water, food or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Plastic Container: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or 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. Offer for recycling, if available, 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.

Returnable/Refillable Sealed Container: Refillable container. Refill this container with this pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or 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.

GENERAL INFORMATION ON THE USE OF THIS PRODUCT

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended only for aesthetic purposes or climatic modifications and being grown in interior plantscapes, ornamental gardens or parks, or lawns and grounds.

The use of this product prevents and controls Termite infestations in and around structures and constructions.

The dilute insecticidal emulsion must be adequately dispersed in the soil to establish a barrier between the wood and the termites in the soil. As a good practice: 1) all non-essential wood and cellulose containing materials, should be removed from around foundation walls, crawl spaces, and porches; 2) eliminate termite access to moisture by repairing faulty plumbing and/or construction grade. Soil around untreated structural wood in contact with soil should be treated as described below.

To establish an effective insecticidal barrier with this product the service technician must be familiar with current Termite control practices such as: trenching, rodding, sub-slab injection, coarse fan spraying of soil surfaces, crack and crevice (void) injection, excavated soil treatment, and brush or spray applications to infested or susceptible wood. These techniques must be correctly employed to prevent or control infestations by subterranean Termites such as: *Coptotermes*, *Heterotermes*, *Reticulitermes* and *Zootermopsis*. The biology and behavior of the species involved should be considered by the service technician in determining which control practices to use to eliminate or prevent the termite infestation.

Choice of appropriate procedures should include consideration of such variable factors as the design of the structure, location of heating, ventilation, and air conditioning (HVAC) systems, water table, soil type, soil compaction, grade conditions, and location and type of domestic water supplies and utilities.

10/31

For advice concerning current control practices with relation to specific local conditions, consult resources in structural pest control and state cooperative extension and regulatory agencies.

SUBTERRANEAN TERMITE CONTROL

DIRECTIONS FOR USE

Important: Contamination of public and private water supplies must be avoided by following these precautions: Use anti-backflow equipment or procedures to prevent siphonage of insecticide into water supplies. Do not contaminate cisterns or wells. Do not treat soil that is water saturated or frozen or in any conditions where runoff or movement from the treatment area (site) is likely to occur. Consult state and local specifications for recommended distances of wells from treated areas, or if such regulations do not exist, refer to Federal Housing Administration Specifications (H.U.D.) for guidance.

Note: Crawl spaces are to be considered inside of the structure.

Critical Areas: Critical areas include areas where the foundation is penetrated by utility services, cracks and expansion joints, bath traps and areas where cement constructions have been poured adjacent to the foundation such as stairs, patios and slab additions.

Structures with Wells/Cisterns Inside Foundations

Structures that contain wells or cisterns within the foundation of a structure can only be treated using the following techniques:

1. Do not treat soil while it is beneath or within the foundation or along the exterior perimeter of a structure that contains a well or cistern. The treated backfill method must be used if soil is removed and treated outside/away from the foundation. The treated backfill technique is described as follows:
 - a. Trench and remove soil to be treated onto heavy plastic sheeting or similar material or into a wheelbarrow.
 - b. Treat the soil at the rate of 4 gallons of diluted emulsion per 10 linear feet per foot of depth of the trench, or, 1 gallon per 1.0 cubic feet of soil. See Mixing Directions section of the label. Mix thoroughly into the soil taking care to contain the liquid and prevent run-off or spillage.
 - c. After the treated soil has absorbed the diluted emulsion, replace the soil into the trench.
2. Treat infested and/or damaged wood in place using an injection technique such as described in the "Control of Wood Infesting Insects" section of this label.

Structures with Adjacent Wells/Cisterns and/or Other Water Bodies

Applicators must inspect all structures with nearby water sources such as wells, cisterns, surface ponds, streams, and other bodies of water and evaluate, at a minimum, the treatment recommendations listed below prior to making an application

1. Prior to treatment, if feasible, expose the water pipe(s) coming from the well to the structure, if the pipe(s) enter the structure within 3 feet of grade.
2. Prior to treatment, applicators are advised to take precautions to limit the risk of applying the termiticide into subsurface drains that could empty into any bodies of water. These precautions include evaluating whether application of the termiticide to the top of the footer may result in contamination of the subsurface drain. Factors such as depth to the drain system and soil type and degree of compaction should be taken into account in determining the depth of treatment.
3. When appropriate (i.e., on the water side of the structure), the treated backfill technique (described above) can also be used to minimize offsite movement of termiticide.

Prior to using this technique near wells or cisterns, consult state, local or federal agencies for information regarding approved treatment practices in your area.

Application Rate: Use a 0.06% emulsion for subterranean Termites. For other pests on the label use specific listed rates.

Mixing Directions: Mix the termiticide use dilution in the following manner: Fill tank 1/4 to 1/3 full. Start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. Add appropriate amount of BIFENTHRIN 11.7% TC. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

BIFENTHRIN 11.7% TC may also be mixed into full tanks of water, but requires substantial agitation to insure uniformity of the emulsion.

To prepare a 0.06% water emulsion, ready to use, dilute 2 quarts of BIFENTHRIN 11.7% TC with 99.25 gallons of water.

Mixing: For the desired application rate, use the chart below to determine the amount of BIFENTHRIN 11.7% TC for a given volume of finished emulsion:

Amount of BIFENTHRIN 11.7% TC (Gallons except where noted)			
Emulsion Concentration	Amount of BIFENTHRIN 11.7% TC	Amount of Water	Desired Gallons of Finished Emulsion
0.06%	0.66 oz.	127.34 oz.	1
	3.25 oz.	4.97	5

12/31

Amount of BIFENTHRIN 11.7% TC (Gallons except where noted)			
Emulsion Concentration	Amount of BIFENTHRIN 11.7% TC	Amount of Water	Desired Gallons of Finished Emulsion
	6.5 oz.	9.95	10
	16.5 oz.	24.9	25
	1 qt.	49.75	50
	1.5 qt.	74.62	75
	2 qt.	99.5	100
	3 qt.	149.25	150
	1 gal..	199	200
0.12%*	1.3 oz.	126.7 oz.	1
	6.5 oz.	4.95	5
	13 oz.	9.9	10
	1 qt.	24.75	25
	2 qt.	49.5	50
	3 qt.	74.25	75
	1 gal.	99	100
	1.5 gal.	148.5	150
	2 gal.	198	200

Common units of measure:

1 pint = 16 fluid ounces (oz.)

1 quart = 2 pints = 4 cups = 32 fluid ounces (oz.)

*For Termite applications, only use this rate in conjunction with the application volume adjustments as listed in the section below or in the foam or underground service application sections.

Application Volume: To provide maximum control and protection against termite infestation apply the specified volume of the finished water emulsion and active ingredient as set forth in the Directions For Use section of this label. If soil will not accept the labeled application volume, the volume may be reduced provided there is a corresponding increase in concentration so that the amount of active ingredient applied to the soil remains the same.

Note: Large reductions of application volume reduce the ability to obtain a continuous barrier. Variance is allowed when volume and concentration are consistent with label directed rates and a continuous barrier can still be achieved.

Where desirable for pre and post construction treatments, the volume of the 0.12% emulsion may be reduced by ½ the labeled volume. See Volume Adjustment Chart below.

Note: When volume is reduced, the hole spacing for subslab injection and soil rodding may require similar adjustment to account for lower volume dispersal of the termiticide in the soil.

Volume Adjustment Chart		
Rate (% emulsion)	0.06%	0.12%
Volume allowed:		
Horizontal (gallons emulsion/10 ft ²)	1.0 gallons	0.5 gallons

Vertical (gallons emulsion/10 lin. ft.)	4.0 gallons	2.0 gallons
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After Treatment: All holes in commonly occupied areas into which BIFENTHRIN 11.7% TC has been applied must be plugged. Plugs must be of a non-cellulose material or covered by an impervious, non-cellulose material.

PRE-CONSTRUCTION SUBTERRANEAN TERMITE TREATMENT

Pre-Construction Treatment: Do not apply at a lower dosage and/or concentration than specified on this label for applications prior to the installation of the finished grade.

When treating foundations deeper than 4 feet, apply the termiticide as the backfill is being replaced, or if the construction contractor fails to notify the applicator to permit this, treat the foundation to a minimum depth of 4 feet after the backfill has been installed. The applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to a minimum depth of 4 feet. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

Effective pre-construction subterranean Termite control is achieved by the establishment of vertical and/or horizontal insecticidal barriers using 0.06% emulsion of BIFENTHRIN 11.7% TC. To meet Termite proofing requirements, follow the procedures in the latest edition of the Housing and Urban Development Minimum Property Standards.

Horizontal Barriers

Create a horizontal barrier wherever treated soil will be covered by a slab, such as footing trenches, slab floors, carports, and the soil beneath stairs and crawl spaces.

For a 0.06% rate apply 1 gallon of dilution per 10 square feet, or use 0.66 fluid ounce of BIFENTHRIN 11.7% TC per 10 square feet in sufficient water (no less than ½ gallon or more than 2 gallons) to provide thorough and continuous coverage of the area being treated.

If the fill is washed gravel or other coarse material, it is important that a sufficient amount of dilution be used to reach the soil substrate beneath the coarse fill.

Applications shall be made by a low pressure spray (less than 50 psi) using a coarse spray nozzle. If slab will not be poured the same day as treatment, cover treated soil with a water-proof barrier such as polyethylene sheeting. This is not necessary if foundation walls have been installed around the treated soil.

Vertical Barriers

Vertical barriers must be established in areas such as around the base of foundations, plumbing, utility entrances, back-filled soil against foundation walls and other critical areas.

For a 0.06% rate, apply 4 gallons of dilution per 10 linear feet per foot of depth or 2.64 fluid ounce of BIFENTHRIN 11.7% TC per 10 linear feet per foot of depth from grade to top of footing in sufficient water (not less than 2 gallons or more than 8 gallons) to ensure complete coverage.

- a. When trenching and rodding into the trench, or trenching, it is important that emulsion reaches the top of the footing. Rod holes must be spaced so as to achieve a continuous termiticide barrier, but in no case more than 12 inches apart.
- b. Care should be taken to avoid soil wash-out around the footing.
- c. Trenches need not be wider than 6 inches. Emulsion should be mixed with the soil as it is being replaced in the trench.
- d. For a monolithic slab, an inside vertical barrier may not be required.

Hollow block voids may be treated at a rate of 2 gallons of emulsion per 10 linear feet so that the emulsion will reach the top of the footing.

Prior to each application, applicators must notify the general contractor, construction superintendent, or similar responsible party, of the intended termiticide application and intended sites of application and instruct the responsible person to notify construction workers and other individuals to leave the area to be treated during application and until the termiticide is absorbed into the soil.

POST CONSTRUCTION SUBTERRANEAN TERMITE TREATMENT

Use a 0.06% emulsion for post-construction treatment. Post-construction soil applications shall be made by injection, trenching and rodding into the trench or trenching or coarse fan spray with pressure not exceeding 25 p.s.i., at the nozzle. Care should be taken to avoid soil wash-out around the footing.

Do not apply emulsion until location of wells, radiant heat pipes, water and sewer lines and electrical conduits are known and identified. Caution must be taken to avoid puncturing and injection into these elements.

Foundations: For applications made after the final grade is installed, the applicator must trench and rod into the trench or trench along the foundation walls and around pillars and other foundation elements, at the rate prescribed from grade to the top

of the footing. When the footing is more than four (4) feet below grade, the applicator must trench and rod into the trench or trench along the foundation walls at the rate prescribed to a minimum depth of four feet. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. However, in no case should a structure be treated below the footing.

Slabs

Vertical barriers may be established by sub-slab injection within the structure and trenching and rodding into the trench or trenching outside at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. Special care must be taken to distribute the treatment evenly. Treatment should not extend below the bottom of the footing.

Treat along the outside of the foundation and where necessary beneath the slab on the inside of foundation walls. Treatment may also be required beneath the slab along both sides of interior footing-supported walls, one side of interior partitions and along all cracks and expansion joints. Horizontal barriers may be established where necessary by long-rodding or by grid pattern injection vertically through the slab.

- a. Drill holes in the slab and/or foundation to allow for the application of a continuous insecticidal barrier.
- b. For shallow foundations (1 foot or less) dig a narrow trench approximately 6 inches wide along the outside of the foundation walls. Do not dig below the bottom of the footing. The emulsion should be applied to the trench and soil at 4 gallons of emulsion per 10 linear feet per foot of depth as the soil is replaced in the trench.
- c. For foundations deeper than 1 foot follow rates for basement.
- d. Exposed soil and wood in bath traps may be treated with a 0.06% emulsion.

Basements

Where the footing is greater than 1 foot of depth from grade to the bottom of the foundation, application must be made by trenching and rodding into the trench, or trenching at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth. When the footer is more than four feet below grade, the applicator may trench and rod into the trench, or trench along foundation walls at the rate prescribed for four feet of depth. Rod holes must be spaced to provide a continuous insecticidal barrier, but in no case more than 12 inches apart. The actual depth of treatment will vary depending on soil type, degree of compaction, and location of termite activity. However, in no case should a structure be treated below the footer. Sub-slab

16/31

injection may be necessary along the inside of foundation walls, along cracks and partition walls, around pipes, conduits, piers, and along both sides of interior footing-supported walls.

Accessible Crawl Spaces: For crawl spaces, apply vertical termiticide barriers at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth from grade to the top of the footing, or if the footing is more than 4 feet below grade, to a minimum depth of 4 feet. Apply by trenching and rodding into the trench, or trenching. Treat both sides of foundation and around all piers and pipes. Where physical obstructions such as concrete walkways adjacent to foundation elements prevent trenching, treatment may be made by rodding alone. When soil type and/or conditions make trenching prohibitive, rodding may be used. When the top of the footing is exposed, the applicator must treat the soil adjacent to the footing to a depth not to exceed the bottom of the footing. Read and follow the mixing and use direction section of the label if situations are encountered where the soil will not accept the full application volume.

1. Rod holes and trenches must not extend below the bottom of the footing.
2. Rod holes must be spaced so as to achieve a continuous termiticide barrier but in no case more than 12 inches apart.
3. Trenches must be a minimum of 6 inches deep or to the bottom of the footing, whichever is less, and need not be wider than 6 inches. When trenching in sloping (tiered) soil, the trench must be stepped to ensure adequate distribution and to prevent termiticide from running off. The emulsion must be mixed with the soil as it is replaced in the trench.
4. When treating plenums or crawl spaces, turn off the air circulation system of the structure until application has been completed and all termiticide has been absorbed by the soil.

Inaccessible Crawl Spaces: For inaccessible interior areas, such as areas where there is insufficient clearance between floor joists and ground surfaces to allow operator access, excavate if possible, and treat according to the instructions for accessible crawl spaces. Otherwise, apply one or a combination of the following two methods.

1. To establish a horizontal barrier, apply to the soil surface, 1 gallon of emulsion per 10 square feet overall using a nozzle pressure of less than 25 psi and a coarse application nozzle (e.g., Delavan Type RD Raindrop, RD-7 or larger, or Spraying Systems Co. 8010LP TeeJet or comparable nozzle). For an area that cannot be reached with the application wand, use one or more extension rods to make the application to the soil. Do not broadcast or powerspray with higher pressures.
2. To establish a horizontal barrier, drill through the foundation wall or through the floor above and treat the soil perimeter at a rate of 1 gallon of emulsion per 10 square feet. Drill spacing must be at intervals not to exceed 16

17/31

inches. Many States have smaller intervals, so check State regulations which may apply.

When treating plenums and crawl spaces, turn off the air circulation system of the structure until application has been completed and all termiticide has been absorbed by the soil.

Masonry Voids: Drill and treat voids in multiple masonry elements of the structure extending from the structure to the soil in order to create a continuous treatment barrier in the area to be treated. Apply at the rate of 2 gallons of emulsion per 10 linear feet of footing, using a nozzle pressure of less than 25 psi. When using this treatment, access holes must be drilled below the sill plate and should be as close as possible to the footing as is practical. Treatment of voids in block or rubble foundation walls must be closely examined: Applicators must inspect areas of possible runoff as a precaution against application leakage in the treated areas. Some areas may not be treatable or may require mechanical alteration prior to treatment.

All leaks resulting in the deposition of termiticide in locations other than those prescribed on this label must be cleaned up prior to leaving the application site. Do not allow people or pets to contact contaminated areas or to reoccupy the contaminated areas of the structure until the clean-up is completed.

Note: When treating behind veneer care should be taken not to drill beyond the veneer. If concrete blocks are behind the veneer, both the blocks and the veneer may be drilled and treated at the same time.

Not for use in voids insulated with rigid foam insulation.

Excavation Technique: If treatment must be made in difficult situations, along fieldstone or rubble walls, along faulty foundation walls, and around pipes and utility lines which lead downward from the structure to a well or pond, application may be made in the following manner:

- a. Trench and remove soil to be treated onto heavy plastic sheeting or similar material.
- b. Treat the soil at the rate of 4 gallons of emulsion per 10 linear feet per foot of depth of the trench. Mix the emulsion thoroughly into the soil taking care to prevent liquid from running off the liner.
- c. After the treated soil has absorbed the liquid emulsion, replace the soil in the trench.

Attention: When applying BIFENTHRIN 11.7% TC in a confined area, the user should wear unvented goggles and a NIOSH-approved respirator during application.

18/31

FOAM APPLICATIONS

BIFENTHRIN 11.7% TC emulsion, from 0.06 to 0.12% may be converted to a foam with expansion characteristics from 2 to 40 times.

Localized Application

Foam Applications: The emulsion may be converted to a foam and the foam used to control or prevent termite infestations.

Depending on the circumstances, foam applications may be used alone or in combination with liquid emulsion applications. Applications may be made behind veneers, piers, chimney bases, into rubble foundations, into block voids or structural voids, under slabs, stoops, porches, or to the soil in crawlspaces, and other similar voids.

Foam and liquid application must be consistent with volume and active ingredient instructions in order to insure proper application has been made. The volume and amount of active ingredient are essential to an effective treatment. At least 75% of the labeled liquid emulsion volume of product must be applied, with the remaining percent delivered to appropriate areas using foam application. Refer to label and use recommendations of the foam manufacturer and the foaming equipment manufacturer.

Foam applications are generally a good supplement to liquid treatments in difficult areas, but may be used alone in difficult spots.

**APPLICATION UNDER SLABS OR TO SOIL IN CRAWLSPACES
TO PREVENT OR CONTROL TERMITES**

Application may be made using BIFENTHRIN 11.7% TC foam alone or in combination with liquid emulsion. The equivalent of at least 4 gallons (2.6 ounces of BIFENTHRIN 11.7% TC concentrate) of 0.06% emulsion per 10 linear feet (vertical barrier), or at least 1 gallon (0.66 ounce of BIFENTHRIN 11.7% TC concentrate) of 0.06% emulsion per 10 square feet (horizontal barrier) must be applied either as emulsion, foam, or a combination of both. For a foam only application, apply BIFENTHRIN 11.7% TC concentrate in sufficient foam concentration and foam volume to deposit 2.6 ounces of concentrate per 10 linear feet or 0.66 ounce of concentrate per 10 square feet. For example, 2 gallons of 0.12% emulsion generated as foam to cover 10 linear feet is equal to the application of 4 gallons of 0.06% emulsion per 10 linear feet.

SAND BARRIER INSTALLATION AND TREATMENT

Termites can build mud tubes over treated surfaces as long as they have access to untreated soil and do not have to move BIFENTHRIN 11.7% TC treated soil. Fill in cracks and spaces with builder's or play box sand and treat the sand with BIFENTHRIN 11.7% TC. The sand should be treated as soil following the termiticide rate listed on the BIFENTHRIN 11.7% TC label.

RETREATMENT

Retreatment for subterranean termites can only be performed if there is clear evidence of reinfestation or disruption of the barrier due to construction, excavation, or landscaping and/or evidence of the breakdown of the termiticide barrier in the soil. These vulnerable or reinfested areas may be retreated in accordance with application techniques described in this product's labeling. The timing and type of these retreatments will vary depending on factors such as termite pressure, soil types, soil conditions and other factors which may reduce the effectiveness of the barrier.

Annual retreatment of the structure is prohibited unless there is clear evidence that reinfestation or barrier disruption has occurred.

**APPLICATION IN CONJUNCTION WITH
THE USE OF FIRSTLINE TERMITE BAITS**

As part of the integrated pest management (IPM) program for termite control, BIFENTHRIN 11.7% TC may be applied to critical areas of the structure including plumbing and utility entry sites, bath traps, expansion joints, foundation cracks and areas with known or suspected infestations at a rate of 0.06% as a spot treatment or complete barrier treatment. Applications may be made as described in the Postconstruction treatment section of this label.

SPECIFIC PEST CONTROL APPLICATIONS

Underground Services such as: wires, cables, utility lines, pipes, conduits, etc. Services may be within structures or located outside structures, in right-of-ways or to protect long range (miles) of installations of services.

Soil treatment may be made using 0.06 to 0.12% BIFENTHRIN 11.7% TC emulsion to prevent attack by Termites and Ants.

Apply 2 gallons of emulsion per 10 linear feet to the bottom of the trench and allow to soak into the soil. Lay services on the treated soil and cover with approximately 2 inches of fill soil. Apply another 2 gallons per 10 linear feet over the soil surface to complete the treatment barrier. In wide trenches, only treat the soil in the area near the services. It is important to establish a continuous barrier of treated soil surrounding the services.

Where soil will not accept the above labeled volume, 1 gallon of 0.12% BIFENTHRIN 11.7% TC may be used per 10 linear feet of trench both to the bottom of the trench and over the soil on top of the services.

Finish filling the trench with treated fill soil. The soil where each service protrudes from the ground may be treated by trenching/rodding of no more than 1 to 2 gallons of emulsion into the soil.

Precautions: Do not treat electrically active underground services.

Posts, Poles, and Other Constructions

Create an insecticidal barrier in the soil around wooden constructions such as signs, fences and landscape ornamentation by applying a 0.06% emulsion.

Previously installed poles and posts may be treated by sub-surface injection or treated by gravity-flow through holes made from the bottom of a trench around the pole or post. Treat on all sides to create a continuous insecticidal barrier around the pole. Use 1 gallon of emulsion per foot of depth for poles and posts less than six inches in diameter. For larger poles, use 1.5 gallons of emulsion per foot of depth. Apply to a depth of 6 inches below the bottom of the wood. For larger constructions, use 4 gallons per 10 linear feet per foot of depth.

Treatment of Wood-in-Place for Control of Wood-infesting Insects:

(Localized Areas in Structure) For the control of insects such as Termites, Ants, Carpenter Ants, and wood-infesting beetles such as Old House Borer and Powder Post in localized areas of infested wood in and around structures, apply a 0.06% emulsion to voids and galleries in damaged wood and in spaces between wooden members of a structure and between wood and foundations where wood is vulnerable. Paint on or fan spray applications may also be used. Plastic sheeting must be placed immediately below overhead areas that are spot treated except for soil surfaces in crawl spaces. Application may be made to inaccessible areas by drilling, and then injecting emulsion with a crack and crevice injector into the damaged wood or void spaces. This type of application is not intended to be a substitute for soil treatment, mechanical alteration or fumigation to control extensive infestation of wood-infesting insects.

Termite carton nests in trees or building voids may be injected with 0.06% emulsion. Multiple injection points to varying depths may be necessary. It is desirable to physically remove carton nest material from building voids when such nests are found.

Control of Bees and Wasps Indoors: To control Bees, Wasp, Hornets, and Yellow-Jackets apply a 0.06% emulsion. Application should be made in the late evening when insects are at rest. Spray liberally into hiding and breeding places, especially under attic rafters, contacting as many insects as possible. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity.

Important: Do not apply emulsion until location of heat pipes, ducts, water and sewer lines and electrical conduits are known and identified. Caution must be taken to avoid puncturing and injection into these structural elements. Do not apply into electrical fixtures, switches, or sockets.

In the home, all food processing surfaces and utensils in the treatment area should be covered during treatment or thoroughly washed before re-use. Remove pets, birds, and cover aquariums before spraying. Do not permit humans or pets to contact treated surfaces until the spray has dried.

During any overhead applications to overhead interior areas of structures, cover surfaces below with plastic sheeting or similar materials.

Wear protective clothing, unvented goggles, gloves and respirator, when applying to overhead areas or in poorly ventilated areas. Avoid touching sprayed surfaces until spray has completely dried.

Do not use in food/feed areas of food/feed handling establishments, restaurants or other areas where food/feed is commercially prepared or processed. Do not use in serving areas while food is exposed or facility is in operation. Serving areas are areas where prepared foods are served such as dining rooms but excluding areas where food may be prepared or held.

In the home, cover all food handling surfaces and cover or remove all food and cooking utensils, or wash thoroughly after treatment. Nonfood/feed areas of food/feed handling establishments are areas such as garbage rooms, lavatories, floor drains (to sewers) entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage (after bottling or canning).

Broadcast Treatment of Wood for the Control of Wood-infesting Insects and Nuisance Pests Outside of Structure

Apply a 0.06% emulsion with a fan spray using a maximum pressure of 25 psi. Treatment should be made just to the point of run-off.

To control wood-infesting insects active inside trees, utility poles and/or fence posts, drill to find the interior infested cavity and inject a 0.06% emulsion. To control Bees, Wasps, Hornets, and Yellow-Jackets, apply in late evening when insects are at rest. Aim spray at nest openings in ground, bushes and in cracks and crevices which may harbor nests, saturating nest openings and contacting as many insects as possible.

Pests Under Slabs

Infestations of Arthropods, such as Ants, Cockroaches and Scorpions inhabiting under slab area may be controlled by drilling and injecting or horizontal rodding and then injecting 1

22/31

gallon of a 0.06% to 0.12% emulsion per 10 square feet or 2 gallons of emulsion per 10 linear feet.

Formula for Determining the Active Ingredient Content of the Finished Spray Mixture: The following formula may be used to determine the percent active ingredient that is in the spray tank after mixing BIFENTHRIN 11.7% TC:

$$\frac{(11.7)(\text{fl.oz. BIFENTHRIN 11.7\% TC added to tank})}{(\text{Gallons of finished spray mix})(128)} = \% \text{ Active Ingredient of spray mix}$$

GENERAL APPLICATIONS INSTRUCTIONS

BIFENTHRIN 11.7% TC formulation mixes readily with water and other aqueous carriers, and controls a wide spectrum of insects and mites on trees, shrubs, foliage plants, non-bearing fruit and nut trees and flowers in interiorscapes including hotels, shopping malls, office buildings, etc. outdoor plantscapes, such as around residential dwellings, parks, institutional buildings, recreational areas, athletic fields and home lawn. Non-bearing crops are perennial crops that will not produce a harvestable agricultural commodity during the season of application.

BIFENTHRIN 11.7% TC may be tank-mixed with other pesticides, including insect growth regulators. When tank mixing BIFENTHRIN 11.7% TC with other pesticides, observe all precautions and limitations on each separate product label. The physical compatibility of BIFENTHRIN 11.7% TC may vary with different sources of pesticide products, and local cultural practices. Any tank mixture which has not been previously tested should be prepared on a small scale (pint or quart jar), using the proper proportions of pesticides and water to ensure the physical compatibility of the mixture.

The following procedure is recommended for preparation of a new tank mix, unless specified otherwise in label directions: (1) Add wettable powders to tank water, (2) Agitate, (3) Add liquids and flowables, (4) Agitate, (5) Add emulsifiable concentrates, and (6) Agitate. If a mixture is found to be incompatible following this order of addition, try reversing the order of addition, or increase the volume of water. Note: If the tank-mixture is found to be compatible after increasing the amount of water, then the sprayer will need to be recalibrated for a higher volume application. Do not allow tank mix to stand overnight.

APPLICATION RECOMMENDATIONS

LAWN: Apply BIFENTHRIN 11.7% TC as a broadcast treatment. Use application volumes of up to 10 gallons per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low volume applications, less than 2 gallons/1000 square feet immediate irrigation of treated area with at least 0.25 inches of

23/31

water following application to ensure efficacy of sub-surface pests such as but not limited to, Mole Crickets, is recommended.

LAWN APPLICATION RATES

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, BIFENTHRIN 11.7% TC may be applied at up to 0.6 fl. oz. per 1000 square feet to control each of the pests listed in this Table.

Pest	Application Rate BIFENTHRIN 11.7% TC
Armworms ¹ Cutworms ¹ Sod Webworm ¹	0.1 - 0.15 fluid oz. per 1000 sq. ft.
Annual Bluegrass Weevil (<i>Hyperodes</i>) (Adult) ² Banks Grass Mite ⁶ Billbugs (Adult) ³ Black Turfgrass <i>Ataenius</i> (Adult) ⁴ Centipedes Chinch Bugs ⁵ Crickets Earwig Fall Armyworm Fleas (Adult) Grasshoppers Leafhoppers Mealybugs Millipedes Mites ⁶ Pillbugs Sowbugs	0.15 - 0.3 fluid oz. per 1000 sq. ft.
Ants Fleas (Larvae) ⁷ Imported Fire Ants ⁸ Japanese Beetle (Adult) Mole Cricket (Adult) ⁹ Mole Cricket (Nymph) ¹⁰	0.3 - 0.6 fluid oz. per 1000 sq. ft.

COMMENTS

¹**Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (up to 0.6 fluid oz. per 1000 square feet) may be required during periods of high pest pressure.

²**Annual Bluegrass Weevil (*Hyperodes*) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom.

24/31

Consult your State Cooperative Extension Service for more specific information regarding application timing.

³**Billbug adults:** Applications should be made when adult billbugs are first observed during April and May. Degree day models have been developed to optimize application timing. Consult your State Cooperative Extension Service for information specific to your region. In temperate regions, spring applications targeting billbug adults will also provide control of over-wintered chinch bugs.

⁴**Black Turfgrass Ataenius adults:** Applications should be made during May and July to control the first and second generation of black turfgrass ataenius adults, respectively. The May application should be timed to coincide with the full bloom stage of Vanhoutte spiraea (*Spiraea vanhouttei*) and horse chestnut (*Aesculus hippocastanum*). The July application should be timed to coincide with the blooming of Rose of Sharon (*Hibiscus synacus*).

⁵**Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (Up to 0.6 fluid oz. per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

⁶**Mites:** To ensure optimal control of eriophyid mites, apply in combination with the labeled application rate of a surfactant. A second application, five to seven days after the first, may be necessary to achieve acceptable control.

⁷**Flea larvae:** Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: If the lawn area is being treated with BIFENTHRIN 11.7% TC at 0.15 fluid oz. per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

⁸**Imported Fire Ants:** Control will be optimized by combining broadcast applications that will control foraging workers and newly mated fly-in queens with mound drenches that will control existing colonies. If the soil is not moist, then it is important to irrigate before application or use a high volume application. Broadcast treatments should apply 0.6 fluid oz. per 1,000 square feet. Mounds should be treated by diluting 2/3 teaspoon of BIFENTHRIN 11.7% TC per gallon of water and applying 1 to 2 gallons of finished spray per mound. The mounds should be treated with sufficient force to break their apex and allow the

insecticide solution to flow into the ant tunnels. A four foot diameter circle around the mound should also be treated. For best results, apply in cool weather (65 - 80°F) or in early morning or late evening hours. Note: a spray rig that is calibrated to apply 0.6 fluid oz. per 1,000 square feet of BIFENTHRIN 11.7% TC in 5 gallons per 1,000 square feet contains the approximate dilution (2/3 teaspoon per gallon) that is required for fire ant mound drenches in the spray tank.

⁹**Mole Cricket adults:** Achieving acceptable control of adult mole crickets is difficult because preferred grass areas are subject to continuous invasion during the early spring by this extremely active stage. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized. Grass areas that receive pressure from adult mole crickets should be treated at peak egg hatch to ensure optimum control of subsequent nymph populations (see below).

¹⁰**Mole Cricket nymphs:** Grass areas that received intense adult mole cricket pressure in the spring should be treated immediately prior to peak egg hatch. Optimal control is achieved at this time because young nymphs are more susceptible to insecticides and they are located near the soil surface where the insecticide is most concentrated. Control of larger, more damaging, nymphs later in the year may require both higher application rates and more frequent application to maintain acceptable control. Applications should be made as late in the day as possible and should be watered in with up to 0.5 inches of water immediately after treatment. If the soil is not moist, then it is important to irrigate before application to bring the mole crickets closer to the soil surface where contact with the insecticide will be maximized.

ORNAMENTALS AND TREES

For ornamental applications, dilute 0.3 to 2.4 fluid ounces of BIFENTHRIN 11.7% TC in 10 gallons of water and apply at the rate of 10 gallons per 4,356 square feet. One gallon of finished spray will treat 435 square feet. If a higher volume application is required for adequate coverage of the plant canopy, BIFENTHRIN 11.7% FL TC may be diluted and applied in a greater volume of water providing that the maximum label rate (2.4 fluid oz. per 4,365 square feet) is not exceeded. BIFENTHRIN 11.7% TC may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (2.4 fluid oz. per 4,365 square feet) is not exceeded.

ORNAMENTAL APPLICATION RATES

The application rates listed in the following table will provide excellent control of the respective pests under typical

26/31

conditions. However, at the discretion of the applicator, BIFENTHRIN 11.7% TC may be applied at up to 1.2 fluid oz. per 5 gallons of water to control each of the pests listed in this Table.

Pest	Application Rate BIFENTHRIN 11.7% TC	
	Fluid Ounces per 5 gallons	Fluid Ounces per 10 gallons
Bagworms ¹ Cutworms Elm Leaf Beetles Fall Webworms Gypsy Moth Caterpillars Lace Bugs Leaf Feeding Caterpillars Tent Caterpillars	0.15 - 0.3	0.3 - 0.6
Adelgids Ants Aphids Bees Beet Armyworm Beetles ² Black Vine Weevil (Adults) Brown Soft Scales Broad Mites Budworms California Red Scale (Crawlers) ² Centipedes Cicadas Citrus Thrips Clover Mites Crickets Diaprepes (Adults) Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Grasshoppers Japanese Beetle (Adult) Leafhoppers Leafrollers Mealybugs Millipedes Mites Mosquitoes Orchid Weevil Pillbugs Pine Needle Scales (Crawlers) ² Plant Bugs (including <i>Lygus</i> spp.) Psyllids San Jose Scales (Crawlers) ² Scorpions Sowbugs Spider Mites ³ Spiders Spittlebugs	0.3 - 0.6	0.6 - 1.2

27/31

Pest	Application Rate BIFENTHRIN 11.7% TC	
	Fluid Ounces per 5 gallons	Fluid Ounces per 10 gallons
Thrips Tip Moths Treehoppers Twig Borers ² Wasps Weevils ² Whiteflies		
Imported Fire Ants** Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults) Spider Mites ³	0.6 - 1.2	1.2 - 2.4

¹**Bagworms:** Apply when larvae begin to hatch and spray larvae directly. Applications when larvae are young will be most effective.

²**Beetles, Scale Crawlers, Twig Borers, and Weevils:** Treat trunks, stems and twigs in addition to plant foliage.

³**Spider Mites:** BIFENTHRIN 11.7% TC provides optimal two-spotted spider mite control when applied during spring to mid-summer. Higher application rates and/or more frequent treatments may be required for acceptable two-spotted spider mite control during mid- to late-summer. The addition of a surfactant or agricultural oil may increase the effectiveness of BIFENTHRIN 11.7% TC. Combinations of BIFENTHRIN 11.7% TC with other registered miticides have proven effective. Alternately, BIFENTHRIN 11.7% TC applications may be rotated with those of other products that have different modes of action in control programs that are designed to manage resistance by two-spotted spider mites. Consult your local Cooperative Extension Service for resistance management recommendations in your region.

**For foraging ants.

Apply the specified application rate as a full coverage foliar spray. Typical application volume is 10 gallons per 4,365 square feet. Repeat treatment as necessary to achieve control using higher application rates as pest pressure and foliage area increases. Repeat applications should be limited to no more than once per seven days.

Certain cultivars may be sensitive to the final spray solution. A small number of plants should be treated and observed for one week prior to application to the entire planting.

Use of an alternate class of chemistry in a treatment program is recommended to prevent or delay pest resistance.

PEST CONTROL ON OUTSIDE SURFACES AND AROUND BUILDINGS

For control of Ants, (including Carpenter Ants and Fire Ants), Armyworms, Bees, Beetles, Biting Flies, Boxelder Bugs, Centipedes, Chiggers, Chinch Bugs, Clover Mites, Crickets, Cutworms, Dichondra Flea Beetles, Earwigs, Elm Leaf Beetles, Firebrats, Fleas, Flies, Grasshoppers, Hornets, Japanese Beetles, Millipedes, Mosquitoes, Moths, Roaches (including Cockroaches),

28/31

Scorpions, Silverfish, Sod Webworms, Sowbugs (Pillbugs), Spiders (including Black Widow Spiders), Springtails, and Wasps.

Apply BIFENTHRIN 11.7% TC using a 0.03 to 0.06% suspension as a residual spray to outside surfaces of buildings including, but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, lawns such as grass areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, and other residential and non-commercial structures, soil, trunks of woody ornamentals and other areas where pests congregate or have been seen. Use a spray volume of up to 10 gallons of emulsion per 1,000 square feet. Higher application volumes may be used to obtain the desired coverage of dense vegetation or landscaping materials.

Mixing Directions: For 0.03% suspension, mix 0.33 fluid oz. of BIFENTHRIN 11.7% TC per gallon of water. For 0.06% suspension, mix 0.66 fluid oz. BIFENTHRIN 11.7% TC per gallon of water (1 fluid oz. = 2 tablespoons). Do not use household utensils to measure BIFENTHRIN 11.7% TC. Use the higher rate for heavy pest infestation, quicker knockdown or longer residual control. Retreatment may be necessary to achieve and/or maintain control during periods of, high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity. Repeat application should be limited to no more than once per seven days.

Perimeter Treatment: Apply to a band of soil and vegetation 6 to 10 feet wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of 2 to 3 feet. Use a spray volume of 2 to 10 gallons of emulsion per 1000 square feet. Higher volumes of water may be needed if mulch or leaf litter is present or foliage is dense. House siding may be treated if pests such as Gypsy Moth adults and caterpillars, Boxelder bugs, Elm Leaf Beetles, Earwigs or Silverfish are present.

For Ant and Fire Ant Mounds use BIFENTHRIN 11.7% TC 0.06% emulsion as Drench Method: Apply 1-2 gallons of emulsion to each mound area by sprinkling the mound until it is wet and treated a 4 foot diameter circle around the mound. Use the higher volume for mounds larger than 12 inches. For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.

INDOOR USE

Do not apply a broadcast application to interior surfaces of homes. Do not use in food/feed areas of food/feed handling establishments, restaurants or other areas where food is commercially prepared or processed. Do not use in serving areas while food/feed is exposed or facility is in operation. Serving areas are areas where prepared foods are served, such as dining rooms, but excluding areas where food may be prepared or held. In the home, all food processing surfaces and utensils should be

covered during treatment or thoroughly washed before use. Exposed food should be covered or removed.

For control of ants, bees, beetles, boxelder bugs, centipedes, cockroaches, crickets, earwigs, flies, millipedes, pillbugs, scorpions, silverfish, sowbugs, spiders, and wasps.

Use a 0.03% to 0.06% suspension (0.33 to 0.66 fluid oz. per gallon of water) for residual pest control in buildings and structures and on modes of transport. Apply either as a crack and crevice, pinstream, spot, coarse, low pressure spray (25 psi or less) or with a paintbrush. Do not use in aircraft cabins. For use only in aircraft cargo areas.

Indoor Treatments: Apply as a coarse, low pressure, crack and crevice or spot spray to areas where pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, behind and under refrigerators, cabinets, sinks, furnaces, stoves, the underside of shelves, drawers and similar areas. Do not use as a space spray. Pay particular attention to cracks and crevices.

Mixing Directions: See mixing directions in "Pest Control on Outside Surfaces and Around Buildings" section.

BIFENTHRIN 11.7% TC is to be diluted with water for spray or brush application. Fill sprayer with the desired volume of water and add BIFENTHRIN 11.7% TC. Close and shake before use in order to insure proper mixing. Mix only the amount of solution needed for the application. Retreatment may be necessary to achieve and/or maintain control during periods of high pest pressure. Repeat application is necessary only if there are signs of renewed insect activity. Repeat application should be limited to no more than once per seven days.

Cockroaches, Crickets, Firebrats, Scorpions, Silverfish, and Spiders: Apply as a coarse, low pressure spray to areas where these pests hide, such as baseboards, corners, storage areas, closets, around water pipes, doors and windows, attics and eaves, behind and under refrigerators, cabinets, sinks, furnaces, and stoves, the underside of shelves, drawers and similar areas. Pay particular attention to cracks and crevices.

Ants: Apply to any trails, around doors and windows, and other places where ants may be found.

Bees and Wasps: Application to nests should be made late in the evening when insects are at rest. Thoroughly spray nest and entrance and surrounding areas where insects alight.

Boxelder Bugs, Centipedes, Earwigs, Beetles, Millipedes, Pillbugs, and Sowbugs: Apply around doors and windows and other places where these pests may be found or where they may enter premises. Spray baseboards, storage areas and other locations.

30/31

Food Handling Establishments: Places other than private residences in which food is held, processed, prepared or served.

Nonfood Areas: Permitted areas of use include industrial buildings, houses, apartment buildings, laboratories, buses, and the nonfood/feed areas of stores, warehouses, vessels, railcars, trucks, trailers, aircraft (Do not use in aircraft cabins), schools, nursing homes, hospitals, restaurants, hotels, food manufacturing, processing and service establishments. Permitted nonfood/feed areas are areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, garages, mop closets and storage (after canning or bottling). BIFENTHRIN 11.7% TC may be used as a general spot, crack and crevice treatment in nonfood areas. All areas where insects hide or through which insects may enter should be treated.

ATTENTION

Do not apply this pesticide in livestock buildings (barns).

Do not apply to pets, crops, or sources of electricity.

Firewood is not to be treated.

Use only in well ventilated areas.

During any application to overhead areas of structure, cover surfaces below with plastic sheeting or similar material.

Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.

Thoroughly wash dishes and food handling utensils with soap and water if they become contaminated by application of this product.

Do not treat areas where food is exposed.

During indoor surface applications do not allow dripping or run-off to occur.

Do not allow people or pets on treated surfaces until spray has dried.

Let surfaces dry before allowing people and pets to contact surfaces.

BIFENTHRIN 11.7% TC will not stain or damage any surface that water alone will not stain or damage.

Do not apply this product in patient rooms or in any rooms while occupied by the elderly or infirm.

Do not apply in classrooms when in use.

Do not apply when occupants are present in the immediate area in institutions such as libraries, sports facilities, etc.

Distributors Should Sell in Original Packages Only.

Terms of Sale or Use: On purchase of this product buyer and user agree to the following conditions:

Warranty and Disclaimer Statement

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer. Arysta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

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