



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

JUN 17 2003

Mr. Michael C. Zucker
FMC Corporation, Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103

Subject: Label Amendment Expanding Directions for Use on Ornamentals to Include
Trunk Sprays for Control of Bark Beetles
Biflex® SFR Termiticide/Insecticide
EPA Reg. No. 279-3177
Your Resubmission Dated February 11, 2003

Dear Mr. Zucker:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable subject to the comments listed below. Two (2) copies of the finished labeling must be submitted prior to releasing the product for shipment. A stamped copy of the label is enclosed for your records.

1. You must revise the oral First Aid statements in accordance with the Agency's latest guidance in PR Notice 2001-1 for products containing petroleum distillate:

Table with 2 columns: 'If swallowed:' and a list of instructions: 'Immediately call a poison control center or doctor.', 'Do not induce vomiting unless told to do so by a poison control center or doctor.', 'Do not give any liquid to the person.', 'Do not give anything by mouth to an unconscious person.'

2. In the second column on page 4, in the paragraph which begins "Attention:", revise the respirator statement to read as follows:

"When applying Biflex® SFR Termiticide/Insecticide in a confined area, the user should wear unvented goggles and a NIOSH-approved respirator during application."

3. In the second column on page 5, under "Attention", delete "(except where exempt)" from the statement regarding application to overhead areas of the structure; and add the following restriction for applications in homes:

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

4. In the listing of use sites under "General Applications Instructions" in the second column on page 5, change "institutional" to "institutional buildings" and "recreational" to "recreational areas".

If you have any questions regarding this action, please contact Susan Stanton of my team at (703) 305-5218.

Sincerely,



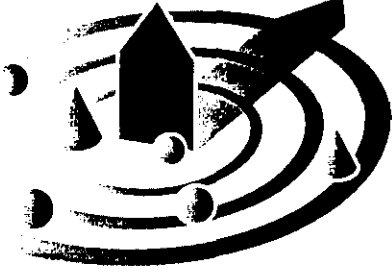
George T. LaRocca  
Product Manager (13)  
Insecticide Branch  
Registration Division (7505C)

Enclosure

ACCEPTED  
with COMMENTS  
In EPA Letter Dated:

JUN 17 2003  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
279-3177

# Biflex®



SFR Termiticide/Insecticide

For use by individuals/firms licensed or registered by the State to apply termiticide products. States may have more restrictive requirements regarding qualifications of persons using this product. Consult the structural pest control regulatory agency of your State prior to use of this product. For use only by pest control operators or commercial applicators to control pests on lawns and ornamental plants.

EPA Reg. No. 279-3177	EPA Est. 279-
<b>Active Ingredient:</b>	<b>By Wt.</b>
Bifenthrin* .....	23.4%
Inert Ingredients** .....	76.6%
	100.0%

\*Cis isomers 97% minimum, trans isomers 3% maximum.  
\*\*Contains petroleum distillates.  
Biflex® SFR termiticide contains 2 pounds active ingredient per gallon.  
U.S. Patent No. 4,238,505

## KEEP OUT OF REACH OF CHILDREN WARNING

See other panels for additional precautionary information.



FMC Corporation  
Agricultural Products Group  
Philadelphia PA 19103

## Net Contents

FIRST AID	
<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>
<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.</li> <li>• 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>
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)-331-3148 for Emergency Assistance.	
NOTE TO PHYSICIAN	
Pesticide Hotline (800) 858-7378. This product is a pyrethroid. This product also contains aromatic hydrocarbons. Because of the risk of hydrocarbon pneumonitis if even tiny amounts are aspirated into the lung during emesis, consideration should be given to gastric lavage with endotracheal tube in place. Treatment is symptomatic and supportive. Animal and vegetable fats, milk, cream and alcohol may increase absorption and should not be administered.	
For information Regarding the Use of this Product Call 1-800-321-1FMC (1362).	

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

**Warning**  
May be fatal if swallowed. Causes skin irritation and moderate eye irritation. Do not get on skin or on clothing. Avoid breathing vapors or spray mist, and contact with eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash contaminated clothing before reuse.

All pesticide handlers (mixers, loaders and applicators) must wear long-sleeved coveralls worn over a minimum of short-sleeved shirt and short pants, socks, chemical-resistant footwear, chemical-resistant gloves and protective eyewear. After the product is diluted in accordance with label directions for use, shirts, pants, socks, shoes and waterproof gloves are sufficient. In addition, all pesticide handlers must wear a respiratory protection device when handling the concentrate or when working in a non-ventilated space. All pesticide handlers must wear protective eyewear when working in a non-ventilated space or applying termiticide by rodding or sub-slab injection.

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, 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. Do not apply when weather conditions favor drift from treated areas. Care should be used when spraying to avoid fish and reptile pets in/around ornamental ponds.

Do not apply this product or allow it to drift to crops or weeds on which Bees are actively foraging. Additional information may be obtained from your Cooperative Extension Service.

### Physical/Chemical Hazards

Do not use or store near heat or open flame.

Do not apply this product in or on electrical equipment due to the possibility of 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 by air.

Do not use in greenhouses, nurseries.

### 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 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.

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:

- 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:
  - Trench and remove soil to be treated onto heavy plastic sheeting or similar material or into a wheelbarrow.
  - Treat the soil at the rate of 4 gallons of dilute 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 runoff or spillage.
  - After the treated soil has absorbed the diluted emulsion, replace the soil into the trench.
- 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

- 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.

### STORAGE AND DISPOSAL

#### Pesticide Storage

If crystals are observed, warm material to above 60°F by placing container in warm location. Shake or roll container periodically to redissolve solids. Do not use external source of heat for warming container.

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 containers. Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: (800) 331-3148.

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

#### Pesticide Disposal

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

#### Container Disposal

Metal or Plastic Container: Triple rinse (or equivalent) then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Do not cut or weld metal containers.

Returnable/Refillable Containers: Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

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 off-site 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 Biflex SFR termiticide/insecticide. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes.

Biflex SFR 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 1 quart of Biflex SFR with 99.75 gallons of water.

**Mixing:**

For the desired application rate, use the chart below to determine the amount of Biflex® SFR Termiticide/Insecticide for a given volume of finished emulsion:

Amount of Biflex SFR (Gallons except where noted)			
Emulsion Concentration	Amount of Biflex SFR	Amount of Water	Desired Gallons of Finished Emulsion
0.06%	0.32 oz	127.68 oz.	1
	1.6 oz	4.99	5
	3.2 oz.	9.975	10
	8 oz.	24.94	25
	0.5 qt.	49.875	50
	0.75 qt.	74.8125	75
	1 qt	99.75	100
	1.5 qt.	149.62	150
	2 qt.	199.5	200
	0.12%*	0.64 oz	127.36 oz.
3.2 oz		4.975	5
6.4 oz.		9.95	10
0.5 qt.		24.875	25
1 qt.		49.75	50
1.5 qt.		74.625	75
2 qt		99.5	100
3 qt.		149.25	150
1		199	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 1/2 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 <sup>2</sup> )	1.0 gallons	0.5 gallons
Vertical (gallons emulsion/10 lin. ft.)	4.0 gallons	2.0 gallons

**After Treatment:** All holes in commonly occupied areas into which Biflex SFR 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 Biflex® SFR. 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.

To produce a horizontal insecticidal barrier, apply the emulsion at the rate of 1 gallon per 10 square feet to fill soil. If fill is washed gravel or other coarse material, apply at 1.5 gallons of emulsion per 10 square feet so that the emulsion will reach the soil beneath the fill. Applications shall be made by a low pressure spray (less than 50 p.s.i.) 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 should be established in areas such as around the base of foundations, plumbing, utility entrances, back-filled soil against foundation walls and other critical areas.

To produce a vertical barrier in soil, apply the emulsion at a rate of 4 gallons per 10 linear feet per foot of depth. Distribute the treatment as evenly as possible.

- a. When rodding or trenching, it is important that emulsion reaches the top of the footing. Rod holes should be spaced to provide a continuous insecticidal barrier.
- 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, rodding, and/or trenching or coarse fan spray with pressures 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 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 can be made by trenching and rodding 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 or trench along foundation walls at the rate prescribed for four feet of depth. 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 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. 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 p.s.i. 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 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 p.s.i. 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 Biflex® SFR Termiticide/Insecticide in a confined area, the user should wear unvented goggles and a respirator approved by the Mine Safety and Health Administration during application.

**Foam Applications**

Biflex® SFR 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 Biflex® SFR foam alone or in combination with liquid emulsion. The equivalent of at least 4 gallons (1.28 ounces of Biflex® SFR concentrate) of 0.06% emulsion per 10 linear feet (vertical barrier), or at least 1 gallon (0.32 ounces of Biflex® SFR 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 Biflex® SFR concentrate in sufficient foam concentration and foam volume to deposit 1.28 ounces of concentrate per 10 linear feet or 0.32 ounces 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 Biflex® SFR treated soil. Fill in cracks and spaces with builder's or play box sand and treat the sand with Biflex® SFR. The sand should be treated as soil following the termiticide rate listed on the Biflex® SFR label.

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, Biflex SFR 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% Biflex® SFR 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% Biflex® SFR 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. Repeat application should be limited to no more than once per seven days.

**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. Non-food/feed areas of food/feed areas 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).

Not for use in Federally inspected meat and poultry plants.

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

**Attention**

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 (except where exempt).

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 apply this pesticide in livestock buildings (barns).

**General Applications Instructions**

Biflex® SFR Termiticide/Insecticide 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. and, outdoor plantscapes, such as around residential dwellings, parks, institutional, recreational, athletic fields and home lawns. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Biflex® SFR may be tank-mixed with other products, including insect growth regulators. When tank mixing Biflex™ SFR with other products, observe all precautions and limitations on each separate product label. The addition of spreader stickers is not necessary. The physical compatibility of Biflex® SFR 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 chemicals 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.

When using tank mixes, observe all restrictions and precautions which appear on the labels of these products. Provide constant agitation to keep the mixture in solution.

**APPLICATION RECOMMENDATIONS**

**Lawn:** Apply Biflex® SFR as a broadcast treatment. Use higher volumes up to 10 gallons of carrier per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low water volume usage, less than 2 gallons/1000 square feet, addition of a non-ionic or silicone based surfactant (0.25% %) is recommended, as is immediate irrigation of treated area with at least 0.25 inches of water following application to ensure efficacy of sub-surface pests such as, but not limited to, Mole Crickets.

**LAWN APPLICATION RATES**

Pest	Biflex® SFR	Comments
Ants Armyworms Billbugs Chinch Bugs Crane Flies Crickets Cutworms Earwigs Fall Webworms Fleas (adults, larvae) Grasshoppers Mites Mole Crickets* Sod Webworms Spittlebugs	0.07-0.15 fl.ozs. per 1000 square feet	*For control of overwintered Mole Crickets apply the lower rate in early Spring. For the control of adult Mole Crickets in late-Summer or early Fall, apply the higher rate.  To enhance control a non-ionic surfactant or a silicone based surfactant (0.25% v/v) may be applied as a tank-mix for the control of late Summer or Fall Adult Mole Crickets. To maximize efficacy against sub-surface pests, Biflex® SFR should be applied with a non-ionic or silicone based surfactant (0.25% v/v) in sufficient water to ensure good penetration of spray to soil-thatch matrix. Treated areas should then be irrigated with 0.25 to 0.5 inches of water immediately afterwards paying special attention so that run-off or puddling does not occur.  Delay watering or mowing for 24 hours after application to ensure optimum control of Armyworms, Cutworms and Sod Webworms.
Japanese Beetles (adult)	0.07-0.30 fl.ozs. per 1000 square feet	

Do not apply when wind conditions favor downwind drift to nearby water bodies.

Do not apply when wind velocity exceeds 10 miles per hour.

Avoid application when wind gusts approach 10 mph.

Apply using nozzles that provide the largest droplet size compatible with adequate coverage.

**Ornamentals and Trees (Foliar applications):** For ornamental applications, dilute 0.26 to 1.28 fluid ounces of Biflex® SFR Termiticide/Insecticide per 10 gallons of water and apply at the rate of 10 gallons per 4,356 square feet. One gallon of finish spray will treat 435 square feet. If a higher volume application is required for adequate coverage of the plant canopy, Biflex®SFR may be diluted in large volumes of water as long as the maximum label rate (1.28 fluid ounces per 4,356 square feet) is not exceeded. Biflex® SFR may be applied through low volume equipment by dilution with water and providing the maximum label rate (1.28 fluid ounces per 4,356 square feet) is not exceeded.

**ORNAMENTAL APPLICATION RATES**

Pest	Rate		Comments
	lb ai/ 10 Gallons	fl.oz./ 10 Gallons	
Ants	0.004 to 0.02	0.26 to 1.28	Apply the specified rate as a full coverage foliar spray. Repeat as necessary to achieve control using higher rates as pest pressure and foliage area increases. Repeat application should be limited to no more than once per seven days.
Aphids			
Bagworms			To control Bagworm: Apply when larvae begin to hatch. Spray larvae directly. Applications made when larvae are young will be most effective.
Black Vine Weevil (adults)			
Brown Soft Scales			To control scale crawlers and twig borers: Treat trunks, stems, and twigs in addition to plant foliage.
Broad Mites			
Budworms			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.
California Red Scale (crawlers)			
Centipedes			Use of an alternate class of chemistry in a treatment program is recommended to prevent or delay pest resistance.
Clover Mites			
Crickets			Use sufficient water to obtain uniform coverage. Typical use rates are 10 gallons of spray per 4,356 square feet.
Cutworms			
Earwigs			To control Black Vine Weevil and Fungus Gnat larvae, apply as a drench at the rate of approximately 8 ounces of finished spray per 6 inch pot.
Elm Leaf Beetles			
Fall Webworms			*For control of overwintered Mole Crickets apply the lower rate in early Spring. For the control of adult Mole Crickets in late-Summer or early Fall, apply the higher rate.
Flea Beetles			
Fungus Gnats (adults)			
Grasshoppers			
Lace Bugs			
Leafhoppers			
Leaf feeding Caterpillars			
Mealybugs			
Millipedes			
Mole Crickets*			
Orchid Weevil			
Pillbugs			
Pine Needle Scales (crawlers)			
Plant Bugs (incl. Lygus spp)			
San Jose Scales (crawlers)			
Sowbugs			
Spiders			
Spittlebugs			
Tent Caterpillars			
Tip Moths			
Weevils			
Whitelies			
Citrus Thrips	0.006 to 0.02	0.38 to 1.28	
Beet Armyworm (larvae, adult)			
Diaprepes			
European Red Mite			
Leafrollers			
Spider Mites			
Thrips			
Twig Borers			
Japanese Beetles (adult)	0.01 to 0.02	0.64 to 1.28	
Leafminers			
Pecan Leaf Scorch Mite			
Black Vine Weevil (larvae)			
Fungus Gnats (larvae)			



# TRUNK SPRAYS TO ORNAMENTAL TREES

Control of *Dendroctonus* bark beetles such as elm bark beetle, mountain pine beetle, southern pine beetle, western pine beetle, Black turpentine beetle, and engraver beetles (*Ips* spp.)

**Preventative control:** Make applications of a spray mixture containing 1.0 to 2.0 pints of this product per 100 gallons (0.25 to 0.5 lbs. ai/100 gallons) of water to the trunk of the tree with a hydraulic sprayer in the spring of the year or when a threat of infestation is evident from nearby infested trees. Apply spray directly to the main trunk from the base of the tree to at least half way into the live crown. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product to trees per acre. Repeat application may be necessary if reinfestation is likely. Application rates and application timing differ according to the target pest and other factors peculiar to each local situation. Consult your local State Extension specialist or other qualified expert for specific recommendations.

**Treatment of infested trees to control emerging brood:** Make applications of a spray mixture containing 2.0 pints of this product per 100 gallons of water to trees that still have beetles in the bark. Apply spray directly to the main trunk from the base of the tree to at least half way into the live crown. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product per acre. Trees on which all needles have turned brown generally have been vacated and should not be sprayed unless infestation is confirmed. To confirm an infestation, scrape off the outer bark to determine if trees are still infested. If live infestations remain in the trunks, fell the trees and cut into sections. Spray the trunk and large limbs and turn sections so that all of the surface area can be treated. Do not apply more than 0.2 lbs. ai (12.8 fl. oz.) of this product per acre.

## OTHER BORERS ON ORNAMENTAL TREES

For other boring insects consult the table below. Application rate and timing will vary according to geographic location and environmental conditions. Spray until the bark is thoroughly wetted by the spray (usually 1 to 4 gallons of spray per tree). Do not apply more than 100 gallons of diluted spray mixture to trees on a treated acre. Consult your local County or State Extension specialist or other qualified authority for specific recommendations.

Pest	Recommended Rate	Specific Instructions
Clearwing Moth borers Ash borer, banded ash clearwing, Dogwood borer, Lesser peachtree borer, Lilac borer, Oak borer	6.4 to 12.8 fl. oz. per 100 gallons	Apply to the lower branches and trunks prior to adult emergence.
Coleopteran borers Bronze birch borer, Flatheaded apple tree borer	6.4 to 12.8 fl. oz. per 100 gallons	
For maximum residual control of the above listed pests.	12.8 fl. oz. per 100 gallons	

## Pest Control on Outside Surfaces and Around Buildings

For control of ants, including Carpenter Ants, Armyworms, Bees, Centipedes, Chiggers, Chinch Bugs, Clover Mites, Crickets, Cutworms, Dichondra Flea Beetles, Earwigs, European Crane flies, Fleas, Flies, Grasshoppers, Hornets, Millipedes, Mosquitoes, Moths, Roaches, including Cockroaches, Scorpions, Sod Webworms, Sowbugs (Pillbugs), spiders including Black Widow Spiders, Springtails and Wasps.

Apply Biflex® SFR using a 0.03 to 0.06% emulsion 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.

For 0.03% emulsion, mix 1/8 fluid oz. of Biflex® SFR per gallon of water. For 0.06% emulsion, mix 1/4 fluid oz. Biflex® SFR per gallon of water (1 fluid oz. = 2 tablespoons). Do not use household utensils to measure Biflex® SFR. Use the higher rate for heavy pest infestation, quicker knockdown or longer residual control. Repeat treatment as necessary to maintain effectiveness. 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 Optimal Control of Ant Mounds use Biflex® SFR 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 treat a 4 foot diameter circle around the mound. Use the higher volume for mounds larger than 12". For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.

**Application to Home Lawns:** Apply Biflex® SFR as a broadcast treatment in 2 to 10 gallons of carrier per 1000 square feet. Use higher volumes to get uniform coverage when treating dense grass foliage.

**Attention:** Keep children and pets off treated areas following application until the spray has dried.

## 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:** FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted, the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions.

**Directions and Recommendations:** Follow directions carefully. Timing, method of application, weather conditions, mixture with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the seller and are assumed by the buyer at his own risk.

**Use of Product:** FMC's recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

**Damages:** Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

Biflex and FMC—Trademarks of FMC Corporation (02/27/01)  
U.S. Patent No. 6,251,415 (SFR chemical technology).

## Revisions:

1. Borers & Bark Beetles