279-3281 9/9/2013 1/15

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

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

September 9, 2013

Jill Holihan, Product Registration and Regulatory Affairs Manager
FMC Corporation
1735 Market Street
Agricultural Products Group
Philadelphia, PA 19103

Subject: Submission of an amendment on April 15, 2013 with additional wood treatment data.
Product Name: Bistar WT Insecticide
EPA Reg. No.: 279-3281
OPP Decision No.: 477707

Dear Ms. Holihan;

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), is acceptable. Two 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.

Sincerely,

Richard Gebken
Product Manager 10
Insecticide Branch
Registration Division (7505C)

Enclosure

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Bistar® WT
Insecticide

For use by individuals or firms licensed or registered by the State to apply wood preservation products. When used as a termiticide, individuals/firms must be licensed by the state to apply this product. States may have more restrictive requirements regarding qualifications of persons using this product. Consult the pest control regulatory agency of your state prior to initial use of this product.

For the control and prevention of subterranean termites & other wood-destroying insects in structures including residential, institutional, public, commercial, and industrial buildings.

EPA Reg. No. 279-3281 EPA Est. No. 279-FL-1

Active Ingredient	
Bifenthrin*	23.4%
Other Ingredients**	76.6%
	100.0%

* Cis isomers 97% minimum, trans isomers 3% maximum;
**Contains petroleum distillates
Bistar® WT insecticide contains 2 pounds active ingredient per gallon.
U.S. Patent No. 4, 238, 505
U.S. Patent No. 6, 251, 415

KEEP OUT OF REACH OF CHILDREN

WARNING

See other panels for additional precautionary information.

FMC®
FMC Corporation
1735 Market Street
Agricultural Products Group
Philadelphia, PA 19103

ACCEPTED
SEP - 9 2013
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide Registered under EPA Reg. No. 279-3281

Net Contents

FIRST AID	
If swallowed	• Immediately call a poison control center or doctor. • Do not give any liquids to the person. • 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 respirations, preferably by 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

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, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash contaminated clothing before reuse.

Personal Protective Equipment

All pesticide handlers (mixers, loaders, and applicators) must wear long-sleeved coveralls worn over a minimum of short-sleeved shirt and short pants, socks, footwear impervious to aromatic solvents (neoprene or nitrile butadiene rubber), chemical-resistant gloves and protective eyewear (goggles, face shield, or safety glasses with front, brow, and temple protection). In addition, all pesticide handlers must wear a respiratory protection device[1] when handling the concentrate or when working in a non-ventilated space.

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

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 [(including U-Turn®)], or an in-line injector system shirt, pants, socks, shoes and waterproof gloves are sufficient. Wood can be safely handled without the use of protective equipment once dry. In addition, all pesticide handlers must wear a respiratory protection device and protective eyeware when working in a non-ventilated space.

Individuals entering treatment vessels and related equipment that are contaminated with the wood treatment solution must wear protective clothing as indicated above. OSHA confined space entry procedures must be followed. Protective clothing must be changed when it shows of contamination.

Environmental Hazards

This pesticide is extremely toxic to fish and aquatic invertebrates.

[For Termiticidal Use]
To protect the environment, do not allow pesticide to enter or run off into storm drains, drainage ditches, gutters or surface waters. Applying this product in calm weather when rain is not predicted for the next 24 hours will help to ensure that wind or rain does not blow or wash pesticide off the treatment area. Rinsing application equipment over the treated area will help avoid run off to water bodies or drainage systems.

[For Industrial Wood Treatment Use] Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other water unless in accordance with the requirements of the National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Physical/Chemical Hazards

Do not use or store near heat or open flame. Do not apply water-based dilutions of Bistar WT termiticide to electrical conduits, motor housings, junction boxes, switch boxes or other electrical equipment because of possible shock hazard.
Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

This product is not intended for application to soil; it is not a soil termiticide. Do not use to directly treat soil. Prior to using this product, consult with your state regulatory agency to see if they require additional qualifications for the person applying this product.

Do not use for new construction treatments if the total linear footage of the cellulosic base plates is less than 60% of the total linear footage of all base plates in structure to include exterior and interior walls. In new construction with 60% or more lineal footage of base plates, but without continuous wood on every exterior wall, the treatment must be installed to all other exterior structural construction materials, including brick or block, to a height of 2 feet and extended out onto the slab at a minimum of 2 to a maximum of 8 inches.

In structures where a soil treatment/barrier termiticide has been applied and/or termite bait system installed, this product may be applied as an additional treatment to protect wood from subterranean termites that may have penetrated the chemical gaps occurring within the termiticide-treated soil or have bypassed the bait/monitor systems.

[Use Directions for [Tip-N-Measure®] [Multi-Dose] Container
1. Remove the measuring chamber cap [and induction seal]. Replace the cap and securely tighten. Tip container until liquid fills measuring chamber.
2. Return container to level position. No adjustment is needed.
3. Remove measuring chamber cap and dispense into proper application equipment.
For multiple dose measuring: Remove fill chamber cap and dispense according to markings on side of bottle.**]**

[Use Directions for [Squeeze-N-Measure] Container
1. Remove the measuring chamber cap and induction seal.
2. Replace cap loosely on measuring chamber to allow venting.
3. Squeeze container gently until liquid fills measuring chamber.
4. Remove measuring chamber cap and dispense into proper application equipment.
5. Replace cap onto measuring chamber and **Securely Tighten.]**

STORAGE AND DISPOSAL

Pesticide Storage

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

Plastic Container: Non-refillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the contents into application equipment or a mix tank and drain for 10 seconds after flow begins to drip. Fill container ¼ 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. Then offer for recycling, if available, or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or incineration.
Returnable/Refillable Containers: Refill this container with pesticide only. Do not reuse this container for any other purpose. Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase. 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.

Structural Pre-Treatment and Post-Construction Preventative Application

General Instructions

Bistar® WT forms an effective, treated barrier to the structure by either pre-treating structural wood or by treating lumber once installed via spraying, brushing, and foaming applications. Complete coverage of wood is essential for optimal wood-destroying insect control.

The application of Bistar® WT to both timber and timber based products as specified in the application instructions will protect treated products from damage for up to two years from drywood and subterranean termites (including Formosan termites), carpenter ants, ambrosia beetles, powder-post beetles, false powder-post beetles, deathwatch beetles, old-house borers and others.

Bistar® WT is intended to be applied only to bare wood, plywood, particle board or other cellulose building materials in the absence of paint, stains or sealers. Such materials will prevent Bistar® WT from properly adhering to cellulose surfaces.

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In areas where soil pretreatment is required by law, Bistar® WT may be applied as a supplemental treatment to protect wood from subterranean termites that may penetrate chemical gaps or where soil is disrupted by construction practices.

Mixing

Dilute Bistar® WT in the following manner: Fill spray tank 1/4 to 1/3 full with water. Add appropriate amount of Bistar® WT as indicated in finished tank volume below. Shake and agitate small volume sprayers once filled. For larger spray units start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes. Bistar WT may also be mixed into full tanks of water, but requires agitation to insure uniformity of the emulsion.

Tank Mixing

Unless prohibited by a product's label, users can tank mix pesticides currently labeled for similar use patterns. It is always recommended that a small jar compatibility test using proper proportions of chemicals be run to check for chemical compatibility before tank mixing.

Dilution Chart

Amount of Bistar WT to premix with water

For small volume mixtures using a handheld compressed or backpack sprayer.

Where indication of proper application is needed or desired, include an appropriately labeled dye in the tank mix when preparing solution.

	Final Tank Volume			
Solution Concentration (w/w%)	1 gal Water	2.5 gal Water	5 gal Water	10 gal Water
0.6%	3.2 fl oz	8.0 fl oz	16 fl oz	32 fl oz

Wood Preparation

For best results, apply Bistar® WT solution to dry wood. Wood absorbency of Bistar® WT solution will vary on the wood species, relative moisture and degree of sapwood in the wood being treated. Where control of rotting or staining organisms is desired, an appropriate fungicide will need to be added to the treatment solution or applied separately.

Milling or Cutting lumber may expose untreated wood to insect attack. Any cuts made to treated wood will expose untreated wood and must be carefully treated. Cut ends need to be treated with a brush or spray application.

Prior to applying Bistar® WT, carefully clean and clear the area to be treated of any sawdust or cellulose material that may inhibit Bistar® WT application to target surfaces.

Applications to Wood Unexposed to Soil or Structural Foundation

The instructions in this section apply only to wood that does not come into contact with soil or abut the foundation of the structure. Do not use these instructions for wood that is directly exposed to vertical access from the soil.

These use directions are applicable to both new construction as well as additions to existing structures. **Note:** Wood treated with this product is not to be used in water immersion applications. Do not treat wood that will come in contact with raw agricultural commodities, food, feed or bodies of water.

In new construction application for the prevention of termite infestation, structural wood is defined as: only wood needed for the basic building structure as found in the dried-in stage of construction, including wood in direct contact with foundations, interior and exterior wall sill plates, wood or cellulosic sheathing, floor joists, and sub-flooring. Apply when access to wooden structural components is optimized and when no further framing modifications will be made, such as after final framing inspection.

Bistar WT is best applied during the "dried-in" phase of construction. Perform treatments prior to installation of insulation in areas to be treated. Treating prior to the installation of other construction components that may hinder proper treatment (electrical, heating and cooling systems, exterior wraps, etc.) will help ensure more complete protection.

If using a surface application method for Bistar WT, Bistar WT must be applied at a minimum rate of 8.0 oz per 2.5 gallons of water (0.6% wt solution) to the point of surface saturation and up to the point of runoff so that the meets or exceeds the minimum final wood residue meets or exceeds the minimum requirements of 50mg bifenthrin/m^2.

Apply one coat of diluted Bistar WT solution up to the point of run-off to all wood and timber based products by brush, spray or foam application to protect them from wood-destroying insect damage for up to two years. All wood within two feet of any potential access point by termites must be treated. Additionally, all building materials containing cellulose and wood materials as well as the floor upon which it is attached must be treated in a two foot band. Concentrate treatments in areas susceptible to termite attack including floor plates, floor joists, beams and subfloors. Pay close attention to each joint. Treat all wood in plumbing walls and apply to any wood in bath traps as well as wood adjacent to pipes, electrical conduits and duct penetrations in order to provide a minimum 24 inch wide barrier of treatment.

Treatment to wood that is already installed is best performed when susceptible wood is still exposed for treatment, but after all cuts and notches (including access holes for plumbing, ventilation and electrical) have been made prior to installation of insulation. It is essential that all surfaces of lumber that are susceptible to insect attack be treated.

Applications to Wood Exposed to Soil or Structural Foundation (Basements, Crawl Spaces, Foundation and/or Slab Treatment)

The instructions in this section are intended for preventative applications against subterranean wood-destroying insects. These instructions apply only to wood that directly contacts soil, is exposed to direct vertical access from the soil, and/or abuts the foundation or slab of the building.

These use directions are applicable to both new construction as well as additions to existing structures. **Note:** Wood treated with this product is not to be used in water immersion applications. Do not treat wood that will come in contact with raw agricultural commodities, food, feed or bodies of water.

In new construction application for the prevention of termite infestation, structural wood is defined as: only wood needed for the basic building structure as found in the dried-in stage of construction, including wood in direct contact with foundations, interior and exterior wall sill plates, wood or cellulosic sheathing, floor joists, and sub-flooring. Apply when access to wooden structural components is optimized and when no further framing modifications will be made, such as after final framing inspection.

If using a surface application method for Bistar WT, Bistar WT must be applied at a minimum rate of 8.0 oz per 2.5 gallons of water (0.6% wt solution) to the point of surface saturation and up to the point of runoff so that the meets or exceeds the minimum final wood residue meets or exceeds the minimum requirements of 50mg bifenthrin/m^2.

Concentrate treatments in areas susceptible to termite attack including sill plates, floor joists, piers, beams and subfloors. Pay close attention to each joint. Treat all wood in plumbing walls and apply to any wood in bath traps as well as wood adjacent to pipes, electrical conduits and duct penetrations in order to provide a minimum 24 inch wide barrier of treatment between the soil and the balance of the structure.

Treat an uninterrupted band of at least 24 inches wide from any concrete, block or brick walls and floor exposed to soil including wood exposed to vertical access from the soil, to include sills, plates, floor joists, piers, girders, subfloors, exterior wall plywood or OSB, wooden shingles, decking and garage framing.

Treat all wood in plumbing walls and apply to any wood in bath traps as well as wood adjacent to pipes, electrical conduits and duct penetrations in order to provide a minimum 24 inch wide barrier of treatment between the soil and the balance of the structure.

For buildings constructed on slabs, treat all structural wood in contact with the slab, including all interior and exterior wall studs and sheathing materials. All wood within two feet of any potential access point by termites must be treated. Apply the Bistar® WT solution to all base sill plates, as well as the bottom 24 inches of all vertical studs and cellulose siding on each exterior and interior walls as well as exposed cellulose floor boards along edge of foundation or support piers.

Treatments of Wood-in-Place to Control Existing Infestations

General Instructions

Bistar® WT will control existing infestations of drywood and subterranean termites (including Formosan termites), carpenter ants, carpenter bees, ambrosia beetles, powder-post beetles, false powder-post beetles, deathwatch beetles, old-house borers and others in wood-in-place.

Note: 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. Using spray concentrations of 0.06% (as listed in the dilution chart above) have not been shown to provide long-term structural protection.

Attention

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

Firewood is not to be treated.

Use only in well ventilated areas.

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During any application to overhead interior 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 apply this pesticide in livestock buildings (barns).

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

Not for use in Federally inspected meat and poultry plants.

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.

Mixing

Dilute Bistar® WT in the following manner: Fill spray tank 1/4 to 1/3 full with water. Add appropriate amount of Bistar® WT as indicated in finished tank volume below. Shake and agitate small volume sprayers once filled. For larger spray units start pump to begin by-pass agitation and place end of treating tool in tank to allow circulation through hose. Add remaining amount of water. Let pump run and allow recirculation through the hose for 2 to 3 minutes. Bistar WT may also be mixed into full tanks of water, but requires agitation to insure uniformity of the emulsion.

Tank Mixing

Unless prohibited by a product's label, users can tank mix pesticides currently labeled for similar use patterns. It is always recommended that a small jar compatibility test using proper proportions of chemicals be run to check for chemical compatibility before tank mixing.

Dilution Chart

Amount of Bistar WT to premix with water

Where indication of proper application is needed or desired, include an appropriately labeled dye in the tank mix when preparing solution.

Amount of Bistar® WT (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

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Foam Applications
Bistar WT® emulsion may be converted to a foam with expansion characteristics from 2 to 40 times. The emulsion may be converted to a foam and the foam used to control or prevent termite infestations.

Foam applications are generally a good supplement to liquid treatments, but may also be used alone. Foam applications can be used to treat areas where a spray would be difficult to apply, such as behind veneers, piers, chimney bases, into rubble foundations, into block voids or structural voids, under slabs, stoops, porches 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 Instructions

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 interior 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.

Termite carton nests in building voids may be injected with a 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.

In the home, all food processing surfaces and utensils in the treatment area must 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).

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Industrial Wood Treatment

(Limited to use of Bistar WT in Manufacturing, Industrial, and Rights-of-Way Settings only)

General Instructions

Bistar® WT is a dual emulsifiable concentrate that may be diluted with either water or diluents commonly used in wood preservation including white spirits. Bistar® WT can be used to treat wood to be used in areas where protection from weather exists, including lumber and engineered woods, including for use in framing lumber, sillplates, millwork, pallets, wooden containers, and processed wood products. The application of Bistar® WT to both timber and timber based products as specified in the directions for use table will protect treated products from damage for up to two years from termites, carpenter ants, ambrosia beetles, powder-post beetles, false powder-post beetles, deathwatch beetles, old-house borers and others. Bistar® WT is intended for use in commercial manufacturing or industrial wood processing or assembly plants only, and may be used in dipping, brushing, spraying, glueline or pressure treatments. For longer control, apply by pressure treatment.

Complete coverage of wood is essential for optimal insect control. In applications by surface treatment including dipping, spraying, or brushing, milling or cutting may expose untreated wood for insect attack. Cut ends need to be treated with brush application. Where control of rotting or staining organisms is desired, an appropriate fungicide will need to be added to the treatment solution or applied separately.

Mixing

Add the required quantity of Bistar® WT to a diluent in the holding tank, or glue mixer and mix thoroughly. Maintain agitation during both mixing and application.

Tank Mixing

Unless prohibited by a product's label, users can tank mix pesticides currently labeled for similar use patterns. It is always recommended that a small jar compatibility test using proper proportions of chemicals be run to check for chemical compatibility before tank mixing.

Dilution Chart

Amount of Bistar WT to premix with water

For large volume mixtures including when using a power sprayer.

Where indication of proper application is needed or desired, include an appropriately labeled dye in the tank mix when preparing solution.

Emulsion Concentrate	**Amount of Bistar® WT**		
Desired Gallons of Finished Spray	**0.01%**	**0.06%**	**0.12%**
25	1.3 oz.	8 oz.	0.5 qt
50	2.6 oz.	0.5 qt.	1.0 qt.
75	3.9 oz.	0.75 qt.	1.5 qt.
100	5.2 oz	1.0 qt.	2.0 qt.
150	7.8 oz	1.5 qt.	3.0 qt.
200	10.4 oz.	2.0 qt.	4.0 qt.

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Wood Preparation

For best results, apply Bistar® WT solution to dry wood. Wood absorbency of Bistar® WT solution will vary on the wood species, relative moisture and degree of sapwood in the wood being treated. Where control of rotting or staining organisms is desired, an appropriate fungicide will need to be added to the treatment solution or applied separately.

Milling or Cutting lumber may expose untreated wood to insect attack. Any cuts made to treated wood will expose untreated wood and must be carefully treated. Cut ends need to be treated with a brush or spray application.

Application Directions

To control wood infesting insects treat wood with appropriate dilution of bifenthrin in treatment solution, up to 0.12%. Monitoring of the treating solution may be necessary to ensure that the desired level of bifenthrin is maintained, particularly where the treating solution may be used for an extended period of time.

Dip Treatment
Wood infesting insects can be controlled in wood products (including freshly cut timber), wooden containers, millwork, pallets, and processed wood products by dipping. Using solution concentration rates of up to 0.06% dilution of bifenthrin, final residue levels must be greater than or equal to 50 mg bifenthrin/square meter. The wood must be totally submerged in the dilution until thoroughly wet (minimum 3 minutes) and then allowed to dry in a suitable location. Dipping solutions must be agitated if left unused for a period of time (i.e. overnight). For optimal performance and economy avoid heavy buildup of wood debris in dip tanks as bifenthrin may bind to the debris and thus reduce the strength of the dilution.

Spray Treatment and Brush Treatment
Wood infesting insects can be controlled in wood products (including freshly cut timber), wooden containers, millwork, pallets, and processed wood products by spraying or brushing. Using solution concentration rates of up to 0.06% dilution of bifenthrin, final wood residue levels must be greater than or equal to 50 mg bifenthrin/square meter. The wood must be sprayed or brushed thoroughly, including backs and ends, with the treatment mixture. Apply to surfaces, voids, and channels where insects may be located. When spraying, use a sprayer capable of delivering a coarse, low-pressure (about 20 psi) spray. On logs, ensure thorough bark coverage as untreated areas are subject to insect attack. When treating processed wood products, Bistar® WT may be sprayed onto wood chips or mixed with a compatible adhesive (including spraying, rolling, or blending). Test compatibility and application on a small scale before full-scale production.

Pressure Treatment
For maximum, long-term control of wood infesting insects in products (including framing lumber and sillplates), wooden containers, millwork, pallets, processed wood products,- apply Bistar WT by pressure treatment. Treat to attain a final wood residue of greater than or equal to 64 g bifenthrin/cubic meter. Bistar WT can be used in combination with other treatment solutions including disodium octoborate tetrahydrate (DOT) where compatibility is the responsibility of the formulator.

Glueline Treatment
Engineered products including composite paneling, OSB, plywood, and glue-laminated beams (glulam) can be treated by mixing in the appropriate amount of Bistar WT when preparing the glue resin mix to obtain a final wood residue level of greater than or equal to 20 g bifenthrin/square meter. Mode of treatment and determination of compatibility with resin and composite manufacturing method is the responsibility of the formulator.

Treatment for Unexposed or interior applications
Bistar WT can be used for applications where the treated wood is either unexposed to weather, including in millwork, sillplates, framing lumber, composite paneling and engineered floor joists,

glue-laminated (glulam) beams Mode of treatment and determination of compatibility with resin and composite manufacturing method is the responsibility of the formulator.

Note: Wood treated with this product is only for above ground uses and is not to be used in water immersion applications. Do not treat wood that will come in contact with raw agricultural commodities, food, feed or water.

Directions for use

Target Use	Pest	Rate	Comments
Sawn and round timbers for treatment by vacuum or vacuum pressure impregnation for use in Hazard Class H1	Powderpost Beetles	0.5 oz/100 lb timber	1. Calculate the uptake of suitable diluent (e.g. organic solvents, water, or water repellent) per 100 lb of timber. 2. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings. 3. Apply to timber through vacuum or vacuum-pressure treatment to ensure compliance with AWPA standards 4. The minimum individual retention is 0.0018% mass/mass
Sawn and round timbers for treatment by vacuum or vacuum pressure impregnation for use in Hazard Class H2	All termites (including *Coptotermes formosanus*)	1.7 oz/100 lb timber	1. Calculate the uptake of suitable diluent (e.g. organic solvents, water, or water repellent) per 100 lb of timber. 2. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings. 3. Apply to timber through vacuum or vacuum-pressure treatment to ensure compliance with AWPA standards 4. The minimum individual retention is 0.0024% mass/mass

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Target Use	Pest	Rate	Comments
Framing timbers for surface spray application or dipping in Hazard Class H2 with no exposure to sunlight	All termites (including *Coptotermes formosanus*)	0.2 oz/100 ft^2 of surface area	1. Calculate the uptake of suitable diluent (e.g organic solvents, water, or water repellent) per ft^3 of timber. 2. Calculate the surface area of 1 ft^3 of product to treat 3. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings. 4. Apply to timber through spray system or by dipping to ensure recommended rates 5. The minimum individual piece retention is 1.7 g/100 ft^3
Processing & manufacture of softwood plywood in Hazard Class H2	All termites (including *Coptotermes formosanus*)	10 oz/100 ft^3 dry veneer	1. Calculate the uptake of solution by veneers. 2. Dilute Bistar® WT as required to ensure minimum loadings of 0.024% mass/mass of veneers. 3. Following the manufacture of the plywood panel the loading of bifenthrin in the panel must be a minimum of 0.024% mass/mass.
Glueline treatment of softwood plywood for use in Hazard Class H2	All termites (including *Coptotermes formosanus*)	0.1 oz/ ft^3 of the glueline	1. Calculate the usage of the glue per cubic foot of panel. 2. Add Bistar® WT to the glue during preparation of the mix. 3. Following the manufacture of the plywood panel the loading of bifenthrin in the panel must be a minimum of 0.024% mass/mass.
Softwood particle & strand based boards in Hazard Class H2	All termites (including *Coptotermes formosanus*)	0.3 oz/ 100 lb fiber	1. Add sufficient Bistar® WT into the glue to achieve a retention of 0.024% mass/mass in the finished board. Alternatively particles or strands can be treated before manufacture. Where Bistar® WT is to be added to the glue mix the pH of the finished mix must not exceed 9.5.

Distributors must sell in original packages only

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