

279-3281

5-6-2005

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U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (H7505C)  
401 "M" St., S.W.  
Washington, D.C. 20460

EPA Reg. Number:

279-3281

Date of Issuance:

MAY 6 2005

Term of Issuance: Conditional

Name of Pesticide Product:

BISTAR WT INSECTICIDE

## NOTICE OF PESTICIDE:

☒ Registration☐ Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

FMC Corp Agricultural Products Group  
1735 Market Street  
Philadelphia, PA 19103

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A)(B), provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of you product under FIFRA section 4.
2. Submit a Wood Preservative Leaching Study within two years from the date of this registration. Since this is a Non-Guideline study you must obtain approval of the protocol for the Wood Preservative Leaching Study from the Agency prior to study initiation. The American Wood Preservers' Association's Standard Method of Determining the Leachability of Wood Preservatives (E11-97) or equivalent will be accepted.
3. **Make the following labeling changes:**
  - a) Revise the EPA Registration Number to read "EPA Reg. No. 279-3281"
  - b) Delete directions and claims for the prevention and control of Drywood and subterranean termites.

Signature of Approving Official:

*George T. LaRocca*  
George T. LaRocca, Product Manager (13), IB/RD (7505C)

Date:

*May 6, 2005*

The data submitted are not adequate to reasonably demonstrate efficacy of the subject formulation against these pests. The deficiencies include inappropriate test species, inadequate demonstration of the duration of efficacy, and the testing of formulations too dissimilar to the subject formulation. A reasonable expectation of efficacy can not be derived from the data submitted.

In order to support the addition of termites to the label you must submit or cite data satisfying the following criteria:

- (1.) The data demonstrate that the product provides at least two years of protection of treated wood from U.S. termite species (*Reticulitermes flavipes* or *R. virginicus*, *Coptotermes formosanus*; for drywood termite claims, *Cryptotermes* or *Kaloterme*s; for dampwood claims, *Zootermopsis*)
  - (2.) Data are provided for each application method to be present on the label.
  - (3.) Data are to be generated using the subject formulation (Bistar WT).
- c) Under precautionary statements delete, "After the product is diluted in accordance with label directions for use xxxx etc". This statement is limited to products for subsoil termiticide use only. This comment also conflicts with the directions under Handling Procedures.
- d) On page 4, replace the reference to use of a mask or respirator with the correct NIOSH reference as indicated under Precautionary Statements.
- e) Your directions for application limit use to Manufacturing, Industrial and Rights of Way Settings only. Therefore delete all reference to use and sites in residential settings throughout the labeling.
- f) No data was submitted demonstrating protection on wood that is to be used below ground or submerged in water. Therefore delete all reference to ground contact uses/sites and add the following limitation:

"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.”

- g) Delete “In no case shall FMC or seller be liable for any incidental, consequential, special damages resulting from the use or handling of this product” from the Warranty statement. This statement is overly broad and implies buyer has no legal right to recover damages from manufacturer and is unacceptable under statutory and regulatory standards. We recommend revising it to read “To the fullest extent permitted by law FMC or seller shall not be liable .... Etc” or “It is FMC intention that FMC or seller shall in no event be liable ..... etc”.
- h) Add the heading “Personnel Protective Equipment” above the Paragraph beginning, “All pesticide handlers (mixers, loaders and applicators) xxx etc”. Also add the following paragraph at the end of this section.

“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.”

- 4. Please submit two (2) copies of your final printed label for before your release the product for shipment. Please refer to the A-79 enclosure for a further description of final printed labeling. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing amended labeling constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Please submit the tag that will be affixed to the treated lumber.

Please find enclosed copies of the efficacy, environmental/ecological effects and occupational exposure reviews.

MAY 6 2005

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.

279-3281

## Bistar® WT Insecticide

For use by individuals or firms licensed or registered by the State to apply wood preservation products. States may have more restrictive requirements regarding qualifications of persons using this product.

A wood preservative for the protection and treatment of lumber against wood destroying insects.

For prevention and remedial control of wood infesting organisms including:  
Drywood Termites, Wood Destroying Beetles, and Subterranean Termites.

EPA Reg. No. 279-

EPA Est. No. 279-FL-1

Active Ingredient

Bifenthrin*	23.4%
Inert 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  
Agricultural Products Group  
Philadelphia, PA 19103

Net Contents

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Immediately call a poison control center or doctor.</li><li>• Do not give any liquids to the person.</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 respirations, 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></ul>

<b>clothing</b>	<ul style="list-style-type: none"> <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 also 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, 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). 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<sup>1</sup> when handling the concentrate or when working in a non-ventilated space. All pesticide handlers must wear protective eyewear (goggles, face shield, or safety glasses with front, brow, and temple protection) 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.

### 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 wash waters.

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.

## DIRECTIONS FOR USE

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

### 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.

### General Instructions

Bistar® WT is a dual emulsifiable concentrate that may be diluted with either water or diluents commonly used in wood preservation such as white spirits. Bistar® WT can be used to protect fence posts, utility poles, railroad ties, landscape timbers, lumber, logs, pallets, poles, posts, wooden containers, and processed wood products. Bistar WT is not intended for use in wood that will be in exposed residential settings, but may be used in wood for flooring, siding, roofing or other unexposed situations. 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 from termites, carpenter ants, ambrosia beetles, powder-post beetles, false powder-post beetles, deathwatch beetles, old-house borers and others.

Complete coverage of wood is essential for optimal insect control. Application by dipping, spraying, or brushing is a surface treatment and 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.

#### Handling Procedures

Wear protective clothing including eye protection, chemically resistant gloves, and footwear impervious to aromatic solvents (such as neoprene or nitrile butadiene rubber) during preparation of solution, treatment, and when handling freshly treated wood.

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To avoid breathing spray mist during application in confined areas wear a mask or respirator of a type recommended by NIOSH for filtering spray mists.

Wood can be safely handled without the use of protective clothing when dry.

### **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**

<b>Emulsion Concentrate</b>	<b>Amount of Bistar® WT</b>		
<b>Desired Gallons of Finished Spray</b>	<b>0.01%</b>	<b>0.06%</b>	<b>0.12%</b>
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.

### **Directions for Application (Limited to Manufacturing, Industrial, and Rights-of-Way Settings only)**

To control wood infesting insects treat wood with up to a 0.12% dilution of bifenthrin. Monitoring of the treating solution may be necessary to insure 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 freshly cut timber, wooden containers, millwork, pallets, and processed wood products by dipping. Use rates up to 0.06% dilution of bifenthrin. The wood should be totally submerged in the dilution until thoroughly wet (minimum 3 minutes) and then allowed to dry in a suitable location. Dipping solutions should be agitated if left unused for a period of time (such as 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 freshly cut timber, wooden containers, millwork, pallets, and processed wood products by spraying or brushing. A 0.01 to 0.06% dilution of bifenthrin is recommended for maximum efficacy. The wood should 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 (such as 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 railroad ties, landscape timbers, lumber, wooden containers, millwork, pallets, processed wood products, utility poles, and fence

posts, apply Bistar® WT by pressure treatment. Combine with an appropriate fungicide for control of wood-decay organisms. Treat to attain a minimum retention of 0.0024 – 0.0047% mass/mass.

#### **Treatment for Unexposed or Covered Wood**

In applications where the treated wood is either unexposed to the elements or is covered with one or more layers of paint, such as in millwork preservatives (dip or double vacuum treatments), the required use level is 0.0012 to 0.0047% (wt./wt.). Indoor applications such as framing lumber, or composite paneling and engineered floor joists, require similar low use levels. Indoor or lightly exposed applications such as framing lumber, composite paneling, engineered floor joists or glue-laminated (glulam) beams require similar low use levels, ranging from 0.0024 to 0.0047% (wt./wt.) depending on treatment method. Mode of treatment and determination of compatibility with resin and composite manufacturing method is the responsibility of the formulator.

#### **Dip or Spray-treatment of Fresh Sawn Lumber (Antisapstain treatment)**

To confer short term protection (6 months) to fresh sawn lumber against wood boring insects, Bistar® WT may be used with appropriate fungicides in antisapstain treatments at a level of 0.0024 to 0.06% (wt./wt.). Agitate well. The required use rate will depend on the temperature, humidity, wood moisture content, and storage conditions. To ensure complete protection, dip wood until complete surface wetting is accomplished.

#### **Ground Contact Wood Preservatives**

For applications such as sill plates, fence posts, and other wood in ground contact, the required use level of bifenthrin will vary depending on the severity of the leaching hazard. Treated wood intended for use in sub-tropical and tropical areas will require retentions of Bistar® WT at the high end of the recommended range. In general, use levels of 0.0024 to 0.0047% Bistar® WT are advised for dip and double vacuum treatments. Formulations to be used in a pressure treatment can be lower; in the range of 0.0012 to 0.0047%. Engineering parameters (vacuum and pressure levels & duration) for treatment will vary depending on wood species and are to be determined by the formulator.



**Directions for use**

Target Use	Pest	Rate (% a.i.)	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	<ol style="list-style-type: none"> <li>1. Calculate uptake of suitable diluent (e.g., organic solvents, water, or water repellent) per 100 lb of timber.</li> <li>2. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings.</li> <li>3. Apply to timber through vacuum or vacuum-pressure treatment to ensure compliance with AWPA standards</li> <li>4. The minimum individual retention is 0.0018% mass/mass.</li> </ol>
Sawn and round timbers for treatment by vacuum or vacuum pressure impregnation for use in Hazard Class H2	All termites (including <i>Coptotermes formosanus</i> )	1.7 oz/100 lb timber	<ol style="list-style-type: none"> <li>1. Calculate uptake of suitable diluent (e.g., organic solvents, water, or water repellent) per 100 lb of timber.</li> <li>2. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings.</li> <li>3. Apply to timber through vacuum or vacuum-pressure treatment to ensure compliance with AWPA standards.</li> <li>4. The minimum individual retention is 0.0024% mass/mass.</li> </ol>
Framing timbers for surface spray application or dipping in Hazard Class H2 with no exposure to sunlight	All termites (including <i>Coptotermes formosanus</i> )	0.2 oz/100 ft <sup>2</sup> of surface area	<ol style="list-style-type: none"> <li>1. Calculate uptake of suitable diluent (e.g., organic solvents, water, or water repellent) per ft<sup>3</sup> of timber.</li> <li>2. Calculate the surface area of 1 ft<sup>3</sup> of product to treat.</li> <li>3. Add the appropriate amount of Bistar® WT to the diluent to achieve recommended loadings.</li> <li>4. Apply to timber through a spray system or by dripping to ensure recommended rates</li> <li>5. The minimum individual piece retention is 1.7 g/100 ft<sup>2</sup>.</li> </ol>

**Directions for use**

Target Use	Pest	Rate (% a.i.)	Comments
Processing & manufacture of softwood plywood in Hazard Class H2	All termites (including <i>Coptotermes formosanus</i> )	10 oz/100 ft <sup>3</sup> dry veneer	<ol style="list-style-type: none"> <li>1. Calculate the uptake of solution by veneers.</li> <li>2. Dilute Bistar® WT as required to ensure a minimum loading of 0.0024% mass/mass in the veneers.</li> <li>3. Following the manufacture of the plywood panel the loading of bifenthrin in the panel should be a minimum of 0.0024% mass/mass.</li> </ol>
Glueline treatment of softwood plywood for use in Hazard Class H2	All termites (including <i>Coptotermes formosanus</i> )	0.1 oz/ft <sup>3</sup> in the glueline	<ol style="list-style-type: none"> <li>1. Calculate the usage of glue per cubic foot of panel.</li> <li>2. Add Bistar® WT to the glue during preparation of the mix.</li> <li>3. Following the manufacture of the plywood panel the loading of bifenthrin in the panel should be a minimum of 0.0024% mass/mass.</li> </ol>
Softwood particle & Strand based boards in Hazard Class H2	All termites (including <i>Coptotermes formosanus</i> )	0.3 oz/100 lb fiber	<ol style="list-style-type: none"> <li>1. Add sufficient Bistar® WT into the glue to achieve a retention of 0.0024% mass/mass in the finished board. Alternatively particles or strands can be treated before manufacture.</li> <li>2. Where Bistar® WT is to be added to the glue mix the pH of the finished mix must not exceed 9.5.</li> </ol>

**Distributors should sell in original packages only**

**Conditions of Sale and Limitation of Warranty and Liability:**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

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**Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and buyer assumes the risk of any such use.**

In no event shall FMC or seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

This Conditions of Sale and Limitation of Warranty and Liability may not be amended by any oral or written agreement.