

PM 13

279-3162

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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MAR 20 1997

Mr. George Meindl
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

Dear Mr. Meindl:

Subject: Amended Registration - Revised Use Directions, Pests
Efficacy Data
Talstar Lawn and Tree Flowable Insecticide/Miticide - EPA Reg. No. 279-3162
Your October 15, 1996 and January 23, 1997 Submissions

The efficacy data submitted in support of additional pest claims are adequate. We note the change in product name to Talstar Lawn and Tree Flowable Insecticide/Miticide. The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable provided that you:

1. Add "For Commercial Use Only" to the front panel.
2. Submit two copies of the final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

George T. LaRocca
Product Manager 13
Insecticide-Rodenticide Branch
Registration Division

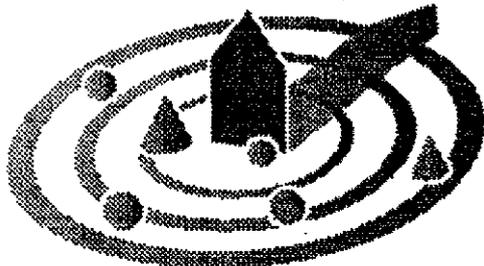
CONCURRENCES							
SYMBOL	Enclosure						
SURNAME	GLW						
DATE	3-19-97						

Code 1660

Net Contents

Talstar®

Lawn & Tree Flowable
INSECTICIDE/MITICIDE



EPA Reg. No. 279-3162

EPA Est. 279-

Active Ingredient:	By Wt.
Bifenthrin: (2-methyl [1,1'-biphenyl]-3-yl) methyl-3-(2-chloro-3,3,3-trifluoro-1-propenyl)-2,2-dimethylcyclopropane carboxylate*	7.9%
Inert ingredients:	92.1%
	100.0%

Talstar® Flowable contains 7/8 pound active ingredient per gallon.

*Cis isomers 97% minimum, trans isomers 3% maximum.
U.S. Patent No. 4,238,505

KEEP OUT OF REACH OF CHILDREN

CAUTION

See other panels for additional precautionary information.

NOT FOR USE IN NEW YORK STATE
WITHOUT THE PRODUCT BULLETIN FOR TALSTAR
LAWN & TREE FLOWABLE INSECTICIDE/MITICIDE.

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger, or if available by administering syrup of ipecac. If person is unconscious, do not give anything by mouth and do not induce vomiting.

IF INHALED: Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

IF IN EYES: Flush with plenty of water. Contact a physician if irritation occurs and persists.

Note to Physician:

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

For Emergency Assistance Call (800) 331-3148

PRECAUTIONARY STATEMENTS

Hazards to Humans (and Domestic Animals)

CAUTION

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

Environmental Hazards

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

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

DIRECTIONS FOR USE

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

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

Do not apply by air.

Do not apply in greenhouses and nurseries.

FMC

FMC Corporation
Agricultural Products Group
Philadelphia PA 19103

1/97 1660 Amend. Dft.9

ACCEPTED
with COMMENTS
in EPA Letter Dated

MAR 20 1997

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

279-3162

STORAGE AND DISPOSAL

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

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

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

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

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

Container Disposal:

Plastic Container: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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

General Applications Instructions

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.

Taistar® Lawn & Tree Flowable insecticide/miticide 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.

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

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

APPLICATION RECOMMENDATIONS

LAWN: Apply Taistar Lawn & Tree as a broadcast treatment. Use application volumes of up to 10 gallons per 1000 square feet to get uniform coverage when treating dense grass foliage.

For low volume applications, less than 2 gallons/1000 square feet, immediate irrigation of treated area with at least 0.25 inches of water following application to ensure efficacy of sub-surface pests such as, but not limited to, Mole Crickets, is recommended.

LAWN APPLICATION RATES

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Taistar Lawn & Tree may be applied at up to 1 fl. oz. per 1000 square feet to control each of the pests listed in this Table.

Pest	Application Rate Taistar Lawn & Tree
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	0.18 - 0.25 fl. oz. per 1000 sq. ft.
Annual Bluegrass Weevil (Hyperodes) (Adult) ² Ants Billbugs (Adult) ³ Black Turfgrass Ataenius (Adult) ⁴ Centipedes Chinch Bugs ⁵ Crickets Earwigs Fall Armyworm Fleas (Adult) Grasshoppers Leafhoppers Mealybugs Millipedes Mites ⁶ Mole Cricket (Adult) ⁷ Mole Cricket (Nymph) ⁸ Pillbugs Sowbugs	0.25 - 0.5 fl. oz. per 1000 sq. ft.
Fleas (Larvae) ⁹ Imported Fire Ants ^{**} Japanese Beetle (Adult) Ticks ¹⁰	0.5 - 1.0 fl. oz. per 1000 sq. ft.

**For foraging ants

Comments

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

Annual Bluegrass Weevil (*Hyperodes*) adults: Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

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

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

Chinch Bugs: Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (Up to 1 fluid ounce per 1000 square feet) may be required to control populations that contain both nymphs and adults during the middle of the summer.

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

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

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

Flea larvae: Flea larvae develop in the soil of shaded areas that are accessible to pets or other animals. Use a higher volume application when treating these areas to ensure penetration of the insecticide into the soil. Note: If the lawn area is being treated with Talstar at 0.25 fluid ounces per 1000 square feet for adult flea control, then the larval application rate may be achieved by increasing the application volume two- to four-fold.

Ticks: Do not make spot applications. Treat the entire area where exposure to ticks may occur. Use higher spray volumes when treating areas with dense ground cover or heavy leaf litter. Ticks may be reintroduced from surrounding areas on host animals. Retreat as necessary to maintain adequate control. Do not allow public use of treated areas during application or until sprays have dried.

Deer ticks (*Ixodes* sp.) have a complicated life cycle that ranges over a two year period and involves four life stages. Applications should be made in the late fall and/or early spring to control adult ticks that are usually located on brush or grass above the soil surface and in mid to late spring to control larvae and nymphs that reside in the soil and leaf litter.

American dog ticks may be a considerable nuisance in suburban settings, particularly where homes are built on land that was previously field or forest. These ticks commonly congregate along paths or roadways where humans are likely to be encountered. Applications should be made as necessary from mid-spring to early fall to control American dog tick larvae, nymphs and adults.

ORNAMENTALS AND TREES: For ornamental applications, dilute 0.5 to 4.0 fluid ounces of Talstar[®] Lawn & Tree Flowable Insecticide/miteicide in 10 gallons of water and apply at the rate of 10 gallons per 4,356 square feet. One gallon of finished spray will treat 435 square feet. If a higher volume application is required for adequate coverage of the plant canopy, Talstar Lawn & Tree may be diluted and applied in a greater volume of water providing that the maximum label rate (4.0 fluid ounces per 4,356 square feet) is not exceeded. Talstar Lawn & Tree may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (4.0 fluid ounces per 4,356 square feet) is not exceeded.

ORNAMENTAL APPLICATION RATES

The application rates listed in the following table will provide excellent control of the respective pests under typical conditions. However, at the discretion of the applicator, Talstar Lawn & Tree may be applied at up to 2 ounces per 5 gallons of water to control each of the pest listed in this Table.

Pest	Application Rate Talstar Lawn & Tree	
	Fluid Ounces per	
	5 Gallons	10 Gallons
Aphids Bagworms ¹ Cutworms Elm Leaf Beetles Fall Webworms Lace Bugs Leaf Feeding Caterpillars Plant Bugs (Including <i>Lygus</i> spp.) Tent Caterpillars	0.25 - 0.5	0.5 - 1.0
Ants Beet Armyworm Black Vine Weevil (Adults) Brown Soft Scales Broad Mites Budworms California Red Scale (Crawlers) ² Centipedes Citrus Thrips Clover Mites Crickets Diaprepes (Larvae; Adults) Earwigs European Red Mite Flea Beetles Fungus Gnats (Adults) Grasshoppers Gypsy Moth Caterpillars Leafhoppers Leafrollers Mealybugs Millipedes Mites Orchid Weevil Pillbugs Pine Needle Scales (Crawlers) ² San Jose Scales (Crawlers) ² Sowbugs Spider Mites Spiders Thrips Tip Moths Twig Borers ² Weevils Whiteflies	0.5 - 1.0	1.0 - 2.0
Imported Fire Ants ^{**} Japanese Beetle (Adult) Leafminers Pecan Leaf Scorch Mite Pine Shoot Beetle (Adults)	1.0 - 2.0	2.0 - 4.0

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

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

^{**}For foraging ants.

JK

Apply the specified application rate as a full coverage foliar spray. Typical application volume is 10 gallons per 4,356 square feet. Repeat treatment as necessary to achieve control using higher application rates as pest pressure & foliage area increases.

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

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

Pest Control on Outside Surfaces and Around Buildings

For control of Ants, Bees, Biting Flies, Boxelder Bugs, Centipedes, Cockroaches, Crickets, Earwigs, Elm Leaf Beetles, Firebrats, Fleas, Flies, Millipedes, Mosquitoes, Pillbugs, Silverfish, Sowbugs, Spiders, Ticks, and Wasps.

Apply Talstar Lawn & Tree 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.

Mixing Directions: For 0.03% emulsion, mix 0.5 fluid oz. of Talstar Lawn & Tree per gallon of water. For 0.06% emulsion, mix 1 fluid oz. of Talstar Lawn & Tree per gallon of water (1 fluid oz. = 2 tablespoons). Do not use household utensils to measure Talstar Lawn & Tree. Use the higher rate for heavy pest infestation, quicker knockdown or longer residual control. Repeat treatment as necessary to maintain effectiveness.

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

For Ant and Fire Ant Mounds use Talstar Lawn & Tree 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.

Dealers 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.

Use of Product: FMC's recommendations for 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.

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Revisions: