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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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JUNE 11, 1997

Mr. George L. Meindl
Associate Registration Specialist
FMC Corporation
1735 Market Street
Philadelphia, PA 19103

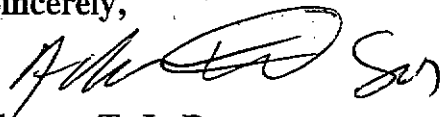
Dear Mr. Meindl:

Subject: Amendment to Product Label
TALSTAR GC Flowable Insecticide/Miticide
EPA Registration Number 279-3156
Your Amended Application Date March 5, 1997

The revised labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. Submit three (3) copies of the final printed label.

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

Sincerely,



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

CONCURRENCES							
SYMBOL				SYMBOL			
SURNAME				SURNAME			
DATE				DATE			

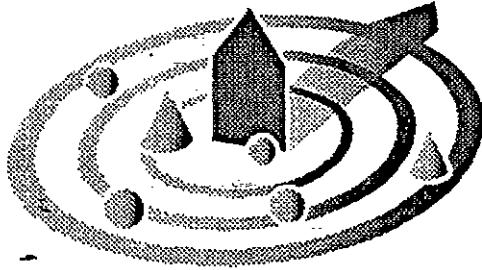
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RESTRICTED USE PESTICIDE
Toxic to fish and aquatic organisms.
For retail sale to and use only by certified applicators, or persons under their direct supervision and only for the uses covered by the certified applicator's certification.

Code 1657

Talstar®

GC Flowable
INSECTICIDE/MITICIDE



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REC'D .../DPD1

For use to control insect pests on golf courses and on ornamentals and lawns in landscaped areas around residential, institutional, public, commercial and industrial buildings, parks, recreational areas, golf courses, and athletic fields.

EPA Reg. No. 279-3156

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%

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

Talstar® Flowable insecticide/miticide contains 1/3 pound active ingredient per gallon.

U.S. Patent No. 4,238,505

KEEP OUT OF REACH OF CHILDREN

CAUTION

See other panels for additional precautionary information.

FMC

FMC Corporation
Agricultural Products Group
Philadelphia PA 19103

Net Contents

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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. Do not induce vomiting or give anything by mouth to an unconscious person.

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 IN EYES: Flush with plenty of water. Call a physician if irritation 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. Avoid contact with skin, eyes or clothing. Avoid breathing dust (vapor or spray mist).

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 in 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.

This product is highly toxic to Bees exposed to direct treatment of 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.

ACCEPTED
with COMMENTS
in EPA Letter Dated

JUN 11 1997

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

279-3156

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. 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 climate modification and being grown in interior plantscapes, ornamental gardens or parks, or on golf courses or lawns or grounds.

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

Not for use on sod farms or grass grown for seed.

STORAGE AND DISPOSAL

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

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

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. 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 sanitary 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.

APPLICATION RECOMMENDATIONS

Grass Areas (including golf courses, home lawns, lawn areas around parks, institutional, public, commercial and industrial buildings, recreational and athletic fields).

Apply Talstar GC as a broadcast treatment. Use application volumes of up to 10 gallons per 1000 square feet to get uniform coverage when treating dense and or long 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.

GRASS APPLICATION RATES

The application rates listed in the following table will provide control of the respective pests under typical conditions. However, at the discretion of the applicator, Talstar GC may be applied at up to 0.1 lb ai/A to control each of the pests listed in this Table. (0.2 lb ai/A for ants, imported fire ants and mole crickets).

Pest	Active Ingredient lbs. per acre	Application Rate Talstar GC Flowable	
Armyworms ¹ Cutworms ¹ Sod Webworm ¹	0.05 lbs ai per acre	10 fl. oz per acre	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	0.05 - 0.1 lbs ai per acre	10 - 20 fl. oz per acre	0.25 - 0.5 fl. oz. per 1000 sq.ft.
Fleas (Larvae) ⁹ Imported Fire Ants Japanese Beetle (Adult) Ticks ¹⁰	0.1 lbs ai per acre	20 fl. oz per acre	0.5 fl. oz. per 1000 ft ²
Ants ¹¹ Imported Fire Ants ¹¹ Mole Crickets ¹¹	0.2 lbs ai per acre	40 fl. oz per acre	1 fl. oz. per 1000 ft ²

General Applications Instructions

Talstar GC Flowable insecticide/miticide formulation mixes readily with water and other aqueous carriers, and controls a wide spectrum of insects and mites on ornamentals, trees, shrubs, foliage plants, non-bearing fruit and nut trees, and flowers in interiorscapes including hot shopping malls, office buildings, etc., and outdoor plantscapes, such as around residential dwellings, parks, institutional, public, commercial and industrial buildings, recreational, athletic fields, home lawns and golf courses. Non-bearing crops are perennial crops that will not produce a harvestable raw agricultural commodity during the season of application.

Talstar GC may be tank-mixed with other products, including insect growth regulators. When tank mixing Talstar GC with other products, observe all precautions and limitations on each separate product label. The physical compatibility of Talstar GC 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.

Maximum rates: Do not apply more than 0.1 lb ai/acre (20 fl. ozs. Talstar GC Flowable) in a single application, no more than 0.2 lb ai/acre/year for outdoor applications.

Note: For large infestations of ants, imported fire ants, and mole crickets, a single application of 0.2 lb ai/acre (40 fluid ounces of Talstar GC Flowable) may be applied once per year.

Comments

¹**Armyworms, Cutworms and Sod Webworms:** To ensure optimum control, delay watering (irrigation) or mowing for 24 hours after application. If the grass area is being maintained at a mowing height of greater than 1 inch, then higher application rates (Up to 0.1 lb ai/A) may be required during periods of high pest pressure.

²**Annual Bluegrass Weevil (Hyperodes) adults:** Applications should be timed to control adult weevils as they leave their overwintering sites and move into grass areas. This movement generally begins when *Forsythia* is in full bloom and concludes when flowering dogwood (*Cornus florida*) is in full bloom. Consult your State Cooperative Extension Service for more specific information regarding application timing.

³**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.

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

⁵**Chinch Bugs:** Chinch Bugs infest the base of grass plants and are often found in the thatch layer. Irrigation of the grass area before treatment will optimize the

penetration of the insecticide to the area where the chinch bugs are located. Use higher volume applications if the thatch layer is excessive or if a relatively long mowing height is being maintained. Chinch Bugs can be one of the most difficult pests to control in grasses and the higher application rates (Up to 0.1 lb ai/A) 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 control.

Mole Cricket adults: Achieving 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 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® GC Flowable insecticide/miticide at 0.05 lb. A/A for adult flea control, then the larval application rate may be achieved by doubling the application volume.

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.

Note: For large infestations of ants, imported fire ants, and mole crickets, a single application of 0.2 lb ai/acre (40 fluid ounces of Talstar GC Flowable) may be applied once per year.

Ornamentals in Interiorscapes, Plantscapes and Landscapes
For ornamental applications, dilute 0.5 to 2.0 fluid ounces of Talstar GC 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 GC may be diluted and applied in a greater volume of water providing that the maximum label rate (2.0 fluid ounces per 4,356 square feet) is not exceeded. Talstar GC may be applied through low volume application equipment by dilution with water or other carriers and providing that the maximum label rate (2.0 fluid ounces per 4,356 square feet) is not exceeded.

ORNAMENTAL APPLICATION RATES

The application rates listed in the following table will provide control of the respective pests under typical conditions. However, at the discretion of the applicator, Talstar GC may be applied at up to 0.1 lb A/A to control each of the pest listed in this Table.

Pest	Application Rate Talstar GC	
	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

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.

Apply the specified application rate as a full coverage foliar spray. Typical application volume is 100 gallons per acre. 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.

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.

Talstar and **FMC** —Trademarks of FMC Corporation (1657-5/13/96)

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 GC 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 GC per gallon of water. For 0.06% emulsion, mix 1 fluid oz. Talstar GC per gallon of water (1 fluid oz. = 2 tablespoons). Do not use household utensils to measure Talstar GC. 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.

Formicid and Fire Ant Mounds use Talstar GC 0.06% emulsion as Directed 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 preferably not in the heat of the day.

Apply with ground application equipment only (and apply with nozzles not more than two feet above the grass).

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.

Do not apply when a temperature inversion exists.

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

Do not apply for surface feeding pests if rain is expected within 12 hours (or whatever time is necessary for the spray to dry).

Do not apply by ground equipment within 25 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.

Do not apply when grass areas are water-logged or the soil is saturated with water (i.e. will not accept irrigation).