



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

AUG 21 2001

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Ms. Jo Bashford
Registration Affairs Specialist
Gowan Company
P.O. Box 5569
Yuma, AZ. 85366-5569

Dear Ms. Bashford:

Subject: Revising Advisory Statement under the "Creeping
Bentgrass" section to reflect current cultivars
EPA Registration No. 10163-213
Your submission dated May 14, 2001

The Labeling referred to above submitted in connection with the application under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable providing you make the following changes:

Add following "PERSONAL PROTECTIVE EQUIPMENT";

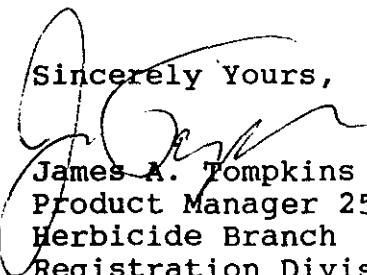
Some materials that are chemical-resistant to this product are listed below. If you want more options, follow instructions for category A on an EPA chemical resistant category selection chart.

Under applicators and other handlers must wear and in the Agriculture Use Requirements Box, change "waterproof gloves" to "Chemical-resistant gloves, Such as -----or -----or-----or-----"

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

Submit one (1) copy of your final printed labeling, plus an updated master label containing all approved uses before you release the product for shipment.

Sincerely Yours,


James A. Tompkins
Product Manager 25
Herbicide Branch
Registration Division (7505C)

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TUPERSAN® Herbicide

WETTABLE POWDER
FOR CONTROL OF CERTAIN ANNUAL WEED GRASSES IN TURF

ACTIVE INGREDIENT:

Siduron [1-(2-methylcyclohexyl)-3-phenylurea]

OTHER INGREDIENTS:

% By Wt.
50.0%
50.0%
TOTAL 100.0%

KEEP OUT OF REACH OF CHILDREN CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

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

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

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Avoid breathing dust. Avoid contact with skin, eyes, and clothing. May irritate eyes, nose, throat and skin.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. 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 apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated.

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 in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Waterproof gloves
- Shoes plus socks

SOD FARMS AND GRASS SEED PRODUCTION

Tupersan Herbicide is a selective preemergent herbicide to control certain annual weed grasses in turf grown for grass seed and sod production. Tupersan Herbicide may be applied at time of seeding without causing injury to germinating seeds of many common temperate region grasses. Tupersan Herbicide is highly effective for the control of smooth crabgrass, large crabgrass, downy brome, and foxtails. Tupersan Herbicide may be used on established turf.

Tupersan Herbicide may be applied to the soil before the emergence of weeds and will control susceptible weed seedlings for an extended period. At seeding, preemergent applications of Tupersan Herbicide are made after planting but before the emergence of the grass seedlings.

Soil adsorption of siduron increases with higher levels of organic matter and/or higher clay contents. Soils with high organic matter levels require higher dosage rates than soils with low organic matter for equal performance. Also, soil textures with high clay content require higher dosage rates than soil textures with low clay content for equal performance.

Water is required to activate the herbicide following preemergent applications to the soil. Rainfall or irrigation ($\geq \frac{1}{4}$ to 1 inch) must be provided within three (3) days to optimize the weed control.

Application rates of Tupersan Herbicide for sod farms and grass seed crops are presented in Table 1.

ACCEPTED
 COMMENTS
 In EPA Letter Dated
 AUG 21 2001
 Federal Insecticide,
 Fungicide, and Rodenticide Act
 as amended, for the pesticide
 registered under EPA Reg. No.
 10163-213

Table 1 Recommended Application Rates of Tupersan Herbicide for Sod Farms and Grass Seed Production		
Turf Species	Application Schedule	Amount of Product Pounds/Acre
Cool Season Grasses <ul style="list-style-type: none"> Bentgrass, Creeping Bentgrass, Colonial Fescue, Tall and Turf Types Kentucky Bluegrass Perennial Ryegrass Mixtures of Kentucky Bluegrass, Perennial Ryegrass, and Fescues Smooth Bromegrass Orchardgrass Reed Canarygrass 		
At Seeding	Single	4 - 12 lb./Acre
	Sequential	6 - 12 lb./Acre plus 4 - 6 lb./Acre
Fall Plantings and Established Turf	Single	16 - 24 lb./Acre

Gordon's Trimec® S.S. Broadleaf Herbicide is recommended for broadleaf control in cool season turfgrass established for sod production and grass seed crops.

NEWLY SEEDED AREAS: The application of Gordon's Trimec® S.I. Broadleaf Herbicide to grass seedlings is recommended after the onset of tillering and after the grass seedlings have developed an adequate secondary root system. Usually, five to six leaves of the grass seedlings are visible when the first tiller appears.

ESTABLISHED GRASS STANDS: Spring and fall applications of Gordon's Trimec® S.I. Broadleaf Herbicide are recommended for grasses that have been planted for one or more seasons.

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants in farms, forests, nurseries or greenhouses.

REENTRY: Keep unprotected persons out of treated areas until sprays have dried.

Tupersan Herbicide may be applied to the following sites and turfgrass species:

SITES:

- Golf courses (fairways, greens, tees, aprons)
- Ornamental turfgrass and lawns
- Parks
- Sport facilities
- Roadsides

TOLERANT TURF:

- Kentucky Bluegrass (*Poa pratensis*)
- Perennial Ryegrass (*Lolium perenne*)
- Tall Fescue (*Festuca arundinacea*)
- Zoysia (*Zoysia japonica*)
- Smooth Bromegrass (*Bromus inermis*)
- Orchardgrass (*Dactylis glomerata*)
- Reed Canarygrass (*Phalaris arundinacea*)

MODERATELY TOLERANT TURF:

- Fescues (*Festuca* spp.)
 - Chewing's (*F. rubra*)
 - Hard (*F. ovina*)
 - Red (*F. rubra*)
- Colonial Bentgrass (*Agrostis tenuis*)
- Creeping Bentgrass (*Agrostis palustris*)

CREeping BENTGRASS: Most cultivars of creeping bentgrass have shown tolerance to Tupersan Herbicide, but all cultivars have not been tested for tolerance, and the response may vary with the environmental conditions and cultural practices. A tolerance test on a small area is recommended for the use of Tupersan Herbicide on other cultivars of creeping bentgrass.

WEEDS CONTROLLED:

Crabgrass (Smooth), Large Crabgrass, Foxtail (Yellow, Green and Giant), Downy Brome, and Barnyardgrass.

WEEDS NOT CONTROLLED:

Annual Bluegrass (*Poa annua*), Fall Panicum, Goosegrass, Dallisgrass, Clovers, Dandelion, Plantains, Chickweed, and other broadleaf weeds.

SPRAY EQUIPMENT AND SPRAY PREPARATION

Conventional ground sprayers equipped with same nozzle types at equal spacings can provide uniform broadcast applications. Pressurized spray gun equipment, backpack sprayers, boom sprayers, and other hand-operated sprayers are suitable for spot treatments or small areas to be treated. Tupersan Herbicide can also be mixed with seed, fertilizer, and mulch and applied to roadside slopes and other areas with a hydraulic seeder or hydroseeder.

Check the spray tank and equipment for cleanness before preparing the spray solution. Calibrate the sprayer before use.

Use screens to protect the pump and to prevent the nozzles from clogging. Use 50 mesh or coarser screens at the nozzles.

Tupersan Herbicide should be mixed with water.

1. Fill the spray tank with $\frac{1}{2}$ to $\frac{3}{4}$ of the required amount of water and begin agitation. Sufficient agitation during mixing and application is essential.
2. Add Tupersan Herbicide directly from the bag into the tank.
3. Fill the spray tank to $\frac{3}{4}$ of the required amount of water. If tank mixtures are being prepared, add the companion product when the spray tank is approximately $\frac{3}{4}$ full and the Tupersan Herbicide is fully dispersed. Soluble concentrates, flowables, suspensions, and emulsifiable concentrates should be added after Tupersan Herbicide is fully suspended.
4. Finally, add the balance of the required water volume and maintain agitation prior to and during the application.
5. Tupersan Herbicide should not be mixed with any product that prohibits such mixing. No label application rate should be exceeded and the most restrictive label precautions and limitations should be followed. Refer to the tank mix product label(s) for further information.

SPRAY VOLUME AND PRESSURE: A spray volume range of 20 - 200 gallons per acre can be used. Or, spray volumes of 0.5 - 5.0 gallons per 1,000 sq. ft. can provide adequate distribution. Spray pressures should be matched with the spray equipment and nozzle types. Check the recommendations provided by equipment manufacturer.

APPLICATION SCHEDULE AND RAINFALL/IRRIGATION

Tupersan Herbicide is a preemergent herbicide to control smooth and large crabgrass during the establishment of perennial cool season grasses. Spring applications should coincide with the period of maximum weed germination. Siduron forms a chemical barrier to the weeds. As the weed seeds germinate, the developing seedlings absorb the herbicide resulting in seedling death.

All summer annual grasses do not germinate at the same time. If application timing does not coincide with the normal germination period of any of the annual grass weeds listed on this label, weed control results may be erratic or poor. Sequential applications at the recommended rate can be made at 4 weeks following the initial application to provide season long control.

Soil adsorption of siduron increases with higher levels of organic matter and/or higher clay contents. Soils with high organic matter levels require higher dosage rates than soils with low organic matter for equal performance. Also, soil textures with high clay content require higher dosage rates than soil textures with low clay content for equal performance.

Rainfall or irrigation ($\geq \frac{1}{2}$ inch) must be provided within three (3) days to optimize the weed control.

Refer to Table 2 for the application rate recommendations of Tupersan Herbicide for cool season grasses at golf courses, lawns, parks, and ornamental grasses. Rate recommendations to roadsides are presented in Table 3.

Table 2. Recommended Application Rates of Tupersan Herbicide for Golf Courses, Lawns, Parks, and Ornamental Turfgrass.					
Turf Species	Application Schedule	Golf Courses		Lawns, Parks, & Ornamental Turfgrass	
		Ounces of Product/ 1,000 sq. ft.	Pounds/Acre	Ounces of Product/ 1,000 sq. ft.	Pounds/Acre
Cool Season Grasses <ul style="list-style-type: none"> • Bentgrass, Creeping • Bentgrass, Colonial • Fescue, Tall and Turf Types • Kentucky Bluegrass • Perennial Ryegrass • Mixtures of Kentucky Bluegrass, Perennial Ryegrass and Fescues 					
At Seeding	Single	1 $\frac{1}{2}$ - 4 $\frac{1}{2}$ oz.	4 - 12 lb.	1 $\frac{1}{2}$ - 4 $\frac{1}{2}$ oz.	4 - 12 lb.
	Sequential	2 $\frac{1}{4}$ - 4 $\frac{1}{2}$ oz.	6 - 12 lb.	2 $\frac{1}{4}$ - 4 $\frac{1}{2}$ oz.	6 - 12 lb.
		plus 1 $\frac{1}{2}$ - 2 $\frac{1}{4}$ oz.	plus 4 - 6 lb.	plus 1 $\frac{1}{2}$ - 2 $\frac{1}{4}$ oz.	plus 4 - 6 lb.
Fall Plantings	Single	6 - 9 oz.	16 - 24 lb.	6 - 9 oz.	16 - 24 lb.

Combining preemergent herbicides and postemergent herbicides can improve crabgrass control. Tupersan® Herbicide + Quadmec Trimec® Plus Post Emergent Grass and Broadleaf Herbicide can provide excellent grass and broadleaf control. These tank mixtures must be used according to the most restricted label limitations and precautions. No label dosage rate should be exceeded. Follow the labeling of each companion product for precautionary statements, directions for use, dosage rates, and application schedules. Tank mixture recommendations are for use only in states where the companion products and application sites are registered.

Table 3. Recommended Application Rates of Tupersan Herbicide at Seeding for Cool Season Grasses in Roadsides.		
Turf Species	Application Schedule	Amount of Product Pounds/Acre
Cool Season Grasses <ul style="list-style-type: none"> • Bentgrass, Redtop • Kentucky Bluegrass • Perennial Ryegrass • Tall Fescue • Smooth Brome grass • Orchardgrass • Reed Canarygrass 		
At Seeding	Single	4 - 12 lb./Acre

BERMUDAGRASS SUPPRESSION INTO CREEPING BENTGRASS GREENS: Greens established with creeping bentgrass may be surrounded by bermudagrass collars and aprons. Mixtures of creeping bentgrass and bermudagrass result in poor putting surfaces. The selectivity of Tupersan Herbicide can suppress the bermudagrass encroachment without injury to the bentgrass.

Tupersan Herbicide can be applied as a band treatment along the perimeter of the greens to suppress the stolon growth of the bermudagrass. Use ½ - 1 pound of Tupersan Herbicide per 1,000 sq. ft. and apply in a 8 - 12 inch band with a single nozzle sprayer. Schedule the initial application during March or April and continue with subsequent applications at the same application rate at 4 - 5 week intervals.

ZOYSIAGRASS ESTABLISHMENT (SPRIGS): Tupersan Herbicide can be used to control annual grasses in newly sprigged zoysiagrass. Tank mixture combinations of preemergence herbicides immediately after sprigging can provide effective crabgrass control during the establishment of zoysiagrass.

Apply 8.0 pounds of Tupersan Herbicide per acre in combination with simazine (Princep® Liquid Herbicide For Turf and Ornamentals or Princep® DF For Turf and Ornamentals). Irrigation (≥ ½ inch) immediately after the herbicide application will optimize the weed control.

These tank mixtures must be used according to the most restrictive label limitations and precautions. No label dosage rate should be exceeded. Follow the labeling of each companion product for precautionary statements, directions for use, dosage rates, and application schedules. Tank mixture recommendations are for use only in states where the companion products and application sites are registered.

Note:

- Do not apply to crops used for food or feed purposes.
- Do not apply this product through any type of irrigation system.
- Tupersan Herbicide should be used only in accordance with recommendations on this label. Manufacturer will not be responsible for losses or damages resulting from use of this product in any manner not specifically recommended.

STORAGE AND DISPOSAL

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

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK, OR FIRE), CALL CHEMTREC® (800) 424-9300.

For other product information, contact Gowan Company or see Material Safety Data Sheet.

NOTICE ON CONDITIONS OF SALE

Our 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. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

®Tupersan Herbicide is a registered trademark of Gowan Company

®Gordon's Trimec S.I. Broadleaf Herbicide is a registered trademark of pbi/Gordon Corporation

®Princep Liquid Herbicide is a registered trademark of Novartis Crop Protection Inc.

EPA Amendment, Pending 5/14/01