

DEC 17 1991

Mr. Ralph P. Burton
ISK Biotech Corp.
5966 Heisley Road
P.O. Box 8000
Mentor, OH 44061-8000

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Dear Mr. Burton:

Subject: Dacthal W-75 Turf
EPA Registration No. 50534-20
Your Application of November 6, 1991

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with a revision of the statement regarding wetlands under Environmental Hazards. The statement should be revised to read as follows.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

If you have already printed labels with the old wetlands statement but includes the Groundwater Advisory statement the above statement should be added at the next printing. A stamped copy of the label is enclosed for your records.

Thank you.

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

Net Contents: 24 Pounds/10.9 Kilograms

ISK·BIOTECH™

Dacthal W-75 Turf

Turf Care

Turf and Ornamental Herbicide (75% Wettable Powder)

By Wt

Keep Out of Reach of Children

CAUTION

DACTHAL and TURF CARE are registered trademarks of ISK Biotech Corporation

3304-4027-1002-9110

Environmental Hazards

Do not apply directly to water or wetlands (swamps, bogs, marshes, and potholes). Do not contaminate water when disposing of equipment wastewater.

Dacthal® W-75 Turf

A Selective Preemergence Herbicide for Nurseries and Professional Ornamental Turf Management

Read Entire Label Carefully and Use Only as Directed

General Information

Dacthal W-75 Turf is a 75 percent wettable powder formulation for use in preemergence application for control of crabgrass and other annual grasses and certain broadleaved weeds on mineral soils in ornamental turf and nursery stock. The following weeds are grouped according to their susceptibility to Dacthal W-75 Turf.

Susceptible (controlled at recommended rates): Common lambsquarters, smooth crabgrass, large crabgrass, lovegrass, carpetweed, witchgrass, purslane, Florida pusley, yellow foxtail, green foxtail, common chickweed.

Moderately Susceptible (Maximum rates required for effective control): Redroot pigweed, sandbur, dodder, barnyardgrass, goosegrass, browntop panicum, groundcherry, annual bluegrass, johnsongrass (from seed), nodding spurge, spotted spurge and prostrate spurge.

Tolerant: Velvetleaf, common ragweed, johnsongrass established from rhizomes, mustards, jimsonweed, gainsoga smartweed, nutsedge.

Dacthal W-75 Turf may be used as a postemergence for the control of creeping speedwell.

Directions For Use

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

DO NOT APPLY IN SUFFOLK COUNTY, LONG ISLAND, NEW YORK.

Groundwater Advisory: Tetrachloroerephthalic acid, a breakdown product of Dacthal, is known to leach through soil as a result of agricultural and turf uses and has been found in groundwater which may be used for drinking water. Users are advised not to apply Dacthal to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e. well drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater used for drinking water.

Do Not apply when wind speed favors drift beyond the area intended for treatment.

Protective Clothing Required: Wear a long-sleeved shirt, long-legged pants, chemical resistant gloves, shoes and socks when handling (mixing, loading or applying) pesticides or when cleaning and repairing equipment used during mixing, loading or application of pesticides.

In case of contact with skin, wash thoroughly with soap and water. Always wash hands, face and arms with soap and water after using pesticides before smoking, eating, drinking or toileting. Shower after work and do not reuse clothing worn during handling (mixing, loading or applying) pesticides or when cleaning and repairing equipment used during mixing, loading or application of pesticides until clothing has been thoroughly laundered. Clothing worn during work must be laundered separately from household articles before reuse.

Preparation and Application of the Spray: Dacthal W-75 Turf should be thoroughly mixed in the spray tank with water to provide for broadcast application of at least 20 gallons of water per acre, depending on equipment and local practices. In order to insure uniform suspension in the spray tank, Dacthal W-75 Turf should be premixed in a clean container at the rate of about 12 pounds to 3 gallons of water. This mixture should be stirred until a slurry is formed and then added to the spray tank during or after filling. Adequate agitation should be maintained during filling and spraying to keep material in uniform suspension. Use nozzles suitable for applying wettable powder so that the spray can be uniformly distributed over turf or properly prepared soil surface. Any screen or strainer in spray equipment should be no finer than 50 mesh to prevent clogging. It is essential that the sprayer be properly calibrated before making applications. Standard low pressure, 30-50 psi, boom type sprayers are recommended.

A minimum of one-fourth inch of water, either as rain or irrigation, is necessary to activate Dacthal W-75 Turf, and thereby obtain preemergence control of weeds specified. Normally water must be applied within 3 to 5 days of application if sufficient rainfall does not occur. However, when surface soil is dry but subsurface soil contains enough moisture to germinate weeds, water must be applied immediately.

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Ornamental Turf: Application at the rate of 14 lbs. of Dacthal W-75 Turf in 40 to 100 gallons of water per acre (1 lb./3 to 7 gals./3000 sq. ft.) gives excellent control of crabgrass and other weeds as listed on this label. One application applied in early spring before weed seed germination usually provides season long control. Crabgrass seed germination usually coincides with the time when Forsythia blossoms start to fall. In areas which commonly experience stands of late-germinating crabgrass and other annual weedy grasses, a second application at half the regular rate can be safely made two months after the first application. In order to control annual bluegrass (*Poa annua*) and other erratic or late-germinating grasses and weeds in northern states, a late summer or early fall application before weed seed germination of 20 pounds of Dacthal W-75 Turf in 40 to 100 gallons of water per acre (1/2 lb./1 to 2 gals./1000 sq. ft.) should supplement the early spring application. Earlier applications are required in Southern States. Consult agricultural experiment station or extension service weed specialist for date *Poa annua* seed germinates in your area and make application at least two weeks prior to this date.

Early spring application of Dacthal W-75 Turf may be made to new turfgrass seedlings after the grasses have exhibited a uniform greening of the newly sprouted grass, preferably when 1 to 2 inches in height. Such Dacthal W-75 Turf application gives control of crabgrass without injury to newly emerged grass. Fall sowing of permanent grasses can follow early spring applications of Dacthal W-75 Turf.

Where some spring seeding is necessary, there should be a delay of approximately 60 days after the application of most preemergence herbicides, including Dacthal W-75 Turf. This delay increases the survival of desirable grasses.

Dacthal W-75 Turf is not recommended for use on putting greens.

Dacthal W-75 Turf is not recommended for use on bentgrasses mowed at putting green height.

Do not feed treated foliage to livestock or graze treated areas.

For control of creeping speedwell (*Veronica filiformis*), apply 16 pounds of Dacthal W-75 Turf in 40 to 100 gallons of water per acre as a postemergence spray when creeping speedwell is growing vigorously. Spring or early fall applications are usually suitable, provided temperatures are between 65° and 90°F, and there is ample soil moisture. Thorough coverage is essential. Delayed control of creeping speedwell is to be expected. Foliage turns darker green following application and remains so for about 30 days when leaves curl and the plants die.

For Use On Ornamental Turf:

Established Turf

To Control	When To Apply	Rate Of Dacthal W-75 Turf	Remarks
Crabgrass	Early spring, before crabgrass and other spring annual weed seeds germinate	14 lbs/Acre or 1 lb/3 to 7 gals./3000 sq. ft.	Apply when Forsythia blossoms. A second application at half the recommended rate may be made 2 months after the first application, if necessary.
Annual bluegrass (<i>Poa annua</i>)	Late summer or early fall in northern states before weed seed germination. Consult agricultural experiment station or extension service weed specialist for date <i>Poa annua</i> germinates in your area and make application at least two weeks prior to this date.	20 lbs/Acre or 1/2 lb/1 to 2 gals./1000 sq. ft.	Should be used following an early spring application for crabgrass control.
Creeping speedwell (<i>Veronica filiformis</i>)	As a postemergence spray in spring or early fall when creeping speedwell is growing vigorously, there is ample soil moisture and temperature is between 65° and 90°F.	16 lbs/Acre or 1/2 lb/1 to 2 gals./1000 sq. ft.	Apply spray to obtain thorough coverage of foliage. Delayed control of creeping speedwell approximately 30 days is to be expected. Foliage turns darker green following application and remains so for about 30 days when leaves curl and the plants die.
Spotted Spurge or Prostrate Spurge (<i>Euphorbia maculata</i> , <i>E. supina</i>)	Mid-April or before seed germination of annual weeds. Repeat application in 6 to 8 weeks.	14 to 16 lbs/Acre or 5 to 6 ozs in 1 to 2 gals./1000 sq. ft.	Apply first application before germination of annual weed seeds such as crabgrass. Repeat application at the same rate 6 to 8 weeks later. In addition to control of spotted spurge or prostrate spurge, crabgrass control is also obtained.

Newly-Seeded Turf

To Control	When To Apply	Rate Of Dacthal W-75 Turf	Remarks
Crabgrass	After new turfgrass seedlings have exhibited a greening of the newly sprouted grass (about 1 to 2 inches high).	14 lbs/Acre or 1 lb/3 to 7 gals./3000 sq. ft.	Allow crabgrass control without injury to the new turf.

Caution: After Dacthal W-75 Turf treatment, wait approximately 60 days before any new seeding is undertaken. Do not use on Dichondra.

See recommendations on bentgrass before using on this species.

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Nursery Stock: Dacthal W-75 Turf can be applied to a wide range of nursery stock at the rate of 14 to 16 pounds in 50 to 100 gallons of water per acre of area treated (1 pound in 3-7 gallons of water/3000 square feet). Applications should be made to soil recently cultivated to a uniform texture. These can be made immediately following lining-out of stock. With established plantings, application should be made following proper cultivation to remove existing weeds. Where possible this should be done early in the spring. Late summer application may prove beneficial for control of late germinating weeds if made following cultivation. Weed control up to three months or more may be expected following proper application.

Dacthal W-75 Turf is specifically recommended for weed control with the following:

Abelia	Coreopsis	Gladiolus	Marquette, golden	Rose
Ageratum	Coronilla	Goldust	Mango	Russian olive
Alyssum	Cosmos	Goldenlute	Mockorange	Sage, scarlet
Andromeda, Jap	Colosteaster	Gum	Morningglory	Snapdragon
Arbutus	Cottonwood	Hawthorn	Moss, rose	Snowwort, Va
Asn	Crabapple	Heath, pink	Mother-of-Thyme	Sprea
Aster	Cuphea	Holly	Mountain Laurel	Spruce
Azalea	Cypress	Hydrangea	Mourning Bride	Stoncrop
Baby's breath	Dahlia	Honeysuckle	Nasturtium	Strawflower
Barberry	Delphinium	Iris	Oak	Sundrops
Bellflower	Deutzia	Ivy, Baltic	Orpine	Sunflower
Birch	Dogwood	Ivy, Boston	Pachistima	Sweet pea
Bleedingheart	Elaeagnus	Ivy, English	Pachysandra	Sycamore
Bloodleaf	Elm	Ivy, Wilson	Peony	Tree peony
Boxwood	Eucalyptus	Juniper	Perunia	Tulip tree
Bugloss	Evening primrose	Lantana	Pine	Viburnum
Camellia	Feverfew	Larkspur, candle	Pittosporum	Violet, African
Candytuft	Fir	Lavender/cotton	Podocarpus	Walnut
Chestnut	Forget-me-not	Lilac	Poker plant	Weigela
Chrysanthemum	Forsythia	Lily	Poplar	Willow
Cinquelob	Four-O'Clock	Locust	Privet	Wormwood
Coleus	Foxglove	Lupine	Privet, variegated	Yarrow, fernleaf
Columbine	Gaultheria	Magnolia	Redbud	Yew
Cornflower, purple	Geranium	Maple	Rhododendron	Zinnia

Do not use on the following plants:

Bufoleweed	Carnation	Germander	Pansy	Sweet William
Button pink	Geum	Mesembryanth	Phlox	Telanthera

Amount of Dacthal W-75 Turf to Use in Treating Small Areas

Area to be Treated*	Recommended rate of Dacthal W-75 Turf lb/A	Amount of Dacthal W-75 Turf to apply	Struck-off (level) Tablespoons
1000 sq ft (From 1 to 2 gallons of water should be used to spray 1000 sq ft)	14 (heavy soil)	5 oz	22
	12 (heavy soil)	4 1/2 oz	19
	10 (medium soil)	3 1/2 oz	16
	8 (medium soil)	3 oz	13
	6 (sandy soil)	2 oz	10
250 sq ft (From 1/4 to 1/2 gallon of water should be used to spray 250 sq ft)	14 (heavy soil)	1 1/4 oz	5 1/2
	12 (heavy soil)	1 oz	4 1/2
	10 (medium soil)	3/4 - 1 oz	4
	8 (medium soil)	3/4 oz	3
	6 (sandy soil)	1/2 oz	2 1/2

Note: In treating small areas it is important to use care in measuring out required quantity for area to be treated, properly mixing it in water and keeping it adequately agitated during application.

*Other size areas to be treated can be calculated from above table. For example:

To treat 5000 sq ft. at the 10 lbs/acre rate, use 5 cups or 80 tbsps (5 x 16) in 5 to 10 gallons of water (5 x 1 to 2)

To treat 600 sq ft. at the 12 lbs/acre rate, use 11 1/4 tbsps (0.6 x 19) in 0.6 to 1.2 gallons of water (0.6 x 1 to 2)

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Application and Calibration Techniques for Sprinkler Irrigation

Apply Dacthal W-75 Turf only through center pivot motorized lateral move, solid set or portable (side roll, end tow or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system.

Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.

If you have questions about calibration, you should contact State Extension service specialists, equipment manufacturers or other experts.

Do not apply this product through irrigation systems connected to a public water system. "Public water system" means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days per year.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

Always inject Dacthal W-75 Turf into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur.

Dacthal W-75 Turf may be used through two basic types of sprinkler irrigation systems as outlined in sections A and B below. Determine which type of system is in place, then refer to the appropriate directions provided for each type. The tank containing Dacthal W-75 Turf must be equipped with effective mechanical agitation to keep the wettable powder in suspension. Premixing Dacthal W-75 Turf as instructed under ground application will insure that a uniform suspension is obtained. The injection equipment which contains the Dacthal W-75 Turf suspension should be connected to the discharge side of the irrigation pump or other pressurized equipment attached to the irrigation line.

A. Center Pivot and Motorized Lateral Move Irrigation Equipment

For injection of pesticides, these continuously moving systems must use a positive displacement injection pump of either diaphragm or piston type, constructed of materials that are compatible with pesticides and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Fill chemical supply tank of injection equipment with water. Operate system for one complete revolution or run across the field, measuring time required, amount of water injected, and acreage covered. Thoroughly mix recommended amount of Dacthal W-75 Turf for acreage to be covered into same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run, but continue to operate irrigation system until Dacthal W-75 Turf has been cleared from last sprinkler head.

B. Solid Set and Portable (Side Roll, End Tow or Hand Move) Irrigation Equipment

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty-five minute period. Mix desired amount of Dacthal W-75 Turf for acreage to be covered into quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Dacthal W-75 Turf can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until Dacthal W-75 Turf has been cleared from last sprinkler head.

Storage and Disposal

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

Storage: Store in a dry place.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility.

Do not contaminate water when disposing of equipment washwaters.

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

Warranty and Limitation of Damages

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and buyer assumes the risk of any use contrary to such directions. Seller makes no other express or implied warranty, including any other express or implied warranty of Fitness or Merchantability, and no agent of Seller is authorized to do so except in writing with a specific reference to this warranty. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

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