



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

EPA Reg. Number:
 60063-5

Date of Issuance:
 APR 1 1993

NOTICE OF PESTICIDE:
 Registration
 Reregistration
 (under FIFRA, as amended)

Term of Issuance:
 Conditional

Name of Pesticide Product:
 Echo 500 Turf and Ornamental Fungicide

Name and Address of Registrant (include ZIP Code):

Sostram Corporation
 70 Mansell Ct., Suite 230
 Roswell, GA 30076

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) 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 your product under FIFRA section 4.

2. Make the following label changes listed below before you release the product for shipment:

- a. Add the phrase, "EPA Reg. No. 60063-5".
- b. In the precautionary statements add:
 Avoid contact with skin, eyes or clothing.

Signature of Approving Official:

LSJ

Date:

APR 1 1993

3. Submit one (1) copy of your final printed labeling before you release the product for shipment. 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 constitutes acceptance of these conditions.

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

Cynthia Giles-Parker
Product Manager (22)
Fungicide-Herbicide Branch
Registration Division (H7505C)

Enclosure

ACCEPTED
with COMMENTS
in EPA Letter Dated:

PMDD

60063-5

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

60063-5

ECHO 500

Turf and Ornamental Fungicide

Contains 4.17 Pounds Chlorothalonil
Per Gallon (500 grams per liter)

ACTIVE INGREDIENT:

Chlorothalonil (tetrachloroisophthalonitrile)..... 40.4%

INERT INGREDIENTS:..... 59.6%

TOTAL:100.0%

KEEP OUT OF REACH OF CHILDREN

WARNING

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.

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.

See side panel for additional precautionary statements.

EPA REG. NO. 60063-

EPA EST. NO.

MANUFACTURED FOR:

SOSTRAM CORPORATION
70 Mansell Court, Suite 230
Roswell, Georgia 30076

NET CONTENTS: 2 Gallons/7.87 Liters

A Broad Spectrum Fungicide for use on Golf Course Tees, Greens and Fairways, Ornamental Turfgrass and Ornamentals.

Read entire label carefully and use only as directed.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

WARNING

May be fatal if inhaled. Harmful if swallowed, absorbed through skin. Causes (moderate) eye injury (irritation). Do not breathe dust (vapor or spray mist.) Wear a mask or pesticide respirator jointly approved by the Mine Safety and Health Administration and the National Institute for Occupation Safety and Health. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

NOTE TO USER: This product may produce temporary allergic side effects characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. Persons having allergic reaction should contact a physician.

FIRST AID:

NOTE TO PHYSICIAN: Persons having allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, aquatic invertebrates, and marine/estuarine organisms. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Do not apply when weather conditions favor drift from treated areas.

Apply only to areas specified on label.

GENERAL INFORMATION

ECHO 500 Turf and Ornamental Fungicide is formulated for use on golf course tees, greens and fairways, ornamental turfgrass and ornamental shrubs and trees. It is highly effective for the control of a broad spectrum of turf and ornamental plant diseases when it is used according to the directions on this product label. Thorough, uniform coverage of plant surfaces is essential for good disease control.

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NOTE: Slowly invert container several times to assure uniform mixture.

Add the required amount of ECHO 500 to the spray tank while filling with water. Keep agitator running when filling spray tank and during spray operations.

Do not combine ECHO 500 in the spray tank with pesticides, surfactants or fertilizers unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use.

DIRECTIONS FOR USE

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

NOTE TO USER: This product may produce temporary allergic side effects characterized by redness of the eyes, mild bronchial irritation and redness or rash on exposed skin areas. Persons having allergic reaction should contact a physician.

NOTE TO USER: Wear long sleeve shirt, long pants, and gloves while mixing, loading and applying this product.

APPLICATION AND CALIBRATION TECHNIQUES FOR SPRINKLER IRRIGATION ON SOD FARMS, ORNAMENTAL HERBS, SHRUBS AND TREES.

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set and portable (wheel move, side roll, end tow, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system. Do not use ECHO 500 Turf and Ornamental Fungicide through sprinkler irrigation equipment on golf courses.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop 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.

Controls for both irrigation water and pesticide injection systems must be functionally interlocked, so as to automatically terminate pesticide injection when the irrigation water pump

motor stops. A person knowledgeable of the irrigation system and responsible for its operation shall be present so as to discontinue pesticide injection and make necessary adjustments, should the need arise.

The irrigation water pipeline must be fitted with a functional, automatic, quick-closing check valve to prevent the flow of treated irrigation water back toward the water source. The pipeline must also be fitted with a vacuum relief valve and low pressure drain, located between the irrigation water pump and the check valve, to prevent back-siphoning of treated irrigation water into the water source.

Always inject ECHO 500 Turf and Ornamental Fungicide 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.

Pesticide injection equipment must be fitted with a functional, normally closed, solenoid-operated valve located on the intake side of the injections pump. Interlock this valve to the power system, so as to prevent fluid from being withdrawn from the chemical supply tank when the irrigation system is either automatically or manually turned off.

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 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.

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. Do not apply when wind speed favors drift beyond the area intended for treatment.

ECHO 500 Turf and Ornamental Fungicide 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.

A. Center Pivot, Motorized Lateral Move and Traveling Gun 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 being fitted with a system interlock 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.

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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 ECHO 500 Turf and Ornamental Fungicide 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 ECHO 500 Turf and Ornamental Fungicide has been cleared from last sprinkler head.

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

With stationary systems, an effectively designed in-line venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides; however, a positive-displacement pump can also be used.

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 ECHO 500 Turf and Ornamental Fungicide for acreage to be covered with water so that the total mixture of ECHO 500 Turf and Ornamental Fungicide plus water in the injection tank is equal to the 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. No agitation should be required. ECHO 500 Turf and Ornamental Fungicide 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 ECHO 500 Turf and Ornamental Fungicide has been cleared from last sprinkler head.

TURF: Do not mow or water after treatment until spray deposit on turfgrass is thoroughly dry; ECHO 500 should always be used in conjunction with good turf management practices.

GOLF COURSE FAIRWAYS: Apply ECHO 500 Turf and Ornamental Fungicide in 30 to 40 gallons of water per acre. Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below.

DISEASE	APPLICATION INTERVAL	APPLICATION RATE PER ACRE
Sclerotinia dollar spot	7 - 10 Days 14 - 21 Days	4 to 8 pts. 8 to 14 pts.
Helminthosporium leafspot	7 - 10 Days 14 - 21 Days	8 pts. 8 to 14 pts.
Rhizoctonia brown patch	7 - 14 Days	8 to 10 pts.
Anthracnose	7 - 14 Days	6 to 12 qts.

GOLF COURSE TEES AND GREENS AND ORNAMENTAL TURFGRASS: Apply ECHO 500 Turf and Ornamental Fungicide in an adequate amount of water to provide complete coverage. This amount may vary from 2 to 10 gallons (approximately 8 to 38 liters) per 1,000 square feet. See below for suggested rates and timing. Under severe disease conditions, use the curative rates and spray on a 7 day schedule.

DISEASE	INTERVAL OF APPLICATION	RATE	
		LIQUID OUNCES* PER 1,000 SQ. FT. PREVENTIVE**	CURATIVE***
Anthracnose	7 - 14 Days	5-9	--
Copper spot	7 - 10 Days	6-9	9-11
Curvularia leaf spot	7 - 10 Days	3-6	6-11
Dollar spot	7 - 14 Days	3-6	6-11
Gray leaf spot	7 - 10 Days	3-6	6-11
Helminthosporium leaf spot and melting out	7 - 10 Days	3-6	6-11
Large brown patch	7 - 10 Days	3-6	6-11
Red thread	7 - 10 Days	3-9	9-11
Stem rust of bluegrass	7 - 14 Days	6-9	9-11
DICHONDRA Alternaria leaf spot (California only)	7 - 14 Days	6-9	9-11

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*One liquid ounce is approximately equal to 29 milliliters.

**Recommended rates for preventing disease establishment, use lower rates when disease conditions are light to moderate, higher indicated rates when conditions are severe.

***Rates for use on a 7 day schedule when disease is present. Higher indicated rate should be applied under severe conditions.

TURFGRASSES: Gray Snow Mold caused by Typhula spp. - Apply in sufficient water to obtain adequate coverage (2 to 10 gallons per 1,000 square feet). Apply 8 to 16 fluid ounces of ECHO 500 Turf and Ornamental Fungicide per 1,000 square feet of turf area. Application must be made before snow cover in autumn. Use the higher rate if turf layer remains frozen prior to snow cover. If snow cover is intermittent or lacking during the winter, re-apply ECHO 500 at 8 fluid ounces per 1,000 square feet at monthly intervals until gray snow mold conditions no longer prevail. In areas where pink snow mold (Gerlachia or Fusarium patch) is likely to occur, apply ECHO 500 at 8 fluid ounces per 1,000 square feet in combination with either Tersan* 1991 50WP at 2 ounces per 1,000 square feet or Chipco** 26019 50WP at 4 ounces per 1,000 square feet of turf area.

FUSARIUM (GERLACHIA) PATCH: For control of Fusarium patch only in areas where snow cover is intermittent or lacking during the winter, apply 8 to 14 fluid ounces of ECHO 500 Turf and Ornamental Fungicide per 1,000 sq. ft. of turf area. Begin applications in late autumn and re-apply at 21 to 26 day intervals until conditions favorable for Fusarium patch no longer prevail. ✓

ORNAMENTALS AND CONIFERS: Apply ECHO 500 Turf and Ornamental Fungicide at rate of 2 pints per 100 gallons of water unless other directions are given in the tables below. Begin applications as directed for each species and disease condition cited and repeat on a 7 to 14 day schedule until conditions are no longer favorable for disease development. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, use the higher rate specified and the shortest indicated interval between applications.

ECHO 500 may be used in greenhouses. Applicators and attending personnel should wear protective clothing including long sleeves, gloves, goggles or eye shield plus a face-fitting respirator specifically designed to remove organic pesticide vapors and particulates. Do not use mistblowers or high pressure spray equipment when making applications of ECHO 500 in greenhouses

Use of ECHO 500 is recommended for disease control on the ornamentals and conifers listed in the tables below. Use of ECHO 500 is not recommended for species that are not listed.

*Tersan is a registered trademark of E.I. Dupont de Nemours & Company, Inc.

**Chipco is a registered trademark of Rhone-Poulenc, Inc.

ORNAMENTALS:

SPECIES	DISEASES CONTROLLED	SUGGESTED FIRST APPLICATION
BROADLEAF SHRUBS AND TREES:		
Ash (Fraxinus)	Cercospora, Cercosporidium, Cylindrosporium leafspots	Spring bud break
Azalea* Rhododendron*	Phytophthora die-back; Ovulinia flower blight	New leaf emergence; Early bloom
Buckeye, Horsechestnut	Leaf blotch, Anthracnose	Spring bud break
Cherry-Laurel	Cercospora leafspot	Petal fall
Crabapple	Scab, Cedar-apple rust, Sphaeropsis leafspot	Spring bud break ✓
Dogwood	Septoria leafspot	Early bloom
Euonymus	Anthracnose	Spring bud break
Firethorn	Scab	Spring bud break
Flowering Almond, Quince, Sand Cherry	Monilinia blossom/ branch blight	Early bloom
Hawthorn	Rust, Fabraea leafspot	Pre-bloom
Holly	Rhizoctonia web blight	Warm, moist conditions
Mountain Laurel	Cercospora leafspot	Spring bud break
Oak (red group Only)	Taphrina blister, Actinopelte leafspot, Anthracnose	Dormant budswell

SPECIES	DISEASES CONTROLLED	SUGGESTED FIRST APPLICATION
BROADLEAF SHRUBS AND TREES: (Con't)		
Oregon-Grape (Mahonia)	Rust	Spring bud break
Photinia	Fabraea (Entomosporium) leafspot	Spring bud break
Pieris (Andromeda)	Phytophthora Die-back	New leaf emergence
Poplar	Marssonina leafspot	Spring bud break
BULBS AND FLOWERING PLANTS:		
Carnation	Alternaria leafspot/ branch rot; Botrytis flower blight	Transplant of cuttings; Cool, moist conditions
Chrysanthemum/ Daisy	Mycosphaerella ray blight, Septoria leafspot; Botrytis flower blight (gray mold)	Transplant of cuttings Pre-bloom
Geranium	Botrytis blight, rust	Cool, moist conditions
Gladiolus	Curvularia leaf/ flower spot, Botrytis leaf/ Flower spot	Early propagation
Hollyhock	Rust	Early seedling stage
Hydrangea* (foliage only)	Cercospora and Septoria leafspots, Rust	Early propagation
Iris	Botrytis blossom blight, Didymellina leafspot	Cool, moist conditions
Lily	Botrytis gray mold	Pre-bloom

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SPECIES	DISEASES CONTROLLED	SUGGESTED FIRST APPLICATION
BULBS AND FLOWERING PLANTS: (Con't.)		
Petunia*	Phytophthora blight (foliar phase), Botrytis blight	Pre-bloom
Rose (Use 1 1/2 pt. per 100 gallons)	Black spot, Botrytis blight	Spring bud break
Statice	Anthracoese, Cercospora, Alternaria, Botrytis leaf blights	Spring bud break
Zinnia	Powdery mildew	First sign of disease ✓

*Discoloration of blooms has been noted on certain varieties when applications are made during flowering.

FOLIAGE PLANTS:

Dracaena	Fusarium leafspot	Pre-transplant
Pacthysandra (Use 4 pt. per 100 gallons)	Volutella leaf blight	Spring bud break
Leatherleaf fern	Ascochyta blight, Cercospora leafspot, Cylindrocladium leafspot, Rhizoctonia blight	Spring bud break
Parlor palm (Chamaedorea)	Bipolaris (Helminthosporium) leafspot	Cool, moist conditions
Prayer plant (Maranta)	Helminthosporium leafspot	Early propagation
Oyster Plant (Rhoeo)	Tan leafspot	Early propagation
Syngonium	Cephalosporium leafspot	Warm, moist conditions

SPECIES	DISEASES CONTROLLED	SUGGESTED FIRST APPLICATION
FOLIAGE PLANTS: (Con't.)		
Philodendron	Phytophthora blight Dactylaria leafspot	Moist conditions

CONIFERS:

DISEASES CONTROLLED	ECHO 500 TURF & ORNAMENTAL RATE/ACRE	APPLICATION DIRECTIONS
Scleroderris Canker (pines), Swiss Needlecast and Rhabdocline Needlecast (Douglas-fir)	2 to 4 pts.	Make first application in spring when new shoot growth is 1/2 to 2 inches in length. Make additional applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a 3 week schedule.
Sirococcus Tip Blight	3 to 5 pts.	
Rhizosphaera Needlecast (spruces), Scirrhia brown spot (pines)	8 pts.	
Lophodermium Needlecast	2 to 4 pts.	
Botrytis seedling blight, Phoma twig blight	2 to 4 pts.	North Central and North-eastern States: Begin applications in mid-July to early August before infection occurs. Make additional applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply 4 pts. per acre on a 3 week schedule.
		Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day

DISEASES CONTROLLED	ECHO 500 TURF & ORNAMENTAL RATE/ACRE	APPLICATION DIRECTIONS
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Botrytis seedling blight, Phoma twig blight (con.t)		intervals as long as disease favorable conditions persist.
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STORAGE AND DISPOSAL

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

STORAGE: Store in a cool place. Protect from excessive heat.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray 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: Do not reuse empty 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.

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 of 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.