

OCT 28 1992

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Mr. Gary R. Sandberg  
 Atochem North America  
 Agchem Division  
 #3 Parkway, Room 619  
 Philadelphia, PA 19102

Subject: Amended Registration  
 Penncozeb DF Fungicide/Penncozeb DF Turf and Ornamentals  
 EPA Reg. No. 4581-370  
 Your Submissions Dated June 23, 1992

The amendments referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, are acceptable, provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

- In the directions for use on potatoes, the list of states with a three day PHI may be revised to include the states of Delaware, Michigan, Ohio and Rhode Island.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

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

Sincerely yours,

*Susan T. Lewis*

Susan T. Lewis  
 Product Manager (21)  
 Fungicide-Herbicide Branch  
 Registration Division (H7505C)

H7505C:J.Fairfax:4581-370-10/27/92

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

**elf atochem**  
**ATO**

PROPOSED LABEL

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

SEP 28 1992

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

4581-370

# PENNCOZEB® DF

## 75% Dry Flowable Fungicide

### A Coordination Product of Manganese and Zinc and Ethylenebisdithiocarbamate

**ACTIVE INGREDIENT:**

A coordination product of zinc ion and manganese ethylenebisdithiocarbamate	75.0%
Manganese + +	15.0%
Zinc + +	1.9%
Ethylenebisdithiocarbamate ion (C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S <sub>4</sub> )	58.1%

INERT INGREDIENTS	25.0%
TOTAL	100.0%

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**KEEP OUT OF REACH OF CHILDREN**

### CAUTION

#### 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 ON SKIN**, wash with plenty of soap and water. Get medical attention.

**IF IN EYES**, flush eyes with plenty of water. Call a physician if irritation persists.

See Inside Panel for Additional Precautionary Statements.

For Directions For Use and Chemigation Instructions see Following Pages.

EPA Registration No. 4581-370

EPA Establishment No. 33910-HL-01

## NET CONTENTS 50 LBS./22.68 KG.

Sold by:  
**ELF ATOCHEM NORTH AMERICA, INC.—AGCHEM DIVISION**  
Philadelphia, PA

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS (AND DOMESTIC ANIMALS) CAUTION

Causes moderate eye injury. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Drift and 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, except as specified for the labeled use on cranberries. Do not contaminate water when disposing of equipment washwaters.

### CHEMICAL HAZARDS

Do not allow to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of the product as a fungicide and create vapors which may be flammable. Keep container closed when not in use.

## GENERAL INFORMATION

PENNCOZEB DF is a dry flowable fungicide containing a coordination product of zinc ion and manganese ethylenedisithiocarbamate, and is recommended for use as a spray for the control of many important plant diseases.

### DIRECTIONS FOR USE

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

### WORKER SAFETY RULES

Keep all unprotected persons, children, livestock, and pets away from treated area or where there is danger of drift.

Do not rub eyes or mouth with hands. See Statement of Practical Treatment.

### PERSONAL PROTECTIVE EQUIPMENT

HANDLERS (MIXERS, LOADERS, AND APPLICATORS) AND EARLY REENTRY WORKERS MUST WEAR THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT: coveralls over long-sleeved shirt and long pants, shoes, socks, and chemical-resistant gloves. During mixing and loading, a chemical-resistant apron and goggles or a face shield must also be worn. For agricultural workers, where completely enclosed cabs with positive pressure filtration or an enclosed cockpit for aerial application are used, a long-sleeved shirt and long pants may be worn in place of the protective clothing described above. Chemical-resistant gloves must be available in the cab or cockpit and worn upon exiting. The gloves must be kept in an enclosed container in the cab or cockpit to prevent contamination of the inside of the cab or cockpit.

**IMPORTANT!** Before removing gloves, wash them with soap and water. Always wash hands, face, and arms with soap and water before eating, smoking or drinking. Always wash hands and arms with soap and water before using the toilet.

After work take off all clothes and shoes. Shower using soap and water. Wear only clean clothes. Do not use contaminated clothing. Wash protective clothing and protective equipment with soap and water after each use. Personal clothing worn during use must be laundered separately from household articles. Clothing and protective equipment heavily contaminated or drenched with PENNCOZEB DF must be destroyed according to state and local regulations. **HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.**

During aerial application, human flaggers are prohibited unless in totally enclosed vehicles.

### REENTRY STATEMENT

Do not enter treated areas without protective clothing within 24 hours after application. Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, such warnings shall be given in a language customarily understood by the workers. Oral warnings must be given if there is reason to believe that written warnings cannot be understood by the workers. Written warnings must include the following information: "CAUTION. Area treated with PENNCOZEB DF Fungicide on (date of application)." Do not enter without protective clothing within 24 hours of application.

After sprays have dried do not enter or allow entry into treated areas until the 24-hour reentry interval has expired unless wearing the personal protective equipment listed on this label.

## INSTRUCTIONS FOR APPLICATION

FOR AIR APPLICATION use at the rate indicated in sufficient water for thorough coverage, a minimum of 2 gallons per acre for field crops and 10 gallons per acre for orchard crops.

Use a Spreader Sticker at rate of 4 fl. oz. per 100 gallons spray if needed. Add product slowly to water in the spray tank with agitation, or premix thoroughly in separate holding tank for concentrate or aircraft sprayers. Continuous agitation is required to keep the product in suspension.

When dosage ranges are given, use the higher rate and shorter intervals under severe disease pressure, but do not exceed the maximum rate or apply more frequently than the minimum interval given in the directions for that crop.

If this product is used on a crop, no other product containing a different EBDC active ingredient may be used on the same crop during the same growing season.

### FIELD CROPS

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
Field Corn and Corn Grown for Seed	Common Rust Helminthosporium Leaf Blight	1.0-1.5	Start application at onset of disease and repeat as needed. Do not apply more than 12 lbs. active ingredient per season (15 lbs. product). Do not apply within 40 days of harvest.
Cotton	Rust	1.5-2.0	Start applications at onset of disease. Apply as needed. Do not apply more than 8.4 lbs. active ingredient per season (10.5 lbs. product). Do not apply within 60 days of harvest (or after boll opening).
Peanuts	Cercospora Leaf Spot Rust	1.0-2.0	Begin applications when disease first appears and repeat at 7- to 14-day intervals, using shorter interval during humid weather. Do not treat vines to harvest. Do not use more than 12.8 lbs. active ingredient (17 lbs. product) per acre per season. Do not apply within 14 days of harvest.
Sugarbeets	Cercospora Leaf Spot Rust	1.5-2.0	Begin applications when disease first threatens and repeat at 7-10 day intervals. Do not apply more than 11.2 lbs. active ingredient (15 lbs. product) per acre per season. Do not apply within 14 days of harvest.
Wheat Barley Oats Rye	Helminthosporium Leaf Spot Septoria Leaf Spot Septoria Glume Blight Leaf Rust Tan Spot	1.0-2.0	Start application at onset of disease or when plants are in flowering to jointing stage and repeat at 7- to 10-day intervals. Do not make more than 3 applications one season. Do not apply more than 4.8 lbs. active ingredient (6.4 lbs. product) per acre per crop. Do not apply within 28 days of harvest. Do not graze livestock in treated areas prior to harvest. Do not apply after heading (around 10.5 Feches).

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VEGETABLE CROPS

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
Asparagus	Rust Cercospora Leaf Spot	2.0	Begin applications when rust first appears and repeat at 10 day intervals as needed. Use only on ferns after spears have been harvested. Do not apply more than 6.4 lbs. active ingredient (8.5 lbs. product) per acre per season. Do not apply within 180 days of harvest. (In California and Arizona, the PHI is 120 days).
Sweet Corn Popcorn Sweet Corn used for seed production	Common Rust Helminthosporium Leaf Blight	1.0-1.5	East of the Mississippi (including Arkansas & Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 18 lbs. active ingredient (24 lbs. product) per acre per crop.
		1.0-1.5	West of the Mississippi (except Arkansas & Louisiana) Apply in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4-7 day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock. Do not apply more than 6.0 lbs. active ingredient (8 lbs. product) per acre per crop.
Cucumbers	Alternaria (Macrosperium) Leaf Spot Angular Leaf Spot Anthracnose Downy Mildew Pythium Fruit Rot	1.5-3.0	Begin when disease threatens or plants begin to run. Spray on a 7-10 day interval using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (25.6 lbs. product) per acre per season. Do not apply within 5 days of harvest.
Fennel	Early Blight Late Blight	1.5-2.0	Apply when disease threatens. Make applications as needed on a 7-10 day interval. Do not use more than 12.8 lbs. active ingredient per season (17 lbs. product). Do not apply within 14 days of harvest.
Melons including: cantaloupes, casabas, cranshaws, honeydews, watermelons	Alternaria Leaf Spot Anthracnose Cercospora Leaf Spot Downy Mildew Gummy Stem Blight	2.0-3.0	Apply as soon as plants begin to run or when disease threatens. Spray on a 7-10 day interval as necessary using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (25.6 lbs. product) per acre per season. Do not apply within 5 days of harvest.
Onions (Dry Bulb)	Botrytis Leaf Blight Downy Mildew Neck Rot Purple Blotch	2.0-3.0	Begin applications when diseases are first reported in the area. Repeat at 7 day intervals throughout the season. Do not apply within 7 days of harvest, do not apply to exposed bulbs. Do not apply more than 24.0 lbs. active ingredient (32 lbs. product) per acre per crop.
(Furrow Drench)	Sm-1	3.0	Apply as a furrow drench at time of planting onion seeds. Use 75 to 125 gallons of water per acre. Do not use more than 2.4 lbs. active ingredient (3.2 lbs. product) per 29,000 linear feet of row (18 inch spacing). Do not use in California.
Potatoes	Early Blight Late Blight	1.0-2.0	Begin applications when plants are 4-6 inches high, and repeat at 5-10 day intervals, (more frequently under severe disease conditions) throughout the season. Do not apply more than 11.2 lbs. active ingredient (15 lbs. product) per acre per crop. Do not apply within 14 days of harvest (except in Connecticut, Florida, Maine, Massachusetts, New Hampshire, New York, Pennsylvania, Vermont, Wisconsin, when a 3 day PHI is allowed). It is recommended that this product be used within an Integrated Pest Management Program. Vine kill should occur 14 days before harvest.
Potato Tuber Treatment	Fusarium Seed Piece Decay		Dip whole or cut seed piece in mixture of 1 1/4 lbs. of product per 50 gallons of water, drain and plant immediately. If seed pieces are to be held before planting, spread out to dry in a cool place. Do not use treated seed pieces for food or feed purposes.
Squash (Summer)	Anthracnose Downy Mildew	2.0-3.0	Begin when plants start to run. Spray on a 7-10 day interval as needed using higher rate and/or shorter intervals under severe disease pressure. Do not apply more than 19.2 lbs. active ingredient (25.6 lbs. product) per acre per season. Do not apply within 5 days of harvest.

VEGETABLE CROPS continued

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
Tomatoes	Anthracnose Early Blight Late Blight Gray Leaf Mold Gray Leaf Spot Septoria Leaf Spot	1.5-3.0	East of the Mississippi Begin applications when seedlings emerge or transplants are set and repeat at 7-10 day intervals throughout the season. Do not apply within 5 days of harvest. Do not apply more than 10.8 lbs. active ingredient (22.4 lbs. product) per acre per crop.
		1.5-2.0	West of the Mississippi Apply on a 7-10 day interval as needed. Do not apply more than 6.4 lbs. active ingredient (8.5 lbs. product) per acre per season. Do not apply within 5 days of harvest.

FRUIT CROPS

CROPS	DISEASES	RATE LBS/ACRE	DIRECTIONS
<p>FOR POME FRUITS</p> <p>Use either the "Pre-Bloom" or "Extended Application" schedules. DO NOT COMBINE OR INTEGRATE THE TWO TREATMENT SCHEDULES.</p>			
Apples, Crab- apples, Pears, Quince	Rusts (including Cedar apple) Fabrea Leaf Spot Fyspeck Scab Sooty Blotch	6.0 or (1.5 lbs. per 100 gal. in dilute spray)	PRE-BLOOM: Begin applications at 1/4 to 1/2 inch green tip and continue on a 7- to 10-day application schedule through bloom. Do not apply more than 19.2 lbs. active ingredient (25.6 lbs. product) per acre per year. Do not graze livestock in treated areas.
		3.0 or (0.75 lbs. per 100 gal. in dilute spray)	EXTENDED APPLICATION OR TANK MIX: For implementation of IPM programs, applications based on tree-row volume or for use as a resistance management tool begin applications at 1/4 to 1/2 inch green tip and continue applications on a 7- to 10-day schedule through the second cover spray or to within 77 days of harvest. Do not apply within 77 days of harvest. Do not apply more than 16.8 lbs. active ingredient (22.4 lbs. product) per acre per year. Do not graze livestock in treated areas. It is recommended that this product be used in an Integrated Pest Management Program.
Bananas	Sigatoka	2.0-3.0	Apply when leaves first appear and repeat as needed on a 14-21 day interval. Do not apply more than 24 lbs. active ingredient (32 lbs. product) per acre per season. May be applied up to the day of harvest.
Cranberries	Fruit Rot	3.0-6.0	Begin applications at mid-bloom and repeat at 7- to 10-day intervals. Do not apply within 30 days of harvest. Do not apply more than 14.4 lbs. active ingredient (19.2 lbs. product) per acre per season.
Grapes	Black Rot Bunch Rot Deadarm Downy Mildew	1.5-4.0 or (0.375- 1.0 lbs. per 100 gal. in a dilute spray)	East of the Rocky Mountains: Apply when shoots are 1/2 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 19.2 lbs. active ingredient (25.6 lbs. product) per acre per season.
		1.5-2.5 or (0.375- 0.625 lbs. per 100 gal. in a dilute spray)	West of the Rocky Mountains: Apply when shoots are 1/2 to 1 1/2 inches long. Continue at 7-10 day intervals. Do not apply within 66 days of harvest. Do not apply more than 6.0 lbs. active ingredient (8 lbs. product). California—Do not apply after bloom.
Papayas	Anthracnose Phytophthora Fruit Rot Black Spot (Cercospora)	1.5-2.5 or (0.375- 0.625 lbs. per 100 gal. in a dilute spray)	Apply first when disease pressure threatens and continue on a 14-21 day interval. Do not apply more than 28 lbs. active ingredient (37.3 lbs. product) per acre per season. Applications can be made up to the day of harvest.

## CHEMIGATION NOT FOR THIS USE IN CALIFORNIA GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end low, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

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

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.

Do not connect chemigation system to any public water system. Public water system means a system for the provision 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 out of the year.

### SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

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.

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.

### INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

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

Apply PENNCOZEB DF only through systems containing anti-siphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

Where sprinkler distribution patterns do not overlap sufficiently, unacceptable disease control may result.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

PENNCOZEB DF may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

Check local restrictions and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

### SPRAY PREPARATION:

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of PENNCOZEB DF in a mix tank. Fill the tank with 1/4 or 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of PENNCOZEB DF and then the remaining volume of water.

### APPLICATION INSTRUCTIONS:

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of PENNCOZEB DF into the irrigation water line so as to deliver the desired rate per acre. The suspension of PENNCOZEB DF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with PENNCOZEB DF has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

## STORAGE AND DISPOSAL

**STORAGE INSTRUCTIONS:** Store in the original container in a dry area. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep away from sources of ignition (e.g. sparks and open flame). Close bag when not in use. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed below.

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

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

### WARRANTY AND DISCLAIMER

Elf Atochem North America warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the risks referred to therein. ELF ATOCHEM MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL ELF ATOCHEM OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS; LABOR COST; OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Elf Atochem and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Elf Atochem.

Made and Printed in Holland

5-N31BS-04 D2 (4/92)

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PROPOSED LABEL

# PENNCOZEB® DF

## 75% Dry Flowable Fungicide

### For Turf and Ornamentals

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

A Coordination Product of Manganese and Zinc  
and Ethylenebisdithiocarbamate

#### ACTIVE INGREDIENT:

A coordination product of zinc ion and manganese

ethylenebisdithiocarbamate ..... 4581-370 75.0%

Manganese + + ..... 15.0%

Zinc + + ..... 1.9%

Ethylenebisdithiocarbamate ion ..... 58.1%

(C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S<sub>4</sub>)

INERT INGREDIENTS: ..... 25%

TOTAL: ..... 100%

**KEEP OUT OF REACH OF CHILDREN**

### CAUTION

#### 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 ON SKIN**, wash with plenty of soap and water. Get medical attention.

**IF IN EYES**, flush eyes with plenty of water. Call a physician if irritation persists.

See Inside Panel for Additional Precautionary Statement.

EPA Registration No. 4581-370 EPA Establishment No. 33910-HL-01

## NET CONTENTS 3 LBS./1.36 Kg

Sold by:

**ELF ATOCHEM NORTH AMERICA, INC.—AGCHEM DIVISION**

Philadelphia, PA

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# DO NOT USE AN IF THESE CROPS FOR FOOD C FEED PURPOSES

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CROP	DISEASES	RATE OF PENNCOZEB DF PER APPLICATION OZ./1000 SQ. FT.	REMARKS
<b>TURF COMMERCIAL USE ONLY NOT FOR HOMEGARDEN USE</b>			Refer to General Use Instructions except when more specific directions are given for individual crops or diseases.
<b>GENERAL USE INSTRUCTIONS</b> —To be used on golf courses, sod farms and for professional applications to industrial, municipal and residential lawns. Do not use on pasture or range grasses. Do not feed clippings to livestock. Do not use if grass is grown for seed.			Start applications when grass greens up in the spring or when disease first appears and repeat at 7 to 14 day intervals or until disease threat is past. When conditions are especially favorable for disease development, apply maximum fungicide use rate on a 7 day spray schedule. Apply in sufficient water for adequate coverage. Do not graze treated areas. Do not feed clippings to livestock.
	Copper Spot Red Thread Fusarium Blight ( <i>F. Roseum</i> ) Slime Molds	4-8	
	Helminthosporium Melting Out Rhizoctonia Brown Patch Rust	4	Apply on a 7 day schedule for Rhizoctonia.
	Pythium Blight	8	Apply at 5 day intervals or more frequently if conditions are especially favorable for disease development.
	Dollar Spot	6-8	A cadmium fungicide may be added to supplement Dollar Spot control under severe disease conditions.
	Algae	6	
	Fusarium Snow Mold	6-8	Apply at 2 week intervals during winter.

CROP	DISEASES	REMARKS
<b>ORNAMENTALS COMMERCIAL AND HOMEGARDEN USE</b>		Refer to General Use Instructions except when more specific directions are given for individual crops or diseases.
<b>GENERAL USE INSTRUCTIONS</b>		Apply the equivalent of 1½ lbs. PENNCOZEB DF TURF AND ORNAMENTALS FUNGICIDE per 100 gallons of water (1½ level tablespoons per gallon) in full coverage spray. To improve performance, add 2 to 4 oz. spreader-sticker per 100 gallons of spray. Begin spraying when plants are well leaved out or at first sign of disease and apply at 7 to 10 day intervals throughout the season, or follow State Extension Service recommendations for disease control on the following ornamental plants:
Azaleas	Petal Blight	Spray 2 to 3 times a week while flowers are opening. Direct spray into flowers and spray ground under bushes thoroughly.
Camelias	Petal Blight	Refer to azaleas.
Carnation	Leaf Spot	
Chrysanthemum	Botrytis Petal Spot	Apply at 1 to 2 lbs. per 100 gallons or 1½ level tablespoons per gallon in full coverage spray. Apply twice weekly during the blooming season.
Crabapple (ornamental)	Scab Cedar-Apple Rust	
Dahlia	Botrytis Blight	
Dogwood, Flowering	Anthracnose	Apply when buds begin to open, when bracts have fallen, 4 weeks later, and again in late summer after flower buds for next season are formed.
Gladiolus	Curvularia Leaf Spot Botrytis Blossom Blight	On flower spikes, use at ¾ lb. per 100 gallons. Make weekly applications starting before diseases appear and increase to 2 or 3 applications per week during periods of heavy disease and during rainy weather.
Holly	Purple Spot	
Honeysuckle	Herpobasidium Blight	
Iris	Leaf Spot	
Lily	Botrytis Blight	
Pachysandra	Volutella Blight	Use a drenching spray of 2 lbs. per 50 gallons of water per 5,000 sq. ft. of bed area. Start application at first sign of disease and make at least 5 applications at 10 to 14 day intervals.
Pansy	Anthracnose	
Peony	Phytophthora Blight Botrytis Blight	Apply in early spring and early fall, drenching soil around plants as well as the foliage. Promptly destroy all infected plant parts.
Rhododendron	Petal Blight	Refer to azalea.
Roses	Black Spot	
Snapdragon	Rust	
Tulip	Botrytis Blight (fire)	
Zinnia	Leaf Blight	

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## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

### CAUTION

**CAUSES MODERATE EYE INJURY.** Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

### ENVIRONMENTAL HAZARDS

This product is toxic to fish. Drift and 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.

### CHEMICAL HAZARDS

Do not allow to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of the product as a fungicide and create vapors which may be flammable. Keep container closed when not in use.

### GENERAL INFORMATION

PENNCOZEB DF TURF AND ORNAMENTALS FUNGICIDE is a dry flowable containing a coordination product of zinc ion and manganese ethylenebisdithiocarbamate, and is recommended for use as a spray for the control of many important plant diseases. (When used according to directions, it provides very high fungicidal activity and can be safely used on both turf grasses and certain ornamentals. PENNCOZEB DF provides control of most common turf grass diseases and it is also effective in controlling major fungus diseases of certain ornamentals).

Diseases of turf grass and ornamentals can attack suddenly and unexpectedly causing severe damage and may even result in total loss of large areas of valuable turf grass and ornamental plants. The use of a regular protective spray program will minimize the risk of disease damage and can generally be accomplished with lower rates and less frequent fungicide applications. Once diseases have become established, higher rates of fungicide and more frequent applications are required to bring them under control. Follow a regular protective program for maximum product performance.

### DIRECTIONS FOR USE

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

### WORKER SAFETY RULES

Keep all unprotected persons, children, livestock, and pets away from treated area or where there is danger of drift.

Do not rub eyes or mouth with hands. See Statement of Practical Treatment.

### PERSONAL PROTECTIVE EQUIPMENT

**COMMERCIAL USE: HANDLERS (MIXERS, LOADERS, AND CATORS) AND EARLY REENTRY WORKERS MUST WEAR FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT:** long-sleeved shirt and long pants, shoes, socks, and resistant gloves. During mixing and loading, a chemical-resistant and goggles or a face shield must also be worn. For agricultural use where completely enclosed cabs with positive pressure filtration are used, a long-sleeved shirt and long pants may be worn in place of the protective clothing above. Chemical-resistant gloves must be available in the cab and worn upon exiting. The gloves must be kept in an enclosure in the cab or cockpit to prevent contamination of the cab or cockpit.

**HOMEGARDEN USE:** Home gardeners applying this product must wear a long-sleeved shirt, long pants, and chemical-resistant gloves must be washed thoroughly with soap and water before each use. Clothes must be changed immediately after using this product and must be laundered separately from other laundry items.

**IMPORTANT!** Before removing gloves, wash them with soap and water. Always wash hands, face, and arms with soap and water before smoking or drinking. Always wash hands and arms with soap and water before using the toilet.

After work take off all clothes and shoes. Shower using soap and water. Wear only clean clothes. Do not use contaminated clothing or protective clothing and protective equipment with soap and water for each use. Personal clothing worn during use must be laundered separately from household articles. Clothing and protective equipment drenched with PENNCOZEB DF must be destroyed according to local regulations.

**DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED.**

During aerial application, human flaggers are prohibited unless in enclosed vehicles.

### REENTRY STATEMENT

**COMMERCIAL USE: ALL TURF AND ORNAMENTAL USES:** Do not enter treated areas without protective clothing within 24 hours after application. Because certain crops require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for more information.

**GOLF COURSE USE:** Do not enter or allow entry into treated areas until sprays have dried unless wearing the personal protective equipment listed on this label.

Written or oral warnings must be given to workers who are entering a treated area or in an area about to be treated with this product. When oral warnings are given, such warnings shall be given in a language customarily understood by the workers. Oral warnings shall be given if there is reason to believe that written warnings are not understood by the workers. Written warnings must include the following information: "CAUTION. Area treated with PENNCOZEB DF TURF AND ORNAMENTALS FUNGICIDE on (date of application)."

**HOMEGARDEN USE:** Do not enter or allow entry into treated areas until sprays have dried unless wearing the personal protective equipment listed on this label.

### INSTRUCTIONS FOR APPLICATION

To mix, slowly sift PENNCOZEB DF TURF AND ORNAMENTALS FUNGICIDE into spray tank while it is being filled and the agitator is running. Add insecticide and nutritional sprays last. PENNCOZEB DF TURF AND ORNAMENTALS FUNGICIDE is compatible with most commonly used pesticides. Read and observe the precautionary statement and other information appearing on product labels used in mixture.

**FOR AIR APPLICATION** use at rate indicated in sufficient for thorough coverage or a minimum of 2 gallons per acre.

Use a Spreader/Sticker at rate of 4 fl. oz. per 100 gallons of water needed. Add product slowly to water in the spray tank with a premix thoroughly in separate holding tank for concentrate sprayers. Continuous agitation is required to keep the product in suspension.

When dosage ranges are given, use the higher rate and shorter interval under severe disease pressure.

**BEST AVAILABLE CONTROL**



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## CHEMIGATION

### NOT FOR THIS USE IN CALIFORNIA

#### GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, and low, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

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.

Do not connect chemigation system to any public water system. Public water system means a system for the provision 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 out of the year.

#### SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

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.

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.

#### INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

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

Apply PENNCOZEB DF only through systems containing anti-siphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well pivot injection until to prevent spray being applied to this area.

Where sprinkler distribution patterns do not overlap sufficiently, unacceptable disease control may result.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

PENNCOZEB DF may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

Check local restrictions and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

#### SPRAY PREPARATION:

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of PENNCOZEB DF in a mix tank. Fill the tank with 1/2 or 3/4 the desired amount of water. Start mechanical or hydraulic agitation.

Slowly add the required amount of PENNCOZEB DF and then the remaining volume of water.

#### APPLICATION INSTRUCTIONS:

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of PENNCOZEB DF into the irrigation water line so as to deliver the desired rate per acre. The suspension of PENNCOZEB DF should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with PENNCOZEB DF has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

## STORAGE AND DISPOSAL

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

**STORAGE INSTRUCTIONS:** Store in the original container in a dry area. If allowed to become wet the product will deteriorate and represent a fire hazard. Keep away from sources of ignition (e.g. sparks and open flame). Close bag when not in use. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with the Pesticide Disposal Instructions listed below.

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

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

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