

ACCEPTED
9-15-88
 U.S. Federal Insecticide,
 Fungicide, and Rodenticide Act
 as amended, for the pesticide
 registered under
 EPA Reg. No. **4581-358**

PENNCOZEB

Fungicide

An 80% Coordination Product of Manganese and Zinc and Ethylenbis(dithiocarbamate)

ACTIVE INGREDIENT

A coordination product of zinc ion and manganese ethylene-
 bis(dithiocarbamate)
 Manganese
 Zinc
 Ethylenbis(dithiocarbamate) (E.C.H.N.S.)

80%

INERT INGREDIENTS

TOTAL

20%

100%

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED, call a physician or Poison Control Center. Do not induce vomiting or give anything by mouth. Rinse mouth with water. Do not eat or drink until advised by a physician.

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 label for directions, precautions, and first aid.



EPA Registration No. 4581-358
 EPA Establishment No. 34910 HL-01

NET CONTENTS: 50 Lbs./22.6 Kg

Sold by
AGCHEM DIVISION—PENWALT CORPORATION
 Philadelphia, PA 19102

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

May cause irritation of eyes. Harmful if swallowed, inhaled, or absorbed through skin. Avoid contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling.

Protective clothing (long pants, long sleeved shirt, gloves, hat and boots) must be worn during mixing and loading.

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 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 or wetlands (swamps, bogs, marshes, and potholes) 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.

DIRECTIONS FOR USE

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

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 Fungicide on (date of application)."

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

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—For Mixers, Loaders, Applicators and Early Reentry Workers.

HANDLE THIS PRODUCT ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT: a long-sleeve shirt and long pants or a coverall that covers all parts of the body except the head, hands, and feet; chemical resistant gloves; shoes, socks, and goggles or a face shield. During mixing and loading, a chemical resistant apron must also be worn.

During application from a tractor with a completely enclosed cab with positive pressure filtration, or aurally with an enclosed cockpit, a long-sleeve shirt and long pants may be worn in place of the above protective clothing. Chemical resistant gloves must be available in the cab or cockpit and worn while exiting.

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 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.

PENNCOZEB is a wettable powder containing a coordination product of zinc ion and manganese ethylenebisdithiocarbamate, and is recommended for use as a spray or dust for the control of many important plant diseases.

AS A SPRAY, (Ground or aerial equipment) apply at the rate shown. Use sufficient water to provide thorough coverage, usually 20-100 gallons per acre for ground equipment and 5-8 gallons per acre for aircraft. 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.

AS A DUST, apply product at the rate shown, using proper amount of dust containing 6% to 10% PENNCOZEB (4.8% to 8% active). Dust may be prepared by diluting and thoroughly mixing product with pyrophyllite or other neutral diluent; commonly used insecticides may displace an equivalent amount of diluent. Use dust mixtures as soon as possible after preparation.

FIELD CROPS

CROPS	DISEASES	RATE LBS/ACRE	REMARKS
Barley, Oats, Rye	Helminthosporium Leaf Blight Septoria Leaf Spot	2	Begin applications at tillering to jointing stage and repeat at 7- to 10-day intervals. Do not make more than three applications. Do not apply within 26 days of harvest; do not graze treated area within 26 days after application.
Sugar Beets	Cercospora Leaf Spot	1½-2	Begin applications when disease first threatens and repeat at 7- to 10-day intervals. Do not apply within 14 days of harvest.
Peanuts	Cercospora Leaf Spot	1-2	Begin applications when disease first appears and repeat at 10- to 14-day intervals, or at 7-day intervals during humid weather. If ground vine hay is to be used for livestock feed, do not use more than 1½ pounds per acre per application. Do not apply within 14 days of harvest.
Cotton (Southwest only)	Rust	1½-2	Begin applications when rust first appears in the area and repeat at 10- to 14-day intervals. Do not apply after bolls open; do not graze treated areas or feed gin trash to livestock.

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FIELD CROPS (continued)

CROPS	DISEASES	RATE LBS/ACRE	REMARKS
Wheat	Helminthosporium Leaf Spots Septoria Leaf Spots Septoria Glume Blotch Leaf Rust Tan Spot	2	Start application at onset of disease or when plants are in tillering to jointing stage and repeat at 7- to 10-day intervals. Do not make more than 3 applications in one season. Do not apply within 26 days of harvest. Do not graze livestock in treated areas within 26 days after application.

VEGETABLE CROPS

CROPS	DISEASES	RATE LBS/ACRE	REMARKS
Potatoes	Early and Late Blights	1-2	Begin applications when plants are 4-6 inches high, and repeat at 7- to 10-day intervals (more frequently under severe disease conditions) throughout the season.
Potato Tuber Treatment	Fusarium Seed Piece Decay		Dip whole or cut seed pieces 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. For dust treatment, thoroughly coat with dust containing 10% PENNCOZEB (8% active) at a rate of 1 lb. per 100 lbs. of seed. Do not use treated seed pieces for food or feed purposes.
Tomatoes	Early and Late Blights Gray Leaf Spot Gray Leaf Mold Anthracnose	1 1/2-3	Begin applications when seedlings emerge and repeat at 7-day intervals throughout the season. Do not apply within 5 days of harvest.
Cucumbers, Melons, Summer Squash	Anthracnose Alternaria Leaf Spot Cercospora Leaf Spot Downy Mildew Gummy Stem Blight Scab	2-3	Begin applications at the 2-leaf stage and repeat at 5- to 7-day intervals. Do not apply within 5 days of harvest.
Corn Sweet and Popcorn	Helminthosporium Leaf Blight	1 1/2	Apply PENNCOZEB in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals. Do not apply within 7 days of harvest. Do not feed treated forage (plant stalk and leaves) to livestock.
Corn Field	Helminthosporium Leaf Blight	1 1/2	Apply PENNCOZEB in sufficient water for thorough coverage. Start applications when disease first appears and repeat at 4- to 7-day intervals. Do not apply within 40 days of harvest.
Onions (Dry Bulb)	Botrytis Leaf Blight Downy Mildew Neck Rot Purple Blotch	2-3	Begin applications when diseases are first reported in the area and repeat at 7-day intervals throughout the season. Do not apply within 7 days of harvest; do not apply to exposed bulbs.
Celery, Fennel	Early and Late Blights	2	Begin applications in plant beds as soon as plants emerge; repeat at 3- to 5-day intervals in plant bed, and at 7-day intervals after plants are set in field. Do not apply within 14 days of harvest.
Carrots	Alternaria Leaf Spot Cercospora Leaf Spot	1 1/2-2	Begin applications when disease first appears and repeat at 7- to 10-day intervals. Do not apply within 7 days of harvest. Do not use treated tops for food or feed purposes.
Asparagus	Rust	2	Begin applications when rust first appears and repeat at 10-day intervals as needed. Use only on ferns after spears have been harvested.

FRUIT CROPS

CROPS	DISEASES	RATE LBS/ACRE	REMARKS
Apples, Pears, Crabapples, Quince	Enter Rot Black Rot Brown Rot Cedarapple Rust Fly Speck Sooty Blotch Scab		Use PENNCOZEB at 1-2 lbs. per 100 gallons of finished spray and apply up to 10 lbs. of product per acre per application (for low volume sprays, adjust accordingly). Apply at 7- to 14-day intervals throughout the season. For scab—begin at green tip or delayed dormant stage; for cedarapple rust, at blossom time. For other diseases, at first cover. Add Spreader Sticker to spray mixture for last 3 cover sprays. FOR APPLES: Do not apply within 30 days of harvest in Northern states or 21 days in Southern states. (Southern area applies to Arkansas, Delaware, Illinois, Indiana, Kansas, Kentucky, Maryland, Missouri, New Jersey, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia. Northern states applies to New England, New York, Michigan, Far West and other states not included under "Southern States"). Do not graze livestock in treated areas. FOR PEARS, CRABAPPLES, AND QUINCE: Do not apply within 15 days of harvest and do not graze livestock in treated areas.
Cranberries	Fruit Rot	3-6	Begin applications at mid-bloom and repeat at 7- to 10-day intervals. Do not apply within 30 days of harvest.
Grapes	Black Rot Bunch Rot Dead Arm Downy Mildew	1 1/2-4	Apply when shoots are 1/2 to 1 1/2 inches long, when shoots are 3-5 inches long and when shoots are 8-10 inches long. Continue at 10- to 14-day intervals, but do not apply within 66 days of harvest in California. Do not apply after fruit set.

CHEMIGATION NOT FOR THIS USE IN CALIFORNIA GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, 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 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 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 in a mix tank. Fill the tank with $\frac{1}{2}$ or $\frac{3}{4}$ the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of PENNCOZEB 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 into the irrigation water line so as to deliver the desired rate per acre. The suspension of PENNCOZEB 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 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

Pennwalt Corporation 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. PENNWALT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL PENNWALT 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.

Pennwalt 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 Pennwalt.