

# DITHANE M-45

**A BROAD SPECTRUM FUNGICIDE FOR USE ON TURF, CERTAIN  
VEGETABLES, AND ORNAMENTALS**

## ACTIVE INGREDIENT:

A coordination product of zinc ion and manganese

Ethylenebisdithiocarbamate.....80%  
in which the ingredients are

Manganese++.....16%

Zinc++.....2%

Ethylenebisdithiocarbamate ion (C<sub>4</sub>H<sub>6</sub>N<sub>2</sub>S<sub>4</sub>).....62%

**INERT INGREDIENTS:**.....20%

\*Dithane M-45 - reg. Trademark of Rohm and Haas Co.

## KEEP OUT OF REACH OF CHILDREN CAUTION

EPA Reg. No. 829-286

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if absorbed through the skin. May cause irritation of nose, throat, eyes, and skin. Do not breathe dust or spray mist.

**PERSONAL PROTECTIVE EQUIPMENT (PPE): Applicators and other handlers (other than mixers and loaders) applying this product must wear:** Coveralls over long-sleeved shirt and long pants, waterproof gloves, shoes plus socks. **Mixers and loaders must wear:** Coveralls over long-sleeved shirt and long pants; waterproof gloves; shoes plus socks; Protective eyewear; Chemical-resistant apron when cleaning equipment, mixing or loading.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### USER SAFETY RECOMMENDATIONS

Users should: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. For terrestrial uses, 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, or disposing of wastes.

Buyer assumes all risks of use, storage, or handling of this material not in strict accordance with the directions and precautions given herewith.

### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED:** Dilute by giving 2 glasses of water to drink and call a physician. Never give anything by mouth to an unconscious person.

**IF INHALED:** Move subject to fresh air.

**IF IN EYES:** Flush eyes with large amounts of water for at least 15 minutes. Consult a physician if irritation persists.

**IF ON SKIN:** Wash affected skin areas with soap and water.

## DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Do not apply this product by aerial application.**

**Do not apply this product through any type of irrigation system.**

For foliage applications, apply to obtain thorough coverage. Make applications when plants are dry and drying conditions are good. Remove residue from sprayed vegetables by washing. On hard to wet plants, such as roses, add a spreader - sticker which has been cleared for use on growing crops, such as SA-50 Brand Spreader - Sticker to the spray mixture.

### AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours.

**PPE** required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is: Coveralls over long-sleeved shirt and long pants; Waterproof gloves; Shoes plus socks; Protective eyewear.

### NON-AGRICULTURAL USE REQUIREMENTS

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

Keep children, pets, and other unprotected persons out of treated area until sprays have dried.

**NOTE:** Use **LEVEL** tablespoonfuls when tablespoonfuls are specified on this label.

4 **LEVEL** tablespoonfuls (1/4 cupful) of this product weighs 1 ounce.

## ORNAMENTALS:

Use 1 1/2 tablespoonfuls per gallon of water. Begin applications when plants are well leafed out or at first signs of disease. Repeat at 7 to 10 day intervals as long as needed on the following plants for control of listed diseases.

**AFRICAN VIOLET:** Botrytis blight.

**ANTHURIUM:** Anthracnose, spadix rot.

**ABORVITAE:** Cercospora blight.

**ASTER,** perennial: Puccinia rusts.

**AUCUBA, japonica:** Alternaria leaf spot, Anthracnose.

**AZALEAS, CAMELLIAS, RHODODENDRONS** - Petal blights. Apply 2 to 3 times per week while petals are opening. Direct spray into flowers and spray ground under bushes thoroughly.

**BEGONIA:** Botrytis blight.

**CARNATION:** Rust, Septoria leaf spot.

**CEDAR, red (Juniper):** Cercospora blight, Phomopsis blight.

**CHRYSANTHEMUM:** Ascochyta blight, Botrytis petal spot, Rust, apply twice weekly during blooming period.

**CONIFERS:** Lophodermium needle cast, Pine gall rust, Scirrhia brown spot, Begin application in spring or early summer before infection occurs. Repeat after heavy rains and at two-week intervals as long as needed.

**CORDYLINE:** Cercospora leaf spot.  
**CRAB APPLE** (Ornamental); Cedar-apple rust, Scab.  
**DAHLIA:** Botrytis blight.  
**DIEFFENBACHIA:** Leptosphaeria brown spot.  
**DOGWOOD, FLOWERING:** Anthracnose, Elsinoe leaf spot, Septoria leaf spot. Apply when buds begin to open, when BRACTS have fallen, 4 weeks later and again in late summer after flower buds for next season have formed.  
**DRACAENA:** Fusarium leaf spot.  
**ELM:** Black leaf spot.  
**EUONYMUS:** Anthracnose.  
**FATSIA:** Anthracnose.  
**FERN:** Rhizoctonia blight.  
**FICUS:** Cercospora leaf spot.  
**FIR, Douglas:** Swiss needle cast.  
**FIRETHORN (Pyracantha):** Fusicladium scab.  
**FUCHSIA:** Botrytis blight, Rust.  
**GERANIUM:** Rust.  
**GLADIOLUS:** Botrytis blossom blight, Curvularia leaf spot, Make regular weekly applications starting before diseases appear and increase to 2 or 3 applications per week during periods of heavy disease and during rainy weather. On flower spikes, reduce spray concentrations to 3/4 Tbls. per gallon.  
**HAWTHORN:** Cedar-apple rust, Fabraea leaf spot, Frogeye leaf spot, Hawthorn rust, Scab.  
**HOLLY:** Purple spot.  
**HOLLYHOCK:** Anthracnose, Cercospora leaf spot, Puccinia rusts.  
**HONEYSUCKLE:** Herpobasidium blight.  
**IRIS:** Didymellina leaf spot.  
**HORSECHESTNUT,** Buckeye: Alternaria leaf spot, Guignardia leaf spot.  
**HYDRAGEA:** Botrytis blight, Cercospora leaf spot.  
**JUNIPER:** Phomopsis blight.  
**LAUREL, mountain:** Cercospora leaf spot, Petal blight, Apply 2 to 3 times per week while petals are opening. Direct spray into flowers and spray ground under bushes thoroughly.  
**LIGUSTRUM:** Cercospora leaf spot.  
**LILY:** Botrytis blight.  
**MAGNOLIA:** Gloeosporium leaf spot.  
**MAPLE :** Alternaria leaf spot, phyllosticta leaf spot ( Do not use on Maples intended for syrup production).  
**MARIGOLD:** Botrytis blossom blight, Do not use on French dwarf double or Signet-type marigold seedlings.)  
**NARCISSUS:** Botrytis blight (fire), Smoulder.  
**OAK:** Actinopelte leaf spot, Taphrina leaf blister.  
**ORCHID (Dendrobium):** Botrytis blossom blight.  
**PACHYSANDRA:** Volutella blight, use a drenching spray of 2 lbs. per 50 gals. of water per 5,000 sq. ft. of bed. Start applications at first sign of disease and apply at least 5 applications at 10 to 14 day intervals.  
**PANSY:** Anthracnose.  
**PEONY:** Botrytis blossom blight, Phytophthora blight. Apply in early spring and early fall, drenching soil around plants as well as the foliage. Promptly destroy all infected plant parts.  
**PEPEROMIA:** Cercospora leaf spot.  
**PHILODENDRON:** Dactylaria leaf spot, Phytophthora leaf spot.  
**PHOTINIA:** Entomosporium leaf spot.  
**PLEOMELE:** Fusarium leaf spot.  
**POINSETTIA:** Sphaceloma scab.  
**ROSE:** Black spot, Cercospora leaf spot, Rust.  
**SCHEFFLERA:** Alternaria blight.  
**SKUNKBUSH, SUMAC:** Cylindrosporium leaf spot.  
**SNAPDRAGON:** Rust.  
**STATICE:** Cercospora frogeye.  
**SYNGONIUM:** Cephalosporium leaf spot.  
**TULIP:** Botrytis blight (fire).  
**VENUS, FLYTRAP:** Anthracnose.  
**VIBURNUM:** Downy mildew, Ramularia leaf spot.  
**ZINNIA:** Alternaria leaf blight.

## TURF:

For use on Golf Courses, Sod Farms, Industrial or Municipal Turf areas and professional applications to residential lawns. Not for use by homeowners on turf. Start applications when grass greens - up in the spring or when disease first appears and repeat at 7-14 day intervals or until disease threat is past. When conditions are especially favorable for disease development, apply maximum use rate at 7 day intervals.

**ASSORTED GRASSES:** For the following turf diseases, apply the suggested rate to 1,000 sq. ft. in sufficient water to provide adequate coverage. Helminthosporium Melting-out, Rust (leaf, stem, stripe), 4 ounces; Copper spot, Fusarium blight, Powdery mildew, Red thread, Slime mold, 4-8 ounces; Algae, 6 ounces; Dollar spot, 6-8 ounces; Rhizoctonia brown patch, 4 ounces at 7 day intervals; Pythium blight, 8 ounces at 5 day intervals or more frequently if conditions favor disease development; Fusarium snow mold, 6-8 ounces at 2-6 week intervals during winter.

**NOTE:** Do Not graze treated area, Do not use on grasses intended for grazing, such as range or pasture grasses or grasses grown for seed. Do not feed clippings to livestock.

## VEGETABLES:

**Corn** (Sweet, Popcorn) Common rust, Helminthosporium leaf blight. Use 1 1/2 tablespoonfuls per gallon of water. Start applications when disease first appears and repeat at 4 to 7 day intervals. Do not apply more than 33 tablespoonfuls per 1,000 sq. ft. per crop East of the Mississippi River and Arkansas and Louisiana. In areas West of the Mississippi River (except Arkansas and Louisiana) do not apply more than 11 tablespoonfuls per 1,000 sq. ft. per crop. Do not apply within 7 days of harvest. Do not feed treated forage to livestock.

**Cucumbers:** Anthracnose, Cercospora leaf spot, Downy mildew, Gummy stem blight, Scab; **Melons:** (Cantaloupe, Casaba, Crenshaw, Honeydew, Muskmelon) Alternaria leaf spot, Anthracnose, Downy mildew, Gummy stem blight; **Watermelons:** Alternaria leaf spot, Anthracnose, Cercospora leaf spot, Downy mildew, Gummy stem blight, Scab; **Summer Squash:** Downy mildew. Use 2-3 tablespoonfuls per gallon of water. Apply to obtain thorough coverage of both upper and lower leaf surfaces. Begin applications when plants have 2 true leaves and repeat at 7-10 day intervals. Do not apply more than 35 tablespoonfuls per 1,000 sq. ft. per crop. Do not apply within 5 days of harvest.

**Tomatoes:** Anthracnose, Early Blight, Late Blight, Gray Leaf Spot, Leaf Mold, Septoria Leaf Spot. Use 1 1/2 - 3 tablespoonfuls per gallon of water in areas East of the Mississippi River (use 1 1/2-2 tablespoonfuls West of the Mississippi). Begin applications when seedlings emerge or when transplants are set and repeat at 7 - 10 day intervals throughout the season. Do not apply more than 31 tablespoonfuls per 1000 sq. ft. per crop in areas East of the Mississippi River or 11 3/4 tablespoonfuls West of the Mississippi. Do not apply within 5 days of harvest.

**Potatoes:** Early Blight, Late Blight. Use 1 1/2 - 2 tablespoonfuls per gallon of water. Begin applications when plants are 4 to 6 inches high; and repeat at 5-10 day intervals. Do not apply more than 20 tablespoonfuls per 1,000 sq. ft. per crop. It is recommended that this product be used within an integrated pest management program. Vine-kill should occur 14 days before harvest. Do not apply within 3 days of harvest in Connecticut, Delaware, Florida, Maine, Massachusetts, Michigan, New Hampshire, New York, Ohio, Pennsylvania, Rhode Island, Vermont and Wisconsin and at least 14 days elsewhere.

**PAPAYAS:** Anthracnose, Phytophthora fruit rot. Use 2-2 1/2 tablespoonfuls per gallon of water. Begin applications at flowering and continue at 14 to 21 day intervals. Direct spray to crown and blossom area. Do not apply more than 51 tablespoonfuls per 1,000 sq. ft. per crop. Applications may be made up to the day of harvest.

**NOTE:** This product may stain concrete and masonry surfaces.