

GROUP M3 FUNGICIDE

# MANZATE® PRO-STICK™ T&O FUNGICIDE

## DISPERSIBLE GRANULES

ACTIVE INGREDIENT	BY WEIGHT
Mancozeb: A coordination product of zinc ion and manganese ethylenebisdithiocarbamate. ....	75.0%
in which the ingredients are:	
Manganese <sup>++</sup> .....	15.0%
Zinc <sup>++</sup> .....	1.9%
Ethylenebisdithiocarbamate ion (C <sub>4</sub> H <sub>6</sub> N <sub>2</sub> S <sub>4</sub> ) -- .....	58.1%
<b>OTHER INGREDIENTS</b> .....	<b>25.0%</b>
<b>TOTAL</b> .....	<b>100.0%</b>

Contains 0.75 Pound of Mancozeb Per Pound of Product

EPA Reg. No. 70506-234

## KEEP OUT OF REACH OF CHILDREN CAUTION

See inside for complete Precautionary Statements and Directions For Use.



FIRST AID	
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably by mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance, call Rocky Mountain Poison and Drug Safety at 1-866-673-6671.</p>	

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident, call CHEMTREC at 1-800-424-9300.

Net Weight: \_\_\_\_\_ Pounds



Made in India  
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King of Prussia, PA 19406 U.S.A. • 1-800-438-6071



# PRECAUTIONARY STATEMENTS

## HAZARDS TO HUMANS AND DOMESTIC ANIMALS

### CAUTION

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, clothing or eyes. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are nitrile rubber, natural rubber, or butyl rubber.

**Mixers, loaders, applicators and other handlers must wear:**

- Long-sleeved shirt
- Long pants
- Shoes and socks
- Chemical-resistant gloves, made of any waterproof material (except pilots, groundboom applicators, and airblast applicators)

**In addition mixers/loaders supporting aerial applications to walnuts must wear:** a minimum of a NIOSH-approved particulate filtering facepiece respirator with R or P filter, NIOSH-approved elastomeric particulate respirator with any R or P filter.

See engineering controls for additional requirements.

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

#### ENGINEERING CONTROL STATEMENTS

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for [40 CFR Part 170.240 (d)(4-6)].

Human flagging is prohibited. Flagging to support aerial application is limited to use of the Global Positioning System (GPS) or mechanical flaggers.

When handlers use enclosed cabs or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR Part 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

#### USER SAFETY RECOMMENDATIONS

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

#### ENVIRONMENTAL HAZARDS

This product is toxic to aquatic organisms. 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. Cover or incorporate spilled treated seed. Do not contaminate water by disposing of equipment washwater or rinsate. Cover or incorporate spilled treated seed.

#### 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.

#### 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) and restricted-entry interval. The requirements in this box only 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
- Shoes plus socks
- Chemical-resistant gloves made of any waterproof material

#### 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, forests, nurseries or greenhouses.

Commercial seed treatments and applications to lawn grasses, golf courses, industrial (office park), and municipal lawns are not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter treated areas until sprays have dried.

MANZATE® PRO-STICK™ T&O Fungicide, a dispersible granule containing mancozeb, is labeled for use as a spray for the control of many important plant diseases.

#### APPLICATION INSTRUCTIONS

AS A SPRAY (Ground or Aerial Equipment) - Apply MANZATE PRO-STICK T&O at the rate shown; use sufficient water to provide thorough coverage: use 20 to 100 gallons per acre for ground equipment and no less than 2 gallons per acre for aircraft. Add MANZATE PRO-STICK T&O 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. A spreader-sticker spray adjuvant may be used with this product if needed; contact your local product distributor or UPL NA Inc. representative for specific recommendations. If tank mixed, follow more restrictive labeling of any tank mix partner. Do not tank mix with any product that contains a prohibition on tank mixing.

## RESISTANCE MANAGEMENT

MANZATE PRO-STICK T&O Fungicide is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases. MANZATE PRO-STICK T&O is recommended for use in programs which are compatible with the principles of Integrated Pest Management (IPM). MANZATE PRO-STICK T&O is effective for strategic use in programs that attempt to minimize disease resistance to fungicides.

Some other fungicides which are at risk from disease resistance exhibit a single-site mode of fungicidal action. MANZATE PRO-STICK T&O, with a multi-site mode of action, may be used in an Integrated Pest Management (IPM) program to delay or prevent the development of resistance to single-site fungicides.

Consult with your private crop consultant or Federal or State Cooperative Extension Service representatives for guidance on the proper use of MANZATE PRO-STICK T&O in programs which seek to minimize the occurrence of disease resistance to other fungicides.

## MAXIMUM SEASONAL POUNDAGE WHEN USED IN CONJUNCTION WITH ONE OR MORE OTHER SPECIFIED ETHYLENE BISDITHIOCARBAMATE (EBDC) PRODUCTS

### Foliar Applications

#### Where EBDC Products Used Allow the Same Maximum Poundage of Active Ingredient Per Acre Per Season

If more than one product containing an EBDC active ingredient (mancozeb or metiram) is used on a crop during the same growing season and the EBDC products used allow the same maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed any one of the specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

#### Where EBDC Products Used Allow Different Maximum Poundage of Active Ingredient Per Acre Per Season

If more than one product containing an EBDC active ingredient is used on a crop during the same growing season and the EBDC products used allow different maximum poundage of active ingredient per acre per season, then the total poundage of all such EBDC products used must not exceed the lowest specified individual EBDC product maximum seasonal poundage of active ingredient allowed per acre.

### Seed Treatment

In addition to the maximum number of foliar applications permitted by the formula stated above, a single application for seed treatment may be made on crops which have registered seed treatment uses.

## CHEMIGATION

Apply MANZATE PRO-STICK T&O Fungicide only through sprinkler systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set or hand move irrigation systems. Do not apply MANZATE PRO-STICK T&O through any other type of irrigation system.

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 connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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.

### Specific Instructions for Public Water Systems:

1. 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 out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
4. The pesticide injection pipeline must 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. 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.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

### Specific Instructions for Sprinkler Irrigation Systems:

1. 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.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.
6. 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.

7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Good agitation is required in the injection tank.
9. In moving systems, apply specified dosage of MANZATE PRO-STICK T&O as a continuous injection. In non-moving systems inject MANZATE PRO-STICK T&O for 15 to 30 minutes at end of cycle. Use the least amount of water possible consistent with uniform coverage.
10. Mix the amount of MANZATE PRO-STICK T&O needed for acreage to be treated into the quantity of water determined during prior calibration. For moving systems inject into the system continuously for one complete revolution of the field. For non-moving systems inject into system for the time established during calibration.
11. Stop injection equipment after treatment is completed and continue to operate irrigation equipment until all MANZATE PRO-STICK T&O is flushed from system.

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g. wind direction, wind speed, temperature, relative humidity) and method of application (e.g. ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

### Wind Speed

Do not apply at wind speeds greater than 15 mph.

### Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

### Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of mancozeb. Where states have more stringent regulations, they must be observed.

### Equipment

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

#### *Additional requirements for aerial applications:*

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
3. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

#### *Additional requirements for ground boom application:*

1. Do not apply with a nozzle height greater than 4 feet above the crop canopy.

## Tank Mixing Procedures

- When two pesticides are tank mixed, the more restrictive label conditions apply.
- Do not tank mix with any product which contains a restriction on tank mixing.

Slowly pour into spray tank as long as it is being filled while agitation is maintained or thoroughly premix in a nurse tank for concentrate or aircraft sprayers. Add other co-applied fungicides, insecticides, growth regulators, micronutrients after MANZATE PRO-STICK T&O has been placed into suspension. When tank mixing with other pesticides, observe the more restrictive label limitations, restrictions, and precautions.

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

When preparing spray solutions for use in a hand sprayer, premix as a slurry in a small container, and then add to sprayer containing 1/3 to 1/2 the desired final water volume.

## Compatibility

MANZATE PRO-STICK T&O is compatible with most commonly used agricultural fungicides, insecticides and growth regulators. When preparing tank mixes, consult spray compatibility charts or State Cooperative Extension Service Specialists prior to actual use.

**FLOWERS, FOLIAGE PLANTS, AND ORNAMENTALS  
INTENDED FOR USE ONLY BY PROFESSIONAL APPLICATORS.**

**TREATED PLANTS, FRUITS, NUTS OR SYRUP FROM MAPLE TREES MUST NOT BE USED FOR FOOD OR FEED PURPOSES.**

Apply in the field, nursery or greenhouse as a thorough coverage spray, using 1 to 2 lbs MANZATE PRO-STICK T&O per acre (1 1/2 to 3 tsp per gal). **Restriction:** Do not use in residential greenhouses.

Plant sensitivities to MANZATE PRO-STICK T&O have been found to be acceptable in specific genera and species listed on this label, however, phototoxicity may occur. Due to the large number of species and varieties of ornamentals and nursery plants, it is impossible to test each one for sensitivity to MANZATE PRO-STICK T&O. Neither the manufacturer nor seller has determined whether or not MANZATE PRO-STICK T&O can be safely used on ornamental or nursery plants not listed on this label. The user should determine if MANZATE PRO-STICK T&O can be used safely prior to commercial use. In a small area, apply the specified rates to the plants in question, i.e. bedding plants, foliage, etc., and observe for 7 to 10 days for symptoms of phytotoxicity prior to commercial use. Use MANZATE PRO-STICK T&O in commercial greenhouses and nurseries for control of fungal diseases of flowers, foliage and ornamentals. **Restriction:** Do not make more than 20 applications per year.

Aerial Application: For aerial applications made to field-planted ornamentals, apply 1 to 2 lbs per acre. Use a minimum rate of 5 gals of spray per acre during aerial applications.

Application of Dilute Sprays: Apply as a thorough coverage spray using 1 to 2 lbs per acre or 1 to 2 lbs per 100 gals of water. Begin application at first sign of disease and repeat at 7 to 10 day intervals or as needed; use shorter interval during periods of frequent rains or when severe disease conditions persist. MANZATE PRO-STICK T&O may be used alone or in combination with other fungicides as maintenance spray. Use higher specified rate and shorter intervals during periods of excessive wetness and rapid growth.

MANZATE PRO-STICK T&O is labeled for use on certain flower, foliage and ornamental plants listed in the table below for control of the following diseases and pathogens:

<b>PLANT</b>	<b>PATHOGEN CONTROLLED:</b>
Abutilon	Alternaria, Cercospora, Cladosporium, Colletotrichum, Puccinia
African violet	Alternaria, Botrytis
Ageratum	Alternaria, Puccinia, Rhizoctonia, Sclerotium
Aglaonema	Alternaria
Almond, ornamental	Botrytis, Cladosporium, Coryneum, Gloeosporium, Monilinia
Alyssum	Microsphaera alni
Andromeda	Exobasidium, Rhytisma, Venturia
Anthurium	Colletotrichum, Gloeosporium
Apple	Alternaria, Cephalosporium, Colletotrichum, Coryneum, Elsinoe, Fusarium, Gloeosporium, Gymnosporangium, Helminthosporium, Leptosphaeria, Monilinia, Monochaetia, Mycosphaerella, Pestalotia, Venturia
Arborvitae	Alternaria, Botrytis, Cercospora, Coryneum, Lophodermium, Mycosphaerella, Pestalotia
Ash	Cercospora, Cylindrosporium, Gloeosporium, Puccinia, Rhizoctonia, Sphaeropsis
Ash, Mountain	Gymnosporangium
Aster	Alternaria, Ascochyta, Botrytis, Colletotrichum, Fusarium, Phomopsis, Phyllosticta, Puccinia, Ramularia, Rhizoctonia, Septoria, Uromyces
Aucuba japonica	Alternaria, Cercospora, Gloeosporium, Phomopsis, Phyllosticta
Azalea	Alternaria, Botrytis, Cladosporium, Colletotrichum, Cylindrocladium, Ovinia
Baby's Breath	Botrytis, Rhizoctonia
Basswood	Cercospora, Phyllosticta
Begonia	Botrytis, Cercospora, Gloeosporium, Rhizoctonia
Birch	Cylindrosporium, Gloeosporium, Glomerella, Melampsorium, Taphrina
Bougainvillea	Colletotrichum
Boxwood	Fusarium, Volutella
Buckeye	Cercospora, Glomerella, Guignardia, Monchaetia, Phyllosticta, Septoria, Taphrina
Buffalo berry	Cylindrosporium, Puccinia, Rhizoctonia, Septoria
Catalpa	Alternaria, Cercospora, Gloeosporium, Phomopsis, Rhizoctonia
Camellia	Botrytis, Cercospora, Elsinoe, Exobasidium, Glomerella, Pestalotia, Phomopsis, Phyllosticta
Carnation	Alternaria, Botrytis, Cladosporium, Colletotrichum, Fusarium, Helminthosporium, Septoria, Stemphylium, Uromyces

<b>PLANT</b>	<b>PATHOGEN CONTROLLED:</b>
Cedar	Lophodermium, Gymnosporangium
Cherry, ornamental	Alternaria, Cercospora, Cladosporium, Coccomyces, Coryneum, Fusicladium, Monilinia, Phomopsis, Phyllosticta, Taphrina
Chinese evergreen	Colletotrichum, Gloeosporium
Christmas cactus	Alternaria, Cercospora, Colletotrichum, Fusarium, Phomopsis
Chrysanthemum	Alternaria, Ascochyta, Bipolaris, Botrytis, Cercospora, Cylindrosporium, Helminthosporium, Phyllosticta, Septoria, Stemphylium
Cockscomb (Celosia)	Alternaria, Cercospora
Coleus	Alternaria, Botrytis, Phyllosticta
Columbine	Ascochyta, Botrytis, Cercospora, Puccinia, Rhizoctonia, Septoria
Coryline	Cercospora
Cotoneaster	Cercospora, Phyllosticta, Venturia
Crabapple	Gymnosporangium, Marssonina, Phyllosticta, Septoria, Venturia
Crape myrtle	Cercospora, Phomopsis, Phyllosticta
Croton	Gloeosporium
Cuphea (Mexican heather)	Gloeosporium, Rhizoctonia
Cyclamen	Botrytis, Cladosporium, Fusarium, Glomerella, Phyllosticta, Ramularia
Cypress	Coryneum, Fusarium, Gymnosporangium, Lophodermium, Monchaetia, Pestalotia, Phomopsis
Dahlia	Alternaria, Botrytis, Fusarium, Rhizoctonia
Daisy	Botrytis, Cercospora, Whetzelinia
Daisy, Shasta	Cylindrosporium, Septoria, Fusarium
Daisy, Transvall	Alternaria, Botrytis, Gloeosporium
Daylily	Alternaria, Botrytis, Cercospora, Colletotrichum, Phomopsis, Phyllosticta, Puccinia
Delphinium	Ascochyta, Botrytis, Cercospora, Diaporthe, Fusarium, Phyllosticta, Puccinia, Ramularia, Septoria, Volutella
Dieffenbachia	Cephalosporium, Colletotrichum, Gloeosporium, Glomerella, Leptosphaeria
Dogwood	Ascochyta, Botrytis, Cercospora, Colletotrichum, Elsinoe, Phyllosticta, Septoria
Dracaena	Alternaria, Cercospora, Colletotrichum, Fusarium, Phyllosticta
Dusty Miller	Fusarium, Puccinia
Elm	Botryosphaeria, Cephalosporium, Cercospora, Coryneum, Cylindrosporium, Fusarium, Gloeosporium, Monochaetia, Mycosphaerella, Phomopsis, Phyllosticta, Rhizoctonia, Sphaeropsis, Taphrina
Euonymus	Cercospora, Colletotrichum, Gloeosporium, Marssonina, Ramularia, Septoria, Whetzelinia
Fatsia	Alternaria, Cercospora, Colletotrichum, Phyllosticta
Fern	Botrytis, Cercospora, Curvularia, Cylindrosporium, Glomerella, Phyllosticta, Taphrina
Ficus	Alternaria, Ascochyta, Cephalosporium, Cercospora, Cladosporium, Colletotrichum, Fusarium, Gloeosporium, Glomerella, Mycosphaerella, Phomopsis, Stemphylium
Fir (Abies)	Cephalosporium, Lophodermium, Melampsora, Phomopsis, Sphaeropsis
Fir, Douglas	Phaeocryptopus
Fir, Frasier	Phaeocryptopus
Firethorn	Fusarium, Fusicladium, Rhizoctonia
Fittonia	Rhizoctonia
Four-o'clock	Cercospora, Rhizoctonia
Fuchsia	Botrytis, Phomopsis, Septoria
Garden Balsam	Alternaria, Botrytis, Cercospora
Gardenia	Alternaria, Botrytis, Diaporthe, Mycosphaerella, Pestalotia, Phomopsis, Phyllosticta, Rhizoctonia

(continued)

<b>PLANT</b>	<b>PATHOGEN CONTROLLED:</b>
Geranium	Alternaria, Ascochyta, Bipolaris, Botrytis, Cercospora, Cylindrosporium, Helminthosporium, Puccinia, Ramularia, Rhizoctonia, Septoria, Uromyces, Venturia
Gladiolus*	Alternaria, Botrytis, Cladosporium, Curvularia, Rhizoctonia, Septoria, Stemphylium
Gloxinia	Botrytis, Colletotrichum
Gold Dust Tree	Gloeosporium, Glomerella, Pestalotia, Phyllosticta
Gomphrena	Cercospora
Gypsophila	Botrytis, Rhizoctonia
Hawthorn	Cercospora, Cylindrosporium, Gloeosporium, Gymnosporangium, Monilinia, Mycosphaerella, Phyllosticta, Septoria, Venturia
Hemlock, Eastern (Tsuga)	Botrytis, Cylindrosporium, Melampsora, Rhizoctonia
Hibiscus	Alternaria, Cercospora, Colletotrichum, Fusarium, Phyllosticta
Hickory	Cercospora, Cladosporium, Elsinoe, Fusarium, Gnomonia, Mycosphaerella, Pestalotia, Phyllosticta, Septoria
Holly	Phyllosticta
Hollyhock	Alternaria, Ascochyta, Cercospora, Colletotrichum, Puccinia, Septoria
Honeysuckle	Alternaria, Cercospora, Gloeosporium, Herpobasidium, Phyllosticta
Horse Chestnut	See Buckeye
Hydrangea	Ascochyta, Botrytis, Cercospora, Colletotrichum, Phyllosticta, Rhizoctonia, Septoria
Impatiens	Cercospora, Phyllosticta, Rhizoctonia, Septoria
Indian Hawthorn	Entomosporium
Iris	Ascochyta, Botrytis, Cladosporium, Fusarium, Kabatiella, Phyllosticta, Puccinia, Rhizoctonia
Ivy	Cladosporium, Colletotrichum, Glomerella, Phyllosticta, Ramularia, Rhizoctonia, Sphaeropsis
Jade plant	Gloeosporium, Phomopsis
Juniper	Cercospora, Coryneum, Gymnosporangium, Lophodermium, Pestalotia, Phomopsis, Stigmata
Kalanchoe	Cercospora, Stemphylium
Larkspur	See Delphinium
Laurel, Cherry	Alternaria, Cercospora, Coccoomyces, Monilinia, Phyllosticta, Septoria
Laurel, Mountain	Cercospora, Mycosphaerella, Pestalotia, Phomopsis, Rhytisma, Septoria
Lavender, Cotton	Septoria
Lilac	Botrytis, Cercospora, Cladosporium, Cylindrocladium, Gloeosporium
Lily	Botrytis, Cercospora, Cladosporium, Colletotrichum, Fusarium, Puccinia, Ramularia, Rhizoctonia
Lirope	Alternaria, Cercospora, Colletotrichum, Leptothyrium
Lobelia	Botrytis, Cercospora, Puccinia, Rhizoctonia, Septoria
Loquat	Colletotrichum, Fusicladium, Pestalotia, Phyllosticta, Septoria
Magnolia	Alternaria, Cercospora, Cladosporium, Colletotrichum, Glomerella, Rhizoctonia
Mahonia	Cercospora, Cylindrocladium, Gloeosporium, Leptosphaeria, Phomopsis, Phyllosticta, Puccinia
Maple	Alternaria, Cercospora, Ciborinia, Fusarium, Marssonina, Monochaetia, Phomopsis, Phyllosticta, Rhizoctonia, Rhytisma, Septoria, Sphaeropsis, Taphrina, Venturia
Myrtle	Cercospora, Glomerella, Pestalotia
Narcissus	Botrytis, Sclerotinia
Nasturtium	Botrytis, Cercospora, Puccinia
Nannyberry	Botrytis, Cercospora, Cladosporium, Helminthosporium, Monochaetia, Phomopsis, Phyllosticta, Ramularia
Nepthathytis	Cephalosporium
Nicotiana	Alternaria

(continued)

<b>PLANT</b>	<b>PATHOGEN CONTROLLED:</b>
Nierembergia	Botrytis
Oak	Cephalosporium, Cercospora, Cladosporium, Cronartium, Elsinoe, Fusarium, Gloeosporium, Gnomonia, Marssonina, Phyllosticta, Septoria, Taphrina, Venturia
Orchid	Cercospora, Fusicladium, Mycosphaerella, Phyllosticta, Puccinia, Septoria
Osmanthus	Alternaria, Cercospora, Colletotrichum, Phyllosticta
Palm, Areca	Alternaria, Cercospora, Colletotrichum, Phomopsis, Phyllosticta, Septoria
Palm, Arenga	Cercospora, Colletotrichum, Cyindrocladium, Pestalotia, Phoma, Stigmata
Palm, Cabbage	Fusarium, Gloeosporium, Pestalotia, Stigmata
Palm, Coconut	Pestalotia
Palm, Date	Alternaria, Fusarium, Helminthosporium, Pestalotia
Palm, King	Alternaria, Fusarium, Helminthosporium, Pestalotia, Phomopsis
Palm, Phoenix	Alternaria, Cercospora, Fusarium, Gloeosporium, Pestalotia, Phomopsis, Stigmata
Palm, Queen	Glomerella, Septoria
Palm, Royal	Alternaria, Cercospora, Colletotrichum, Helminthosporium
Palm, Washington	Cercospora, Colletotrichum, Cyindrocladium, Pestalotia, Phoma, Stigmata
Pansy	Alternaria, Botrytis, Cercospora, Colletotrichum, Peronospora, Phyllosticta, Ramularia, Rhizoctonia
Peach	Cercospora, Cladosporium, Coryneum, Fusarium, Glomerella, Monilinia, Mycosphaerella, Phomopsis, Phyllosticta, Taphrina
Pear	Alternaria, Botrytis, Cercospora, Cladosporium, Coryneum, Elsinoe, Fusarium, Glomerella, Gymnosporangium, Helminthosporium, Monilinia, Mycosphaerella, Phomopsis, Phyllosticta, Venturia
Peony	Alternaria, Botrytis, Cercospora, Cladosporium, Gloeosporium, Phyllosticta, Septoria
Peperomia	Colletotrichum, Gloeosporium, Rhizoctonia
Periwinkle	Alternaria, Botrytis, Cladosporium, Colletotrichum, Phomopsis, Phyllosticta, Puccinia, Rhizoctonia, Septoria
Petunia	Cercospora, Puccinia, Rhizoctonia, Stemphylium
Philodendron	Gloeosporium, Colletotrichum
Phlox	Ascochyta, Botrytis, Cercospora, Colletotrichum, Phyllosticta, Puccinia, Ramularia, Septoria, Stemphylium, Volutella
Photinia	Cercospora, Gloeosporium, Gymnosporangium, Lophodermium, Pestalotia, Phyllosticta, Septoria
Pieris	Alternaria, Pestalotia, Phyllosticta, Rhytisma
Pilea	Alternaria, Botrytis, Cercospora, Colletotrichum, Helminthosporium, Phyllosticta
Pine, Norfolk Island	Botrytis, Colletotrichum, Cronartium, Cyindrocladium, Fusarium, Lophodermium, Pestalotia, Rhizoctonia, Septoria, Sirococcus
Pine	Alternaria, Botrytis, Cronartium, Fusarium, Lophodermium, Monochaetia, Rhizoctonia, Septoria, Sirococcus
Pittosporium	Alternaria, Cercospora, Gnomonia, Mycosphaerella, Phyllosticta, Rhizoctonia, Septoria
Plane tree	Cercospora, Gnomonia, Phyllosticta, Septoria
Plum, ornamental	Botrytis, Cercospora, Cladosporium, Coccomyces, Coryneum, Monilinia, Phyllosticta, Taphrina
Poinsettia**	Botrytis, Cercospora, Fusarium, Uromyces
Poplar	Cercospora, Ciborinia, Colletotrichum, Cyindrocladium, Fusarium, Marssonina, Melampsora, Mycosphaerella, Phyllosticta, Septoria, Stigmata, Taphrina, Venturia
Portulaca	Rhizoctonia
Pothos	Rhizoctonia
Prayer plant	Alternaria, Drechslera, Glomerella, Puccinia
Primrose	Alternaria, Botrytis, Colletotrichum, Mycosphaerella, Puccinia, Ramularia, Uromyces
Privet	Cercospora, Glomerella, Phomopsis, Phyllosticta, Ramularia
Protea	Botrytis

(continued)

<b>PLANT</b>	<b>PATHOGEN CONTROLLED:</b>
Pyracantha	Botrytis, Cercospora, Diplodia, Phomopsis, Phyllosticta, Sphaeropsis
Quince, flowering	Cercospora, Fabraea, Gymnosporangium, Septobasidium
Red cedar, western (Thuja)	Keithia (or Didymascella)
Red tip	See Photinia
Redwood, Sequoia	Botrytis, Cercospora, Mycosphaerella, Pestalotia, Phomopsis
Rhododendron	Alternaria, Cercospora, Coryneum, Gloeosporium, Glomerella, Guignardia, Lophodermium, Mycosphaerella, Pestalotia, Phomopsis, Rhizoctonia, Septoria, Venturia
Rose	Alternaria, Bipolaris, Botryosphaeria, Botrytis, Cercospora, Cladosporium, Cylindrocladium, Diplocarpon, Elsinoe, Gloeosporium, Helminthosporium, Leptosphaeria, Monochaetia, Mycosphaerella, Peronospora, Phyllosticta, Septoria
Rosemary	Rhizoctonia
Russian olive	Cercospora, Colletotrichum
Sage	Cercospora, Peronospora, Puccinia, Ramularia, Rhizoctonia
Salvia	Cercospora, Puccinia
Santolina	Botrytis
Senecio	Cercospora, Gloeosporium, Phyllosticta, Puccinia, Ramularia, Septoria
Schefflera	Alternaria
Snakeplant	Fusarium, Gloeosporium
Snapdragon	Alternaria, Bipolaris, Botrytis, Cercospora, Colletotrichum, Drechslera, Fusarium, Helminthosporium, Peronospora, Phyllosticta, Puccinia, Rhizoctonia
Spathiphyllum	Alternaria
Spindletree	See Euonymus
Spirea	Cylindrosporium
Spruce	Ascochyta, Botrytis, Cladosporium, Lophodermium, Rhizoctonia
Spurge	Cercospora, Melampsora, Puccinia
Statice	Alternaria, Ascochyta, Botrytis, Cercospora, Colletotrichum, Rhizoctonia, Uromyces
Strawflower	Fusarium
Sumac	Cercospora, Cladosporium, Fusarium, Phyllosticta, Septoria, Taphrina
Sunflower, ornamental	Alternaria, Puccinia
Syngonium	Cephalosporium, Erwinia, Fusarium
Tulip	Botrytis
Venus flytrap	Colletotrichum
Verbena	Alternaria, Ascochyta, Botrytis, Cercospora, Phyllosticta, Puccinia, Rhizoctonia, Septoria, Stemphylium
Viburnum	Botrytis, Cercospora, Cladosporium, Helminthosporium, Monochaetia, Phomopsis, Ramularia
Walnut	Cercospora, Cladosporium, Cylindrocladium, Cylindrosporium, Gnomonia
Willow	Ascochyta, Cercospora, Ciborinia, Cylindrosporium, Fusicladium, Gloeosporium, Marssonina, Melampsora, Phomopsis, Phyllosticta, Ramularia, Rhytisma, Septoria, Taphrina, Venturia
Wisteria	Alternaria, Cercospora, Colletotrichum, Gloeosporium, Pestalotia
Yucca	Cercospora, Cylindrosporium, Gloeosporium, Puccinia
Zebra plant	Alternaria, Cercospora, Colletotrichum
Zinnia	Alternaria, Botrytis, Cercospora, Rhizoctonia

**Restrictions:**

\*Do not exceed 0.75 lb per 100 gallons on flower spikes.

\*\*Do not exceed 1.5 lbs per 100 gallons.

This product is not recommended for the treatment of marigolds due to highly variable plant responses.

### GRASSES: TURF USES (NON-AGRICULTURAL USES)

For use on golf courses, industrial and commercial lawns, and other nonresidential lawns. Not for use on residential lawns. Follow provisions within the **NON-AGRICULTURAL USE REQUIREMENTS** Box.

**RESTRICTIONS:**

- Do not apply by chemigation.
- Golf Courses: for cool season grasses; greens, tees and aprons - do not apply more than 5 applications per year at a maximum application rate of 17.4 lbs ai/A per application.
- For cool season grasses; fairways – do not apply more than 4 applications per year at a maximum application rate of 17.4 lbs ai/A per application.
- For warm season grasses; greens, tees and aprons - do not apply more than 4 applications per year at a maximum application rate of 17.4 lbs ai/A per application.
- All Other Turf:
  - Do not apply more than 4 applications per year at a maximum application rate of 17.4 lbs ai/A per application.
  - Do not allow less than a 10 day interval between applications.

CROP	DISEASE/PEST	RATE OZ OR LBS PRODUCT	APPLICATION DIRECTIONS	RESTRICTIONS
Golf courses, industrial (office park), and municipal lawns	Algae	6 oz in 3 to 5 gal/1000 sq ft (16 lbs in 130 to 220 gals/A)	Begin when algae begins to appear. Repeat at 10 day intervals as long as condition persists.	Do not use on grasses grown for seed. Do not use on grasses intended for grazing, such as range or pasture grasses. Do not graze treated areas or feed clippings to livestock.
	Copper Spot Fusarium Blight <i>(F. roseum)</i> Red Thread Slime Molds <i>(Mucilago, Physarum, Fuligo)</i>	4 to 8 oz in 3 to 5 gal/1000 sq ft (11 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A)	Begin application when disease appears. Repeat at 10 day intervals as long as condition persists.	
	Gray Leaf Spot <i>(Pyricularia grisea)</i> Pythium Blight <i>(Pythium spp.)</i>	8 oz in 3 to 5 gal/1000 sq ft (22 lbs in 130 to 220 gal/A)		
	Dollar Spot <i>(Sclerotinia)</i>	6 to 8 oz in 3 to 5 gal/1000 sq ft (16 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A)		
	Fusarium Snow Mold	6 to 8 oz in 3 to 5 gal/1000 sq ft (16 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A)	Apply at 2 to 6 week intervals during winter.	
	Leaf Spot <i>(Helminthosporium spp.)</i> Rhizoctonia solani Brown Patch	4 oz in 3 to 5 gals/1000 sq ft (11 lbs in 130 to 220 gals/A)	Begin when disease appears. Repeat at 10 day intervals as long as condition persists.	
	Rapid blight (a putative chytridiomycete fungus)	8 oz in 3 to 5 gal/1000 sq ft (22 lbs in 130 to 220 gal/A)	Begin when disease appears. Repeat at 10 day intervals as long as condition persists.	
	Leaf Rust Stem Rust Stripe Rust	4 oz in 3 to 5 gals/1000 sq ft (11 lbs in 130 to 220 gals/A)	Begin when disease threatens. Repeat at 10 day intervals as long as disease persists.	

### GRASSES: SODFARMS (AGRICULTURAL CROP USE)

For sodfarm applications, follow provisions within the **AGRICULTURAL USE REQUIREMENTS** box.

Harvesting of treated turf is prohibited until 120 hours following application.

- Do not apply more than 4 applications per year at a maximum application rate of 17.4 lbs ai/A per application.

- Do not allow less than a 10 day interval between applications.

CROP	DISEASE/PEST	RATE OZ OR LBS PRODUCT	APPLICATION DIRECTIONS	RESTRICTIONS
Sod Farm	Algae	6 oz in 3 to 5 gal/1000 sq ft (16 lbs in 130 to 220 gals/A)	Begin when algae begins to appear. Repeat at 10 day intervals as long as condition persists.	Do not use on grasses grown for seed. Do not use on grasses intended for grazing, such as range or pasture grasses. Do not graze treated areas or feed clippings to livestock.
	Copper Spot Fusarium Blight ( <i>F. roseum</i> ) Red Thread Slime Molds	4 to 8 oz in 3 to 5 gal/1000 sq ft (11 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A) and reduce intervals to 3 to 5 days.	Begin when disease appears. Repeat at 10 day intervals as long as condition persists.	
	Gray Leaf Spot ( <i>Pyricularia grisea</i> )	8 oz in 3 to 5 gal/1000 sq ft (22 lbs in 130 to 220 gal/A)	Begin at first sign of disease; apply at 10 day intervals or more often during favorable disease conditions.	
	Dollar Spot ( <i>Sclerotinia</i> )	6 to 8 oz in 3 to 5 gal/1000 sq ft (16 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A) and reduce intervals to 3 to 5 days.	Begin when grass greens up in spring/10 to 14 days.	
	Pink (Fusarium) Snow Mold	6 to 8 oz in 3 to 5 gal/1000 sq ft (16 to 22 lbs in 130 to 220 gal/A) When conditions are unusually favorable for disease, use 6 to 8 oz/1000 sq ft (16 to 22 lbs/A) and reduce intervals to 3 to 5 days.	Apply at 2 to 6 week intervals during winter.	
	Leaf Spot ( <i>Helminthosporium</i> spp.) Rhizoctonia solani Brown Patch	4 oz in 3 to 5 gals/1000 sq ft (11 lbs in 130 to 220 gals/A)	Begin when disease appears. Repeat at 10 day intervals as long as condition persists.	
	Pythium Blight	8 oz in 3 to 5 gal/1000 sq ft (22 lbs in 130 to 220 gal/A)	Repeat at 5 day intervals, or more frequently if conditions are favorable for disease development.	
	Leaf Rust Stem Rust Stripe Rust	4 oz in 3 to 5 gals/1000 sq ft (11 lbs in 130 to 220 gals/A)	Begin when disease threatens. Repeat at 10 day intervals as long as disease persists.	

### CHRISTMAS TREES: Plantations and Nurseries

Aerial Application: Apply 1 to 2 lbs per acre using a minimum rate of 10 gallons of spray per acre during aerial applications.

Application of Dilute Sprays: Apply as thorough coverage spray using 1 to 2 lbs per acre of 1 to 2 lbs per 100 gallons of water. Begin application at first sign of disease and repeat every 7 to 10 days. Use the shortest spray interval during periods of frequent rain, when severe disease conditions persist or during periods of rapid plant growth. This product may be used alone or in combination with other fungicides.

USE SITE	DISEASES CONTROLLED	APPLICATION RATE (LB/A OR LB/100 GAL)
Christmas trees, including fir, spruce, pine	Ascochyta, Alternaria, Botrytis, Cephalosporium, Cladosporium, Cronartium, Fusarium, Lophodermium, Melampsora, Monchaetia, Phomopsis, Rhizoctonia, Septoria, Sirococcus, Sphaeropsis	1 to 2 lbs/A or 1 to 2 lbs per 100 gallons, make applications at 7 to 10 day intervals.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE: Important**-Never allow MANZATE PRO-STICK T&O to become wet during storage. This may lead to certain chemical changes which will reduce the effectiveness of MANZATE PRO-STICK T&O as a fungicide and create vapors which may be flammable. Keep container closed when not in use. Store product in original container only, away from other pesticides, fertilizer, food or feed in a secure dry area.

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

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**ATTENTION:** This product contains mancozeb and ETU, chemicals known to the State of California to cause cancer in laboratory animals. ETU is also known to the State of California to cause birth defects or other reproductive harm in laboratory animals.

### IMPORTANT INFORMATION READ BEFORE USING PRODUCT

#### CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

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