Bag Label

GROUP M3 FUNGICIDE

MANZATE® PRO-STICKTM FUNGICIDE

DRY FLOWABLE

FOR FRUITS, VEGETABLES, ORNAMENTALS AND POTATOES

COMMERCIAL

REGISTRATION NO. 28217 PEST CONTROL PRODUCTS ACT



DANGER-EYE IRRITANT

READ THE LABEL AND BROCHURE BEFORE USING

GUARANTEE: Mancozeb 75.0%

NET CONTENTS: 2.5 - 25 kg

UNITED PHOSPHORUS INC. (UPI) 630 Freedom Business Center, Suite 402 King of Prussia, PA 19406 1-800-438-6071

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN.

MAY IRRITATE EYES, NOSE, THROAT AND SKIN. MAY BE HARMFUL IF INHALED OR SWALLOWED.

Avoid breathing dust or spray mist.

Avoid contact with skin, eyes and clothing.

Keep away from fire or sparks.

For use in greenhouses, wear a chemical resistant rain suit, chemical resistant gloves, rubber boots, goggles or a face shield and either a respirator with NIOSH/MSHA/BHSE approved organic vapour-removing cartridge with a pre-filter approved for pesticides, or

NIOSH/MSHA/BHSE approved canister approved for pesticides during mixing, loading, application, cleanup and repair activities. Ventilate prior to re-entry.

For all other registered uses, wear chemical resistant gloves, coveralls and goggles or face shield during mixing, loading, application, clean up and repair activities. In addition, wear an appropriate respirator when mixing and loading this product.

Wash thoroughly with soap and water after handling and before eating, drinking, smoking or using toilet.

Remove contaminated clothing and wash separately from normal laundry with soap and water before reuse.

Do not apply this product in such a manner as to directly or through drift expose workers, other persons or animals.

DO NOT re-enter treated areas within 24 hours. If required, Individuals may re-enter treated areas within 24 hours for short-term tasks not involving hand labour if at least 4 hours has passed since application and long pants, long-sleeved shirt, hat and chemical-resistant gloves are worn.

FIRST AID

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to mouth, if possible. Call a poison control centre or doctor for further treatment advice.

SKIN OR CLOTHING CONTACT: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre or doctor for treatment advice. **EYE CONTACT:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

INGESTION: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

Treat symptomatically.

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from areas treated.

STORAGE

Store product in original container only, away from feed or food. Do not allow product to become wet or overheated in storage. Chemical changes may occur to impair fungicidal effectiveness, and may also generate flammable vapors. Keep container tightly closed.

DISPOSAL

1. Completely empty bag into spray mixture tank.

- 2. Make the empty bag unsuitable for further use.
- 3. Dispose of the container in accordance with provincial requirements.

4. For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

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DIRECTIONS FOR USE BOOKLET

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Wash thoroughly with soap and water after handling and before eating, drinking, smoking or using toilet.

Remove contaminated clothing and wash separately from normal laundry with soap and water before reuse.

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GENERAL INFORMATION

MANZATE PRO-STICK Fungicide, a dry flowable powder containing a coordination product of zinc ion and maneb, is recommended for the control of many important plant diseases.

DIRECTIONS FOR USE

MANZATE PRO-STICK Fungicide should be used only in accordance with recommendations on this label.

SPRAYS: (Ground or aerial equipment) - Use MANZATE PRO-STICK Fungicide at the rate shown; ensure good coverage by using 200-1000 L per ha for ground equipment and 50-80 L/ha for aircraft. A spreader-sticker may be used if needed. Add MANZATE PRO-STICK Fungicide slowly to water with agitation, or premix thoroughly for concentrate or aircraft sprays. Continuous agitation is required to keep the product in suspension. Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label. Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on this label. Where no rate for aerial application appears for the specific use, this product cannot be applied by any type of aerial equipment. Ensure uniform application. To avoid streaked, uneven or overlapped application, use appropriate marking devices.

Use Precautions

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the *National Aerial Pesticide Application Manual*, developed by the Federal/Provincial/Territorial Committee on Pest Management and Pesticides. Do not apply to any body of water. Avoid drifting of spray onto any body of water or to other non-target areas. Specified buffer zones should be observed. Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when velocity and direction poses a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelterbelt) or aquatic habitat. Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

Operator Precautions

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted. It is desirable that the pilot has communication capabilities at each treatment site at the time of application. The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call United Phosphorus Inc. at 1-800-438-6071 or obtain technical advice from the distributor or your provincial agricultural representative. Application of this specific product must meet and/or conform to the following: Volume: Apply the recommended rate in a minimum spray volume of 50 to 80 litres per hectare. Add MANZATE PRO-STICK Fungicide slowly to water with agitation, or premix thoroughly for concentrate or aircraft sprays. Continuous agitation is required to keep the product in suspension. All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

APPLE: Cedar apple rust, scab and quince rust - Use 6.0 kg/ha. Apply in protective schedule from green tip to second cover spray. Use 5 kg/ha after second cover if scab is at a low level. May cause some injury to Golden Delicious. The addition of a wetting agent will ensure a smoother, more even coverage of your spray material and helps prevent blotchy, visible residues. Do not feed pomace from treated apples to livestock. Do not graze livestock in treated areas. Do not apply within 45 days to harvest.

MANZATE PRO-STICK Fungicide plus NUSTAR® Fungicide: Apple Scab - Apply 3.0 kg MANZATE PRO-STICK Fungicide plus 100 g NUSTAR Fungicide per hectare in sufficient water for thorough coverage. Begin applications at the green tip to 15 mm (1/2 inch) green stages and repeat at 7 to 10 day intervals. Use the shorter interval on susceptible varieties or when environmental conditions are conducive to frequent infection periods. Do not apply more than 4 times per season. Do not apply within 77 days of harvest. Read and follow all precautions listed on the NUSTAR fungicide label. Do not apply this tank mix by air.

MANZATE PRO-STICK Fungicide plus VANGARD* 75 WDG or VANGARD* 75 WP: Apple Scab – Apply 3.6 kg/ha MANZATE PRO-STICK Fungicide plus 190 g/ha VANGARD* 75 WDG or VANGARD* 75 WP. Apply on a 7-10 day schedule between green tip to postbloom. Do not apply within 72 days of harvest.

Read and follow all precautions listed on the VANGARD*75 WDG and VANGARD* 75 WP labels. Do not apply this tank mix by air.

GRAPES: For the control of Downy Mildew (*Plasmopara viticola*) and Black Rot (*Guignardia bidwellii*) on grapes, use MANZATE PRO-STICK Fungicide at the rate of 2.13 kg/1000 litres (7.2 kg/hectare) as follows – start applying when new shoots are 20-25 centimeters long (pre-bloom). Apply two to three more sprays 10-12 days apart post-bloom. Do not use spray within 30 days of harvest.

CARROTS: Alternaria and cercospora blights - Use 2.25 kg/ha. Begin applications when the disease is first reported in the area; repeat at 7 to 10 day intervals. Do not use treated tops for feed or food. Do not apply within 7 days to harvest.

CELERY: Early and late blights - Use 2.25-3.25 kg/ha. Begin applications in plant bed 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 the field. Remove residues by stripping, trimming and washing. Do not apply within 14 days to harvest.

FIELD CUCUMBERS: Anthracnose, alternaria leaf spot, downy mildew, gummy stem blight and scab - Use 2.25-3.25 kg/ha. Apply when plants begin to vine, or when disease threatens. Repeat at 5 to 7 day intervals as necessary. Do not treat within 14 days to harvest.

GINSENG: For control of Alternaria leaf blight. Use MANZATE PRO-STICK Fungicide at 4.4 kg/ha in 2,000 L of water. Apply when disease first appears and follow with five subsequent

sprays at two week intervals as part of a regular spray program. Do not apply within 30 days of harvest. Do not feed treated ginseng (roots or foliage) to livestock.

ONIONS (DRY BULB): Botrytis leaf blight and neck rot, downy mildew, purple blotch - Use 2.25-3.25 kg/ha. Begin applications when disease is first reported in the area, and repeat every 7 to 10 days. Do not apply to exposed bulbs. Do not use on green bunching onions. Do not apply within 10 days to harvest.

MANZATE PRO-STICK Fungicide plus ROVRAL* WP or ROVRAL* WDG Fungicide: Botrytis leaf blight and downy mildew - Apply 2.25-3.25 kg/ha of MANZATE PRO-STICK Fungicide plus 0.75 kg/ha of ROVRAL* WP or ROVRAL* WDG Fungicide in 300- 500 L water/ha. The addition of a non-ionic surfactant will improve performance. Apply this tankmix as a preventative treatment. Application can begin mid-June or when conditions are favourable for disease infection. Repeat applications at 7-10 day intervals. DO NOT apply this tankmix within 15 days of harvest. Read and follow all precautions listed on the ROVRAL* WP or ROVRAL* WDG Fungicide labels.

POTATOES: Early and late blights - Use 1.1-2.24 kg MANZATE PRO-STICK Fungicide per ha. Begin applications when plants are 10-15 cm high; repeat at 7 to 10 day intervals. Start with low rate and increase to maximum as foliage develops. May be applied up to day before harvest. During periods of wet weather favoring late blight and/or vigorous crop growth, spray intervals may be reduced to 5-6 days.

MANZATE PRO-STICK Fungicide plus KOCIDE® 2000:

For control of early blight and late blight, apply at 7 to 10 days intervals starting when plants are 15 cm high until harvest. Apply 1.75 - 2.25 kg/ha of MANZATE PRO-STICK Fungicide plus 0.80 - 1.6 kg/ha KOCIDE® 2000.

Do not apply within one day of harvest.

Read and follow all precautions listed on the KOCIDE 2000 label.

MANZATE PRO-STICK Fungicide plus CURZATE® 60 DF Fungicide:

For control of Late Blight (*Phytophthora infestans*) apply 1.35 – 1.6 kg/ha MANZATE PRO-STICK Fungicide plus 225 grams/ha CURZATE 60 DF Fungicide. Initial applications should start when local conditions indicate that Late Blight is imminent; make additional applications at 5-7 day intervals. Apply no more than 4 applications per crop. Do not apply to more than 150 ha/day. Do not apply within 8 days of harvest. Utilize sufficient water to obtain thorough coverage: 200 - 1000 L/ha (minimum of 50 L/ha if applying by air).

Read and follow all precautions listed on the CURZATE 60 DF Fungicide label.

GREENHOUSE TOMATOES: To control early and late blights, and septoria leaf spot, use 2.4 kg/ha MANZATE PRO-STICK Fungicide. Apply every 7 to 12 days to keep new growth covered. Do not apply within 7 days to harvest.

FIELD TOMATOES: Early and late blights, gray leaf spot (Stemphyllium) and anthracnose - Use 1.75-3.25 kg/ha. Begin applications when disease is first reported in the area and repeat at 7 to 10 day intervals. Use the lower rate on young plants, the higher rate on mature plants. Do not apply within 7 days to harvest.

SUGAR BEETS: Cercospora leaf spot - Use. 2.25 kg MANZATE PRO-STICK Fungicide per ha. Begin applications when disease first threatens and repeat at 7 to 10 day intervals. Do not use treated tops for feed or food. Do not apply within 21 days to harvest.

ARBORVITAE, JUNIPER, DOUGLAS FIR: Coryneum blight, Keithia blight, Dieback, Rhabdocline needle cast - Apply 2.75-3.5 kg in 1000 L water. Spray at 10-14 day intervals during April, May and early June to protect new growth. Not for use on ornamental trees or in ornamental nurseries. **ASH, OAK, SYCAMORE:** Anthracnose (*Gloeosporium* spp.) – Apply 2.75-3.5 kg in 1000 L water. Spray at 10-14 day intervals beginning just prior to bud burst and continue as long as wet weather persists in spring. Not for use on ornamental trees or in ornamental nurseries.

PINE: Lophodermium needle cast - Apply 2.5 kg in 1000 L water. Spray every 2-3 weeks during July, August, and September. Not for use on ornamental trees or in ornamental nurseries.

HAWTHORN: Leaf blight (*Diplocarpon* spp.) - Apply 2.75-3.5 kg in 1000 L water. Spray at 10-14 day intervals as required beginning with bud burst in spring.

HOLLY: Algae, leaf and twig blight (*Phytophthora ilicis*) - Apply 1.8 to 2.5 kg in 1000L water. Spray as required especially during wet season. Avoid applications close to harvest to avoid visible residues.

IVY: (*Hedera* spp): Leaf Spot - Apply 1.25 to 2.5 kg. in 1000 L water. Spray as required as required especially during the wet season.

WHEAT: (All varieties, including Durum): For the control of tan spot, Septoria leaf blotch, and leaf rust. Early spray: Apply 1.1 kg/ha at the Feeks 1-3/Zadoks 12-21 growth stages, when the crop is in the three leaf to tillering stage. And/Or late spray: Apply 2.25 kg/ha at the Feeks 10.5/Zadoks 59 growth stages, when the head is fully emerged but prior to flowering (heading stage). For ground spray applications with flat fan nozzles, use 100 L water/ha at a pressure of 345 kPa. Use 40 L water/ha for aerial applications. Do not make more than two applications during the season and do not apply within 40 days of harvest. CAUTION: Do not graze the treated crop or cut for hay, there is not sufficient data to support such use.

CANTALOUPE, PUMPKIN, SQUASH, MELONS AND WATERMELONS: For control of Downy mildew, Anthracnose, Scab, Gummy stem blight and Alternaria leaf spot. Use MANZATE PROSTICK Fungicide at 1.10 to 3.25 kg/ha in sufficient water to provide adequate coverage. Start applications when runners begin to form or at first sign of disease and repeat at weekly intervals. Direct spray for thorough coverage of both upper and lower leaf surfaces. Do not apply within 14 days of harvest.

TOBACCO: Greenhouse - For blue mold control, apply 50 to 100 grams of MANZATE PROSTICK Fungicide in 25 to 50 L of water and apply to 100 square metres. Spray seedlings to wet without run-off. Start spraying when plants are 1.5 cms across and then twice per week until transplanting.

LENTILS: For the control of anthracnose and ascochyta blight, apply MANZATE PRO-STICK Fungicide at the rate of 2.25 kilograms of product per hectare. Apply the first application before bloom, when bud formation is evident. A second application should be applied 10 to 14 days after the initial application at early to mid bloom but prior to row closure. If conditions for disease development persist, a third application may be applied 10-14 days later. Do not apply more than three applications of MANZATE PRO-STICK Fungicide per season. For ground spray applications with flat fan nozzles, use 100-200 litres of water per hectare at a pressure of 275-345 kPa. Use 40 litres of water per hectare for aerial applications. Do not apply within 35 days of harvest.

NOTE TO BUYER/USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS:

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than United Phosphorus Inc and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. United Phosphorus Inc itself makes no representation or warranty with respect to product performance (efficacy) and crop tolerance (phytotoxicity) of this product when used on the crops listed. Accordingly, the Buyer and User assume all liability arising, and agree to hold United Phosphorus Inc harmless from any claims based on efficacy or phytotoxicity in connection with these uses.

HONEYSUCKLE: For Honeysuckle Blight (*Herpobasidium deformans*), apply as a dilute foliar spray; ground application; maximum of 3 applications per year; begin application at green tip to half inch green leaf; repeat at 10-14 day intervals. Apply 2 kilograms MANZATE PRO-STICK Fungicide per 1000 litres of water.

ALFALFA GROWN FOR SEED: For control of Leaf Spot and Stem Spot disease, apply prior to 50% bloom. Use MANZATE PRO-STICK Fungicide at 1.46 kilograms per hectare; use a maximum of 3 applications per year. Repeat 7-10 days after the first application and 10 days after the second application. Do not use for human or animal consumption. Do not graze the treated crop or cut for hay. Do not use on alfalfa sprout crops for human consumption. Do not use seed crop residue for animal consumption.

DRY BULB ONIONS: For control of ONION SMUT (*Urocysti cepulae*), make one application per year. Apply 4.4 to 8.8 kilograms per hectare MANZATE PRO-STICK Fungicide as a granular in the furrow at seeding time. Do not apply within 100 days of harvest.

RESISTANCE MANAGEMENT

For resistance management, please note that MANZATE PRO-STICK Fungicide contains a Group M3 fungicide. Any fungal population may contain individuals naturally resistant to MANZATE PRO-STICK Fungicide and other Group M3 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance:

- Where possible, rotate the use of MANZATE PRO-STICK Fungicide or other Group M3 fungicides with different groups that control the same pathogens.
- Use tank mixtures with fungicide from a different group that are effective on the target pathogen, when such use is permitted.
- Fungicide use should be based on an IPM program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Where possible, make use of predictive disease models to effectively time fungicide application.
- Monitor treated fungal populations for resistance development. Notify United Phosphorus Inc. if reduced sensitivity of the pathogen to MANZATE PRO-STICK Fungicide is suspected. If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and pathogens.
- For further information and to report suspected resistance, contact United Phosphorus

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DISPOSAL

1. Completely empty bag into spray mixture tank.

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*All other products are trademarks of their respective companies.