

73545-11

05-27-2004

417

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Timothy M. Formella
Manager, Product Registration
Cerexagri, Inc.,
King of Prussia, PA 19406

Dear Mr. Formella:

SUBJECT: Topsis M 70 WP
EPA Registration Number 73545-11
Your label amendment submitted September 18, 2003

The label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended is acceptable.

Please submit one copy of your final printed labeling before you release the product for shipment. A stamped copy of the label is enclosed for your records.

If you have any questions, please contact Lisa Jones of my staff by phone at (703) 308-9424 or by e-mail at jones.lisa@epa.gov.

Sincerely,

Lisa D. Jones FOR

Mary L. Waller
Product Manager (21)
Fungicide Branch
Registration Division (7505C)

Enclosure: Stamped Label

CONCURRENCES							
SYMBOL ▶	7505C						
SURNAME ▶	Lisa Jones						
DATE ▶	May 27, 2004						

TOPSIN[®] M 70WP
THIOPHANATE-METHYL FUNGICIDE

ACTIVE INGREDIENT:

Thiophanate-methyl (dimethyl [1,2-phenylene)-bis(iminocarbonothioyl)]bis[carbamate])* .70.0%

OTHER INGREDIENTS:.....30.0%

TOTAL.....100.0%

*Also known as dimethyl 4, 4'-o-phenylenebis[3-thioallophanate]

TOPSIN is a registered trademark of Nippon Soda Company, Ltd., and is licensed to NISSO TM LLC, and is covered by one or more of the following U.S. Patents: 3,769,308; 3,856,847; 4,020,095; and 4,029,813.

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID

If swallowed:

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

If in eyes:

- 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 center or doctor for treatment advice.

If on skin or clothing:

- Take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

If inhaled:

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

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

EPA Registration No. 73545-11

EPA Establishment No. 66196-CA-1

NET WEIGHT: _____ Pounds (_____ Kgs.)

Sold by:

Cerexagri, Inc.

630 Freedom Business Center, Suite 402

King of Prussia, PA 19406

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN. CAUSES MODERATE EYE IRRITATION. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

WPS Uses: Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard, 40 CFR Part 170, must wear: long-sleeved shirt and long pants, chemical-resistant gloves made from any waterproof material, and shoes plus socks. 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 clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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.

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply where runoff is likely to occur. Do not contaminate water when disposing of equipment washwaters.

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 12 hours unless otherwise noted on this label for specific crops.

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, chemical-resistant gloves made from any waterproof material, shoes plus socks.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store in the original container in a dry area. 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: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: After bag has been emptied, 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.

GENERAL INSTRUCTIONS AND INFORMATION

Apply Topsin M 70WP with ground or aerial equipment, using sufficient volume of spray to provide thorough coverage. Add required amount of Topsin M 70WP to partially filled tank agitated by mechanical or hydraulic means, and then add remaining required amount of water. Continuous agitation is required to keep the material in suspension. Cerexagri does not recommend tank mixes with highly alkaline pesticides, such as Bordeaux mixture or lime sulfur. No claim of compatibility with other pesticides is implied. Use the higher rate under conditions of severe disease pressure. Also, see local State Extension Service recommendations for application schedules.

Use the LBS/ACRE rate for concentrate sprays (less than 400 gallons on apples, less than 300 gallons on stonefruit). Use the LBS/100 GAL rate for dilute ground applications. For aerial applications, use a minimum of 5 gallons/A for row crops, and a minimum of 10 gallons/A for tree and vine crops. Higher spray volume will generally result in better coverage and better disease control.

Use on all labeled non-bearing tree fruit, tree nuts, and grapes: Topsin M 70WP may be used for control of the diseases listed on the label for these crops during the non-bearing years of new plantings, and on nursery stock. All use directions and limitations must be followed, except for the PHI, which is not applicable for non-bearing stock. Begin applications as disease is first observed or expected. Tank mixing with a protectant fungicide is strongly recommended for resistance management.

Chemigation instructions follow. Do not apply through any irrigation system unless these instructions are followed.

For crops without labeled uses of thiophanate-methyl, observe a 30-day plantback restriction.

RESISTANCE MANAGEMENT: To avoid the development of tolerant or resistant strains of fungi, Topsin M 70WP should always be tank-mixed with a fungicide of different chemistry, and/or a fungicide of different chemistry should be alternated with Topsin M 70WP. **DO NOT USE PRODUCTS CONTAINING THIABENDAZOLE OR OTHER PRODUCTS CONTAINING THIOPHANATE-METHYL IN COMBINATION, IN ROTATION, OR AS A SUBSTITUTE FOR TOPSIN M 70WP AS THEY ARE OF SIMILAR CHEMISTRY AND WILL CONTRIBUTE TO THE DEVELOPMENT OF RESISTANCE.** If after using Topsin M 70WP as recommended, and the treatment is not effective, a tolerant or resistant strain of fungi may be present. Discontinue the use of Topsin M 70WP for at least one season. As long as these precautions are followed, Topsin M 70WP can be useful for disease control, even if resistant strains are present.

MIXING INSTRUCTIONS

If other materials are to be added to the tank, especially fertilizers high in nitrogen or boron, wait until the Topsin M 70WP is fully dissolved before adding them. Once all materials have been added, fill the tank with the remaining volume of water. Maintain continuous agitation at all times, and use the spray suspension as soon as possible.

Crop/ Restrictions	Diseases	Lbs/ Acre	Lb/100 Gal	Remarks/Restrictions
Almonds	Brown Rot Blossom Blight (Monilinia) Scab (Cladosporium) Jacket Rot (Monilinia, Sclerotinia, Botrytis) Leaf Blight (Seimatosporium)	1 - 1½		Apply as needed between pink bud and petal fall. Topsin M 70WP may be applied alone at pink bud for Brown Rot control. For all other applications, Topsin M 70WP should be applied with a contact fungicide, such as a ziram product (e.g. Ziram 76DF) or a maneb product (e.g. Maneb 75DF), for broad spectrum control and resistance management. Do not apply more than 3 lbs of product (2.1 lbs a.i.)/A/season.

Apples	Apple Scab (Venturia) Black Pox* (Helminthosporium papulosum) Flyspeck (Zygophiala) Powdery Mildew (Podosphaera) Sooty Blotch (Gloeodes) Black Rot (Botryosphaeria obtusa) Brooks Fruit Spot (Mycosphaerella) White Rot* (Botryosphaeria dothidia)	1 - 1½	¼ - ⅜	Apply at 5 to 10-day intervals from green tip through petal fall; continue at 7 to 14-day intervals in cover sprays. Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Follow resistance management guidelines under Directions for Use.
Beans, dry and succulent Including: Lima bean Snap bean Kidney bean Mung bean Navy bean Pinto bean Wax bean Broad bean Fava bean Asparagus bean Blackeyed pea Cowpea Sweet lupine White lupine White Sweet lupine Grain lupine Chick pea Garbanzo bean	White Mold (Sclerotinia) Gray Mold (Botrytis) Anthracnose (Colletotrichum)	1½ - 2 OR 1 - 1½		For one application: Apply when 100% of plants have at least one open bloom or when conditions are favorable for disease development. OR For multiple applications: Make the first application when 10% to 30% of plants have at least one open bloom and follow with sequential applications on a 4 to 7 day interval. Apply prior to the development of disease for best results. Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Pre-harvest interval: California only , 14 days for succulent beans, 28 days for dry beans and lima beans. Pre-harvest interval: all other States , 14 days for succulent beans and lima beans, 28 days for dry beans.

Cucurbits (Cantaloupe, Casaba, Cucumbers, Melons, Pumpkins, Summer and Winter Squash, and Watermelons)	General Information			Do not apply more than 3 lbs of product (2.1 lbs a.i.)/A/season from any combination of application timings. Topsin M 70WP can be used in a tank mix with Penncozeb® (mancozeb) or chlorothalonil for additional disease control and resistance management. Follow resistance management guidelines under Directions for Use.
	Acremonium/ Cephalosporium Hypocotyl Rot	½		Apply in-furrow, on top of the seeds at planting. Do not use less than 10 gallons of water per acre.
	Anthrachnose* (Colletotrichum) Gummy Stem Blight* (Didymella) Powdery Mildew (Erysiphe, Sphaerotheca) Target Spot* (Corynespora)	½		Begin applications when plants begin to run or when disease first appears, and repeat at 7-14 day intervals or as needed. For Target Spot, use at 7-day intervals as needed.
	Belly Rots* (Rhizoctonia, Fusarium)	½		Apply in sufficient volume to allow runoff to the soil. Will not control Pythium or Phytophthora.
	Suppression of Vine Decline* (Monosporascus) Charcoal Rot* (Macrophomina)	½		Apply through buried drip irrigation (chemigation) to the root zone. For disease suppression, apply at 14-day intervals, beginning at emergence and continuing to harvest. Applications weekly or biweekly, beginning 4-6 weeks prior to harvest will also offer suppression, but may not be as effective as a season-long program.
Garlic (clove treatment)	Penicillium Clove Rot		1	Completely immerse garlic cloves in suspension for at least 5 minutes. Continuously agitate the solution tank by hydraulic or mechanical

				<p>means.</p> <p>After treatment, remove cloves from solution and drain.</p> <p>Dry cloves after treatment and prior to planting.</p>
<p>Grapes</p> <p>Do not enter or allow worker entry into treated areas during the restricted</p>	<p>General Information</p>			<p>Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season.</p> <p>Pre-harvest interval: 14 days</p> <p>REI: 7 days for foliar sprays</p> <p>Follow resistance management guidelines under Directions for Use.</p>
<p>entry interval (REI) of 7 days unless appropriate PPE for early entry is worn.</p>	<p>WEST OF THE ROCKY MOUNTAINS: Bunch Rot (Botrytis) Powdery Mildew (Uncinula)</p>	<p>1 - 1½</p>		<p>Apply at first bloom and repeat 14 days later or as needed if severe disease conditions exist. Make an additional application 3 to 4 weeks before harvest or when sugar begins to build; repeat 14 days later if conditions favorable for disease persist. For Powdery Mildew continue applications through the season. Use in combination or rotation with a sulfur product such as Microthiol® Disperss® and/or other systemic fungicides.</p>
	<p>EAST OF THE ROCKY MOUNTAINS: Bitter Rot (Melanconium) Black Rot (Guignardia) Powdery Mildew (Uncinula) Phomopsis Cane and Leaf Spot (Phomopsis)</p>	<p>¾ - 1½</p>		<p>Apply when foliage first develops and repeat at 14 to 21-day intervals or as needed.</p>
<p>Onions* Garlic (In furrow)</p>	<p>White Rot (Sclerotium cepivorum)</p>	<p>2 broad-cast</p>		<p>Spray directly into the open furrow at the time of planting seed, sets or bulbs. Not for this use through any type of irrigation</p>

				system.
Peanuts	Early Leaf Spot (Cercospora) Late Leaf Spot (Cercosporidium) Rust (Puccinia) Limb Rot (Rhizoctonia) Web Blotch (Ascochyta)	1/2		Begin applications when disease first appears and repeat at 7 to 14-day intervals as needed. Use the 7-day interval under severe disease pressure. Do not apply more than 2 lbs of product (1.4 lbs a.i.)/A/season. Pre-harvest interval: 14 days Topsin M 70WP should not be used alone. Use only in combination with a non-benzimidazole fungicide such as Penncozeb® 75DF (mancozeb) at 1 1/2 lbs per acre or chlorothalonil. Follow resistance management guidelines under Directions for Use.
Pears Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days unless appropriate PPE for early entry is worn.	Pear Scab (Venturia) Sooty Blotch (Gloeodes) Flyspeck (Zygophiala) Powdery Mildew (Podosphaera) Leaf Spot (Fabraea)	1	1/4	Apply at 5 to 10-day intervals from green tip through petal fall; continue at 7 to 14-day intervals in the cover sprays. Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Pre-harvest interval: 1 day REI: 3 days Follow resistance management guidelines under Directions for Use.
Pecans	Brown Spot (Cercospora) Downy Spot (Mycosphaerella) Liver Spot (Gnomonia) Powdery Mildew (Microsphaera) Scab (Fusicladium) Stem End Blight (Botryosphaeria) Zonate Leaf Spot	1		Begin applications when first leaves are showing and repeat at 3 to 4 week intervals until shuck split. Do not apply after shuck split. Do not apply more than 3 lbs of product (2.1 lbs a.i.)/A/season. Follow resistance management guidelines under Directions for Use.

	(Cristulariella)			
<p>Pistachios</p> <p>Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days unless appropriate PPE for early entry is worn.</p>	<p>Shoot Blight (Botrytis, Botryosphaeria)</p>	<p>1½ - 2</p>		<p>Apply at bloom. Apply in a minimum of 100 gallons per acre by ground or 20 gallons per acre by air. For aerial application, fly over every row or center.</p> <p>Do not apply more than 2 lbs of product (1.4 lbs a.i.)/A/season. REI: 3 days</p>
<p>Potatoes</p>	<p>White Mold (Sclerotinia sclerotiorum)</p>	<p>1 - 1½</p>		<p>Make first application just prior to row closure. Repeat the application within 7-14 days and at 7-14 day intervals if conditions for disease development are favorable. Thorough coverage of the flowers, stems, and branches is essential for disease control. Use a minimum of 6 gallons/A for aerial application.</p> <p>Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Pre-harvest interval: 21 days May be tank mixed with Penncozeb (mancozeb) for Early and Late Blight control.</p>
<p>Soybeans</p>	<p>General Information</p>			<p>Do not apply more than 2 lbs product (1.4 lbs a.i.)/A/season. Do not graze or feed treated vines or hay to livestock.</p>
	<p>Anthracnose (Colletotrichum) Brown Spot (Septoria) Frogeye Leaf Spot (Cercospora)</p>	<p>½ - 1</p>		<p>Apply from full bloom to when pods are 1/8" to 1/4" in length. Make a second application 14 to 21 days later. Do not make the second application later than 14 days after pods average 1/4" in</p>

	Pod and Stem Blight (Diaporthe, Phomopsis) Purple Seed Stain (Cercospora)			length or when beans form in the pod. Use the high rate under severe disease pressure. FOR SEED BEANS ONLY---For seed quality, make a single application at the high rate (1 lb per acre) when beans form in the pod.
	White Mold (Sclerotinia)	¾ - 1		Make one application at early bloom (R-1 to R-2 stage) followed by a second application 7-14 days later if conditions are favorable for continued disease pressure. Thorough coverage of the flowers, stems, and branches is essential for disease control. Use a minimum of 5 gallons water/A by air.
	Aerial Blight (suppression)	1		Make initial application when disease threatens and repeat 14-21 days later if needed.
<u>Stone Fruit</u>	General Information			Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Pre-harvest interval: 1 day Follow resistance management guidelines under Directions for Use.
- Apricots	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	1 - 1½ (in CA use 1½)	⅓ - ½	Apply at early bloom (red bud). Make a second application at full bloom. If needed, under severe disease pressure, apply additional sprays at 10 to 14-day intervals between full bloom and final pre-harvest sprays.
- Cherries Sweet and Sour	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	1 - 1½ (in CA use 1½)	⅓ - ½	Apply at early bloom (early popcorn). Make a second application at full bloom. If needed under severe disease pressure, apply additional sprays

				at 10 to 14-day intervals between full bloom and final pre-harvest sprays.
	Cherry Leaf Spot (Coccomyces)	1 1/8 - 1 1/2	3/8 - 1/2	Applications may be made at petal fall or before (when leaves first unfold) and at first, second, and third cover at 10 to 14-day intervals and one spray 14 to 21 days after harvest.
	Powdery Mildew (Podosphaera, Sphaerotheca)	1 - 1 1/2 (in CA use 1 1/2) PLUS 1 1/8 - 1 1/2	1/3 - 1/2 PLUS 3/8 - 1/2	Apply at early bloom (early popcorn). Make a second application at full bloom. PLUS Apply at shuck fall and first cover.
- Nectarines	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	1 - 1 1/2 (in CA use 1 1/2)	1/3 - 1/2	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. If needed under severe disease pressure, apply additional sprays at 10 to 14-day intervals between full bloom and final pre-harvest sprays.
- Peaches	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	1 - 1 1/2 (in CA use 1 1/2)	1/3 - 1/2	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. If needed under severe disease pressure, apply additional sprays at 10 to 14-day intervals between full bloom and final pre-harvest sprays.
	Peach Scab (Cladosporium)	1 - 1 1/2 (in CA use 1 1/2) PLUS 1 1/8 - 1 1/2	1/3 - 1/2 PLUS 3/8 - 1/2	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. PLUS Apply at shuck split and at first cover sprays.
- Plums	Brown Rot Blossom	1 - 1 1/2	1/3 - 1/2	Apply at early bloom (green tip).

and Prunes	Blight Fruit Brown Rot (Monilinia)	(in CA use 1½)		Make a second application at full bloom. If needed under severe disease pressure, apply additional sprays at 10 to 14-day intervals between full bloom and final pre-harvest sprays.
	Black Knot (Dibotryon)	1 - 1½ (in CA use 1½)	⅓ - ½	Apply at pre-bloom, petal fall, and at first, second, or third cover sprays at 10 to 14-day intervals.
	Leaf Spot (Coccomyces)	1 - 1½ (in CA use 1½)	⅓ - ½	Applications may be made at petal fall, shuck split, and at first, second, and third cover sprays at 10 to 14-day intervals and 1 spray 14 to 21 days after harvest.
Straw-berries	Fruit Rot (Botrytis) Leaf Blight (Dendrophoma) Leaf Scorch (Diplocarpon) Powdery Mildew (Sphaerotheca)	¾ - 1		Begin applications at early bloom and continue at 7 to 10-day intervals. Use the higher rate under conditions of severe disease pressure. Do not apply more than 4 lbs of product (2.8 lbs a.i.)/A/season. Pre-harvest interval: 1 day Follow resistance management guidelines under Directions for Use.
Sugar Beets	General Information			Do not apply more than 3 lbs of product (2.1 lbs a.i.)/A/season. Pre-harvest interval: 21 days Follow resistance management guidelines under Directions for Use.
	Cercospora Leaf Spot (Cercospora)	½ - 1 (in CA use ½)		Apply when conditions become favorable for disease development before the disease appears and follow with a non-benzimidazole fungicide within 14 days of application or as needed. Topsin M 70WP should be tank mixed with a protectant fungicide such as a mancozeb product (e.g. Penncozeb) or a triphenyl tin hydroxide product when resistant strains of Cercospora are present in the field. Do not make more than one application

				per season for Cercospora Leaf Spot.
	Powdery Mildew (Erysiphe)	½ - 1		Apply as soon as disease symptoms appear and follow with a non-benzimidazole fungicide at a 14-day interval or as needed. Topsin M 70WP can be tank mixed with sulfur products such as Microthiol® Disperss® at 5 to 10 lbs/A for additional disease control and resistance management.
Triticale and Fall-seeded Wheat For this use in Idaho, Oregon, and Washington ONLY	Foot Rot, Strawbreaker, Eye Spot (Pseudocercospora)	1		Apply Topsin M 70WP at the rate indicated in a single application by air or ground after tillering but before stem elongation has begun. Use sufficient water to obtain thorough coverage. Do not apply more than 1 lb of product (0.7 lb a.i.)/A/season. Do not cut for hay within 90 days of application. Do not allow livestock to graze in treated areas before harvest.

* Not for this use in California

NOTE: Dilute sprays are not to exceed maximum rate per acre.

DIRECTIONS FOR USE ON CONIFERS
(Not for this use in California)

CROP	DISEASE	LIMIT/ACRE/CROP	RATE, MINIMUM GALLONAGE	REMARKS
Conifers (Pine) Austrian Red Scots Christmas Trees	Tip Blight (Diplodia)	48 oz. (3 lb.)	16 oz./A 100 gal/A	Apply at bud break. Repeat 10 to 14 days later, just before needles emerge from sheath; repeat again 10 to 14 days after needle emergence.
(Fir) Douglas	Swiss Needle Cast (Phaenocarpa) Rhabdocline Needle Cast	80 oz. (5 lb.)	16 oz./A 50 gal/A	Apply initially in early May. Repeat at 4-week intervals.
<ul style="list-style-type: none"> - Add a spreader/sticker to improve coverage. - Use minimum gallonage with mist-blower types of sprayers and higher gallonage with conventional sprayers. - Do not graze livestock in treated areas. 				
Conifers (seedling treatment) Longleaf	Brown Needle Blight (Scirrhia)	N/A	1 oz./9.5 oz. dry Kaolinite clay for seedling roots	Wet seedling roots in clean water, then apply Topsin M 70WP /Kaolinite mixture to wet roots. Do not apply mixture to seedling foliage.
Loblolly	Fusarium and	N/A	2 oz./ 50 oz.	Thoroughly cover seedling

Longleaf Slash	Rhizoctonia Root Rot		Kaolinite clay, plus enough water to make a slurry	roots with Topsin M 70WP /Kaolinite slurry. Do not apply mixture to seedling foliage.
<p>- During treatment, avoid excessive drying of roots or exposure to temperatures greater than 90°F or less than 32°F.</p> <p>- Topsin M 70WP does not control Pythium or Phytophthora.</p>				

**DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS
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, solid set or hand move; or drip (mini-micro sprinklers, strip tubing, trickle) irrigation systems. 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 a 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 that 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.

APPLICATION INSTRUCTIONS

Observe the requirements in the System Requirements section above.

Apply Topsin M 70WP only through systems containing anti-syphon 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. Topsin M 70WP 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.

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 Topsin M 70WP in a mix tank. Fill the tank with ½ or ¾ the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of Topsin M 70WP and then the remaining volume of water.

Sprinkler Irrigation - Notes

Observe all System Requirements and Application Instructions above.

Set sprinkler system to deliver a maximum of 0.4 inch of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of Topsin M 70WP into the irrigation water line so as to deliver the desired rate per acre. The suspension of Topsin M 70WP should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. When treatment with Topsin M 70WP has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

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

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

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

Drip (Mini-Micro Sprinklers, Strip Tubing, Trickle) Irrigation - Notes

Observe all System Requirements and Application Instructions above.

A pesticide supply tank is recommended.

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