



Reg # 4581-352 PM-21 File 1915

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

MAR 23 1993

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Rebecca A. Clemmer  
ELF ATOCHEM NORTH AMERICA INC.  
AGRICHEMICALS DIV.  
2000 Market Street - 21st Flr  
Philadelphia, PA 19103

Subject: Label Amendment Submission of 09/16/93 in Response to PR Notice 93-7  
EPA Reg. No. 4581-352  
TOPSIN M 4.5 F TURF AND ORNAMENTALS FUNGICIDE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted subject to the comments reflected on the enclosed sheet. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

**WHAT THIS ACCEPTANCE MEANS:**

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

**WHAT YOU NEED TO DO NEXT:**

By the next label printing make all the specified changes to your labeling. Send to EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable  
Printed with Soy/Canola Ink on paper that  
contains at least 50% recycled fiber

2915

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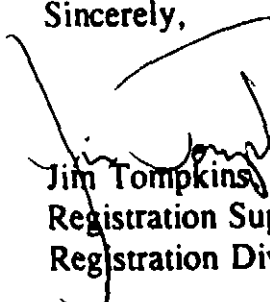
Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs (7505C)  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)  
Office of Pesticide Programs  
Room 266A, Crystal Mall 2  
1921 Jefferson Davis Highway  
Arlington, VA 22202

Sincerely,

  
Jim Tompkins, Deputy Chief  
Registration Support Branch  
Registration Division (7505W)

Attachment

elf atochem

ATO

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

MAR 23 1994

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

SHAKE WELL BEFORE USING

4581-352

# TOPSIN® M 4.5F

## THIOPHANATE-METHYL FUNGICIDE

4.5 Pounds per Gallon Flowable

### ACTIVE INGREDIENT:

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

46.2%

### INERT INGREDIENTS:

53.8%

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  
Elf Atochem North America 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

#### STATEMENT OF PRACTICAL TREATMENT

**IF SWALLOWED**, induce vomiting immediately by giving two glasses of  
water and sticking finger down throat. Call a physician. Never give any-  
thing by mouth to an unconscious person.

**IF IN EYES**, immediately flush eyes with plenty of water for at least 15  
minutes. Get medical attention if irritation persists.

**IF ON SKIN**, immediately flush skin with plenty of water.

See back panel for Precautionary Statements.

EPA Reg. No. 4581-352

EPA Est. No. 4581-TX-1

Net Contents: \_\_\_\_\_ U.S. Gallons/ \_\_\_\_\_ Liters

Sold by:

**ELF ATOCHEM NORTH AMERICA, INC.—AGCHEM DIVISION**  
Philadelphia, PA

**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.

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**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling, and with the Worker Protection Standard, 40CFR 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.

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, water, is:

- coveralls;
  - chemical-resistant gloves, such as barrier laminate, butyl rubber >14 mils, nitrile rubber >14 mils, neoprene rubber >14 mils, polyvinyl chloride (PVC) >14 mils, Viton >14 mils; and
  - shoes plus socks.
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**GENERAL INFORMATION**

Apply TOPSIN M with ground or aerial equipment, using sufficient volume of spray to provide thorough coverage. Add required amount of TOPSIN M 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. Do not tank mix 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 FL OZ/A rate for concentrate sprayers (less than 4 gallons) and aerial application. Use the FL OZ/100 GAL rate for dilute ground application.

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TOPSIN M 4.5F

Crop	Diseases	Fl Oz/A	Fl Oz 100 Gal	Remarks
Almonds	Brown Rot Blossom Blight ( <i>Monilinia</i> sp.)	30-40		Apply at early pink bud and early petal fall
Apples (pre- harvest)	Apple Scab ( <i>Venturia</i> sp.) Bitter Rot ( <i>Glomerella</i> sp.) Flyspeck ( <i>Schizothyrus</i> sp.) Powdery Mildew ( <i>Podosphaera</i> sp.) Sooty Blotch ( <i>Gloeodes</i> sp.) Black Rot ( <i>Phytophthora</i> sp.)	20-30	5-7 1/2	Apply at 5- to 10-day intervals from green tip through petal fall. continue at 7- to 14-day intervals in cover sprays.  NOTE For control of apple diseases in the Southeastern States of Florida, Georgia, South Carolina, North Carolina and Alabama, use 60-80 fl oz. TOPSIN M per acre.
Beans	Gray Mold ( <i>Botrytis</i> sp.) White Mold ( <i>Sclerotinia</i> sp.)	30-40  OR 20-30	20-27  OR 13-20	Apply once at 50°F to 70°F of full bloom.  OR Apply twice with the first application at 10°F to 30°F of full bloom and a second application at 4 to 7 days later or at peak bloom. Do not apply to snap or dry beans within 14 days of harvest or to lima beans within 28 days of harvest.
Celery	Early Blight ( <i>Caracopora</i> sp.) Late Blight ( <i>Septoria</i> sp.)	10		Apply to the base of the plants on a 14- to 21-day schedule beginning about 2 weeks after transplanting  OR Apply as a foliar spray every 7 to 14 days beginning about 2 weeks after transplanting. Do not apply within 7 days of harvest. Do not make more than 4 applications per season
Peasuts	Leaf Spot ( <i>Caracopora</i> spp.)	10		Begin applications 35 days after planting or when disease first appears and repeat at 14- to 21-day intervals as needed. Use the 14-day interval under severe disease pressure. Do not apply within 14 days of harvest.
Pecans	Brown Spot ( <i>Caracopora</i> sp.) Downy Spot ( <i>Mycosphaerella</i> sp.) Powdery Mildew ( <i>Microsphaera</i> sp.) Scab ( <i>Fusicladium</i> sp.)	10-20		Use the higher rate for trees over 30 feet tall and for aerial applications in Arkansas, Louisiana, Mississippi, Oklahoma, and Texas. Begin applications when first leaves are showing and repeat at 3- to 4-week intervals until shuck split. Do not apply after shuck split

BEST AVAILABLE COPY

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Topsin® M 4.5F

Crop	Diseases	Fl Oz/A	Fl Oz 100 Gal	Remarks
Soybeans	Anthraxnose (Colletotrichum sp.) Brown Spot (Septoria sp.) Frogeye Leaf Spot (Cercospora sp.) Pod and Stem Blight (Diaperthia sp. and the imperfect stage, Phoma sp.) Purple Seed Stain (Cercospora sp.)	10-20		Apply from full bloom to when pods are $\frac{1}{4}$ " to $\frac{1}{2}$ " in length. Make a second application 14 to 21 days later. Do not make the second application later than 14 days after pods average $\frac{1}{4}$ " in length or when beans form in the pod. Use the high rate under severe disease pressure. <b>FOR SEED BEANS ONLY</b> —For seed quality make a single application at the high rate when beans form in the pod. Do not make more than 2 applications per year. Do not graze or feed treated vines or hay to livestock.
Stone Fruits (pre-harvest) —Apricots	Brown Rot Blossom Blight (Monilinia sp.) Fruit Brown Rot (Monilinia sp.)	30	10	Apply at early bloom (red bud). Make a second application at full bloom. In addition, for Fruit Brown Rot, apply 1 or 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10- to 14-day intervals between full bloom and final pre-harvest sprays. Do not apply within 1 day of harvest.
—Cherries	Brown Rot Blossom Blight (Monilinia sp.) Fruit Brown Rot (Monilinia sp.)	30	10	Apply at early bloom (early popcorn). Make a second application at full bloom. In addition, for Fruit Brown Rot, apply 1 or 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10- to 14-day intervals between full bloom and final preharvest sprays. Do not apply within 1 day of harvest.
	Cherry Leaf Spot (Coccomyces sp.)	24-30	8-10	Apply 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. Do not apply within 1 day of harvest.
	Powdery Mildew (Podosphaera sp. and Sphaerotheca sp.)	30 PLUS 24-30	10 PLUS 8-10	Apply at early bloom (early popcorn). Make a second application at full bloom. <b>PLUS</b> Apply at shuck fall and first cover. Do not apply within 1 day of harvest.

Crop	Diseases	Fl Oz/A	Fl Oz 100 Gal	Remarks
—Nectarines	Brown Rot Blossom Blight (Monilinia sp.) Fruit Brown Rot (Monilinia sp.)	30	10	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. In addition, for Fruit Brown Rot, apply 1 or 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10- to 14-day intervals between full bloom and final preharvest sprays. Do not apply within 1 day of harvest.
—Peaches	Brown Rot Blossom Blight (Monilinia sp.) Fruit Brown Rot (Monilinia sp.)	30-45	10-15	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. In addition for Fruit Brown Rot, apply 1 or 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10- to 14-day intervals between full bloom and final preharvest sprays. Do not apply within 1 day of harvest.
	Peach Scab (Cladosporium sp.)	30-45 PLUS 24-30	10-15 PLUS 8-10	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. <b>PLUS</b> Apply at shuck split and at first cover sprays. Do not apply within 1 day of harvest.
—Plums and Prunes	Brown Rot Blossom Blight (Monilinia sp.) Fruit Brown Rot (Monilinia sp.)	30	10	Apply at early bloom (green tip). Make a second application at full bloom. In addition for Fruit Brown Rot, apply 1 or 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10- to 14-day intervals between full bloom and final preharvest sprays. Do not apply within 1 day of harvest.
	Black Knot (Dibetreyia sp.)	30	10	Apply at pre-bloom, petal fall, and at first, second, and third cover sprays at 10- to 14-day intervals. Do not apply within 1 day of harvest.
	Leaf Spot (Coccomyces sp.)	30	10	Apply at petal fall, shuck, and at first, second and third cover sprays at 10- to 14-day intervals and 1 spray 14 to 21 days after harvest. Do not apply within 1 day of harvest.

BEST AVAILABLE COPY

Crop	Diseases	Fl Oz/A	Fl Oz 100 Gal	Remarks
Straw- berries	Fruit Rot (Botrytis sp.) Leaf Blight (Dendrophoma sp.) Leaf Scorch (Diplocarpon sp.)	15-20		Begin applications at early bloom and continue at 7- to 10-day intervals. Use the higher rate East of the Rocky Mountains and under conditions of severe disease pressure. Do not apply within 1 day of harvest.
Sugar Beets	Leaf Spot (Cercospora sp.)	8-10		Begin applications when disease first appears and repeat at 14- to 21-day intervals as needed. Do not apply within 21 days of harvest.
Sugar Cane (Hawaii only)	Pineapple Disease (Thielaviopsis sp. or Ceratocythia sp.)		10 (1:1,600)	Apply to cut seed pieces as a cold or hot dip. Cold Dip—Immerse seed pieces to provide thorough coverage; remove and allow to drain.
			5 (1:3,200)	Hot Dip—Maintain temperature of dip at 52°C and soak seed pieces for 20 minutes; remove and allow to drain. Do not use treated seed pieces for food, feed or fodder. Do not graze or feed treated forage to livestock.

**FOR USE ON FALL-SEEDED WHEAT IN IDAHO, OREGON AND  
WASHINGTON ONLY**  
(Not for use in California)

Diseases	Fl Oz/A	Fl Oz/100 Gal	Remarks
Pseudocercospora sp. (Foot Rot, Strawbreaker, Eye Spot)	20		Apply TOPSIN M at the rate indicated in a single application by air or ground after wheat is tillered but before stem elongation has begun. Use sufficient water to obtain thorough coverage. Do not make more than one application per season. Do not cut for hay within 90 days of application. Do not allow livestock to graze in treated areas before harvest.

### CHEMIGATION

#### NOT FOR THIS USE IN CALIFORNIA GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect chemigation system to any public water system. Public water system means a system for the provision of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

#### SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

#### INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

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

Apply TOPSIN M 4.5F only through systems containing anti-siphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

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

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

TOPSIN M 4.5F may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

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

#### SPRAY PREPARATION

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of TOPSIN M 4.5F in a mix tank. Fill the tank with 1/2 or 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of TOPSIN M 4.5F and then the remaining volume of water.

#### APPLICATION INSTRUCTIONS:

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of TOPSIN M 4.5F into the irrigation water line so as to deliver the desired rate per acre. The suspension of TOPSIN M 4.5F should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with TOPSIN M 4.5F has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

TOPSIN M 4.5F

PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS (AND DOMESTIC ANIMALS)

**CAUTION**

HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN, OR INHALED. CAUSES MODERATE EYE IRRITATION.

**PERSONAL PROTECTIVE EQUIPMENT**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category C on an EPA chemical resistance selection chart.

Applicators and other handlers must wear:

- long-sleeved shirt and long pants;
- chemical-resistant gloves, such as barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, polyvinyl chloride (PVC)  $\geq 14$  mils, Viton  $\geq 14$  mils; 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.



TOPSIN M 4-SF

**STORAGE AND DISPOSAL**

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

**Storage Instructions:** Store in the original container. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling, absorb with sand or other inert material and dispose of absorbent in accordance with the Pesticide Disposal instructions listed below.

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

**Container Disposal Instructions:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**WARRANTY AND DISCLAIMER**

Elf Atochem North America warrants that this material conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the Directions for Use, subject to the risks referred to therein. ELF ATOCHEM MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. IN NO CASE SHALL ELF ATOCHEM OR SELLER BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT INCLUDING, BUT NOT LIMITED TO, LOSS OF PROFITS, BUSINESS REPUTATION, OR CUSTOMERS; LABOR COST; OR OTHER EXPENSES INCURRED IN PLANTING OR HARVESTING.

Elf Atochem and seller offer this product and the buyer and user accept it subject to the foregoing conditions of sale and warranty which may be varied only by agreement in writing signed by a duly authorized representative of Elf Atochem.

Made and Printed in the U.S.A.

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# **TOPSIN® M 4.5F**

## **TURF AND ORNAMENTALS FUNGICIDE**

**4.5 Pounds per Gallon Flowable**

**ACTIVE INGREDIENT:**

Thiophanate-methyl (dimethyl[(1,2-phenylene)-bis(iminocarbonothioyl)]bis(carbamate))\* ..... 46.2%

**INERT INGREDIENTS:** ..... 53.8%

**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 Elf Atochem North America. 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**

#### **STATEMENT OF PRACTICAL TREATMENT**

**IF SWALLOWED**, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Call a physician. Never give anything by mouth to an unconscious person.

**IF IN EYES**, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

**IF ON SKIN**, immediately flush skin with plenty of water.

**IF INHALED**, remove victim to fresh air. If not breathing, give artificial respiration. Get medical attention.

EPA Registration No. 4581-352

EPA Establishment No. 4581-TX-1

Sold by:

**ELF ATOCHEM NORTH AMERICA—AGCHEM DIVISION**

Philadelphia, PA

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

**HARMFUL IF SWALLOWED, ABSORBED THROUGH SKIN, OR INHALED. CAUSES MODERATE EYE IRRITATION.**

**PERSONAL PROTECTIVE EQUIPMENT**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category C on an EPA chemical resistance selection chart.

Applicators and other handlers must wear:

- long-sleeved shirt and long pants;
- chemical-resistant gloves, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, Viton ≥14 mils; 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.

TOPSIN M 4.5F

**DIRECTIONS FOR USE**

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**AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling, and with the Worker Protection Standard, 40CFR 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.

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, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, polyvinyl chloride (PVC) ≥14 mils, Viton ≥14 mils; and
- shoes plus socks.

**GENERAL INFORMATION**

Apply TOPSIN M with ground or aerial equipment, using sufficient volume of spray to provide thorough coverage. Add required amount of TOPSIN M 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. Do not tank mix 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.

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

**IMPORTANT:** If, after using TOPSIN M as recommended, treatment is not effective, a tolerant strain of fungi may be present. Consult your State Agricultural Experiment Station or your State Agricultural Extension Service for advice on the prompt use of some other suitable fungicide.

SHAKE WELL BEFORE USING.

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TOPSIN M 4.5F

#### TURF

For use on all fine turf applications such as industrial lawns, athletic fields, home lawns (by professional applicators), cemeteries, golf course greens, tees, and fairways of Bentgrasses, Bluegrasses, Bermudagrasses, Fescues, Ryegrasses, St. Augustinegrasses, or their mixtures. TOPSIN M 4.5F is not phytotoxic to any of the above mentioned grasses when used in accordance with the label. TOPSIN M 4.5F is to be used for the prevention and control of the below mentioned diseases (provides both curative and protective action).

Use spray mixture the same day it is prepared. Spray uniformly over the area to be treated with a properly calibrated power sprayer. Apply after mowing or avoid mowing for twelve hours after application.

Apply recommended amounts in sufficient water to obtain thorough coverage, usually five gallons per 1,000 square feet of turf area. When treating golf greens, always treat aprons and approaches. Use the highest recommended rate under conditions of severe disease pressure.

**FUSARIUM BLIGHT** (*Fusarium roseum*), **SUMMER PATCH** (*Magnaporthe poae*), **NECROTIC RING SPOT** (*Leptosphaeria korrae*)—Apply TOPSIN M 4.5F at 5-10 fluid ounces per 1,000 square feet. Water into the root zone by irrigating with one inch of water immediately after application. Make two applications at 10-14 day intervals, beginning applications when the disease first appears.

**DOLLAR SPOT** (*Sclerotinia homoeocarpa*), **ANTHRACNOSE** (*Colletotricum graminicola*)—Apply TOPSIN M 4.5F at 1 to 2 fluid ounces per 1,000 square feet beginning when the disease first appears. Spray should dry on leaf surfaces with no "watering in." Continue at 10-14 day intervals through the season or as needed.

**LARGE BROWN PATCH** (*Rhizoctonia solani*), **COPPER SPOT** (*Gloeosporium sorghi*), **RED THREAD** (*Corticium fuciforme*), **FUSARIUM PATCH** (*Fusarium nivale*)—Apply TOPSIN M 4.5F at 1 to 2 fluid ounces per 1,000 square feet beginning when the disease first appears and continue at 10-14 day intervals through the season or as needed. Spray should dry on leaf surfaces with no "watering in." When conditions are unusually favorable for development of disease, reduce interval to 5 to 7 days.

**STRIPE SMUT** (*Ustilago striiformis*)—Apply TOPSIN M 4.5F at 5 to 10 ounces per 1,000 square feet. Water into the root zone by irrigating with one inch of water immediately after application. Make two applications at 14-21 day intervals. Begin applications when the disease first appears, either in the spring or fall.

Note to user: Do not apply to areas likely to be grazed by livestock and do not feed clippings to livestock or poultry.

#### ORNAMENTALS (FIELD AND GREENHOUSE)

TOPSIN M 4.5F is a broad spectrum systemic fungicide which controls a variety of diseases on woody and herbaceous ornamental crops.

TOPSIN M 4.5F is also effective as a preplant dip on cuttings and bulbs. This product may be used to control the listed diseases on ornamental almond, apple, apricot, cherry, nectarine, peach, pecan, plum, and prune trees.

## FOLIAR SPRAY— PLANT TYPES AND DISEASES CONTROLLED

DISEASE(S) CONTROLLED	PLANT TYPES
Anthrachnose	woody ornamentals, shade trees(1)
Ascochyta Blight	herbaceous ornamentals
Black Spot	roses
Botrytis (Gray Mold)	woody and herbaceous ornamentals
Cercospora Leaf Spot	woody and herbaceous ornamentals
Corynespora Leaf Spot	ligustrum
Didymella Leaf Spot	iris
Diplodea Tip Blight (Diplodea piea)	shade and ornamental trees
Ovulinia	azalea, rhododendron(2)
Entomosporium Leaf Spot	woody and herbaceous ornamentals
Phomopsis Blight	woody and herbaceous ornamentals
Powdery Mildew	woody and herbaceous ornamentals, ornamental nut and fruit trees
Ramularia Leaf Spot	herbaceous ornamentals
Scab	pyracantha, flowering crab, ornamental fruit and nut trees
Septoria Leaf Spots	woody and herbaceous ornamentals

### KEY TO NOTES:

(1) Begin at bud break and make 2 or 3 additional applications at 10 to 14 day intervals.

(2) Begin treatment as flowers open.

Addition of a surfactant to the spray mixture improves distribution of the spray on hard-to-wet plants such as roses.

## I. FOLIAR SPRAY—HYDRAULIC APPLICATION

**Mixing Instructions:** Add required amount of TOPSIN M 4.5F to partially filled tank agitated by mechanical or hydraulic means and then add remaining required amount of water. Maintain continuous agitation to keep the material in suspension and apply with properly calibrated spray equipment. Apply until leaves glisten, but not to point of runoff.

**Application Rates and Timing for Disease Control:** Begin application when disease first appears and repeat at 10 to 14 day intervals during the growing season. Shorten the interval during humid, rainy weather.

**Ground Application—**Use 20 fluid ounces of TOPSIN M 4.5F per 100 gallons of water. For control of Powdery Mildew and Botrytis (Gray Mold), use 10 fluid ounces of TOPSIN M 4.5F per 100 gallons of water, or 1 teaspoonful per 2 gallons of water.

**Aerial Application—**Use 10-20 fluid ounces of TOPSIN M 4.5F per acre.

## II. DRENCH—PLANT TYPES AND DISEASES CONTROLLED

DISEASE(S) CONTROLLED	PLANT TYPES
Botrytis	herbaceous annuals, perennials and bedding plants
Fusarium	herbaceous annuals, perennials and bedding plants
Rhizoctonia	herbaceous annuals, perennials and bedding plants
Sclerotinia stem, crown and root rots	herbaceous annuals, perennials and bedding plants
Cylindrocladium rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)
Thielaviopsis rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)

NOTE: TOPSIN M 4.5F does not control *Pythium* spp. or *Phytophthora* spp.

**Mixing Instructions:** Add required amount of TOPSIN M 4.5F to partially filled tank agitated by mechanical or hydraulic means and then add remaining required amount of water. Maintain continuous agitation to keep the material in suspension.

**Application Rates and Timing for Disease Control:** Use 20 fluid ounces of TOPSIN M 4.5F per 100 gallons of water. Apply as a drench or heavy spray to 800 sq. ft. of bench area (1 to 2 pints per square foot) after transplanting into propagation beds or containers. Repeat at 2 to 4 week intervals during periods favorable for disease.

## PREPLANT DIP TREATMENT— PLANT TYPES AND DISEASES CONTROLLED:

DISEASE(S) CONTROLLED	PLANT TYPES
All diseases listed under drench treatment	plants or cuttings of woody and herbaceous ornamentals
Fusarium and Penicillium rots	bulbs (Easter Lily, Tulip, Gladiolus, Daffodil, Iris)

### Application Rates and Timing for Disease Control:

**Note to user:** Operator should wear protective gloves for application.

**Plants or cuttings—**Use 20 fluid ounces of TOPSIN M 4.5F per 100 gallons of water. Immerse plants or cuttings for 10 to 15 minutes; remove and allow to drain. Wear rubber gloves.

**Bulbs—**Use 33 fluid ounces of TOPSIN M 4.5F per 100 gallons of water, or 2 teaspoonfuls of TOPSIN M 4.5F per gallon of water. Soak cleaned bulbs for 15 to 30 minutes in warm dip (80 to 85 degrees F) preferably within 48 hours of digging. Dry bulbs after treatment. If bulbs are for forcing, treat bulbs that have been heat-cured.

## CHEMIGATION

### NOT FOR THIS USE IN CALIFORNIA GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, and tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

Do not connect chemigation system to any public water system. Public water system means a system for the provision of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

### SYSTEM REQUIREMENTS

Systems utilizing a pressurized water and pesticide injection system must meet the following requirements.

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

#### INSTRUCTIONS FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

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

Apply TOPSIN M only through systems containing anti-siphon and check valves designed to prevent water source contamination or overflow of the mix tank and containing interlocking controls between the metering device and the water pump to insure simultaneous shut-off.

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time.

Application of more than recommended quantities of irrigation water per acre may result in decreased product performance.

Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

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

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water.

TOPSIN M may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.

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

#### SPRAY PREPARATION

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of TOPSIN M in a mix tank. Fill the tank with  $\frac{1}{2}$  or  $\frac{3}{4}$  the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of TOPSIN M and then the remaining volume of water.

#### APPLICATION INSTRUCTIONS

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of TOPSIN M into the irrigation water line so as to deliver the desired rate per acre. The suspension of TOPSIN M should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with TOPSIN M has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

### STORAGE AND DISPOSAL

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

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

**Container Disposal Instructions:** 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.

#### WARRANTY AND DISCLAIMER

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