



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

April 30, 2020

John Wrubel  
Regulatory Affairs Director  
Nippon Soda Co., Ltd.  
c/o Nisso America Inc.  
88 Pine Street, 14<sup>th</sup> Floor  
New York, NY 10005

Subject: PRIA Label Amendment – Revising the directions for use for almonds, grapes, stone fruit and soybeans  
Product Name: Topsin 4.5FL Fungicide  
EPA Registration Number: 8033-122  
Application Date: 8/29/2018  
Decision Number: 543813

Dear Mr. Wrubel:

The amended label referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable. This approval does not affect any conditions that were previously imposed on this registration. You continue to be subject to existing conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

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Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6. If you have any questions, please contact Nathan Mellor by phone at 703-347-8562, or via email at [mellor.nathan@epa.gov](mailto:mellor.nathan@epa.gov).

A handwritten signature in black ink that reads "Shaja B. Joyner". The signature is written in a cursive style with a large initial 'S'.

Shaja B. Joyner, Product Manager 20  
Fungicide-Herbicide Branch  
Registration Division 7505P

Enclosure

**ACCEPTED**

04/30/2020

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 8033-122

Thiophanate-methyl	GROUP 1	FUNGICIDE
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# TOPSIN® 4.5 FL Fungicide

**ACTIVE INGREDIENT:**

Thiophanate-methyl (dimethyl[1,2-phenylene]-bis(iminocarbonothioyl)]bis[carbamate])\* ..... 45.0%

**OTHER INGREDIENTS:** ..... 55.0%

**TOTAL:** ..... 100.0%

Contains 4.5 pounds thiophanate-methyl per gallon.

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

TOPSIN is a registered trademark of Nippon Soda Company, Ltd.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**FIRST AID**

**If inhaled:**

- 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 center or doctor for further 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. Contact the Rocky Mountain Poison Control Center at 1-866-673-6671 for emergency medical treatment information.

EPA Reg. No.8033-122

NET CONTENTS: \_\_\_\_\_ Gallons

EPA Est. No.

Batch/Lot # \_\_\_\_\_

Nippon Soda Co., Ltd.  
c/o Nisso America Inc.  
379 Thornall Street; 5<sup>th</sup> Floor  
Edison, NJ 08837

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if absorbed through the skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash hands before eating, drinking, chewing gum, using tobacco products, or using the toilet.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils, neoprene rubber  $\geq 14$  mils, natural rubber  $\geq 14$  mils, polyethylene, polyvinyl chloride (PVC)  $\geq 14$  mils, and viton  $\geq 14$  mils.

Handlers mixing, loading, and applying the product as a dip must wear:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves,
- Chemical-resistant footwear plus socks,
- Chemical-resistant apron.

All other mixers, loaders, and applicators must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves,
- Chemical-resistant apron for mixers, loaders, and other handlers exposed to the concentrate.

Seed treatment applicators and other seed treatment handlers must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves for all mixers and loaders and for applicators using hand-held equipment,
- Chemical-resistant apron for mixers, loaders, and other handlers exposed to the concentrate.

Note: Persons involved in bagging treated seed, sewing or moving bags of treated seed, or cleaning up bagging areas or seed treatment equipment are pesticide handlers and must wear the PPE required on this label for pesticide handlers.

### USER SAFETY REQUIREMENTS

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

## **ENGINEERING CONTROLS**

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

## **USER SAFETY RECOMMENDATIONS**

- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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**

**DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment wash water.

## **DIRECTIONS FOR USE**

### **SHAKE WELL BEFORE USING**

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

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

## **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).

Exemption: The Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

**DO NOT** enter or allow workers entry into treated areas during the restricted-entry interval (REI). The REI for each crop is listed in the directions for use associated with that crop.

Exemption: If this product is applied by drenching or if treated seed is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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, including plants, soil, or water, is:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposures.

## **PRODUCT INFORMATION**

Apply Topsin 4.5 FL with ground or aerial equipment, using sufficient volume of spray to provide thorough coverage. Continuous agitation is required to keep the material in suspension.

Begin applications as disease is first observed or expected. Tank mixing with a protectant fungicide is directed for resistance management. Use the higher rate under conditions of severe disease pressure. Also, see local State Extension Service directions for application schedules.

**Aerial Applications.** Use a minimum of 5 gallons of spray volume per acre for row crops, and a minimum of 10 gallons of spray volume per acre for tree crops.

**Ground Applications.** Use a minimum of 10 to 20 gallons of spray volume per acre for row crops.

**High Volume Dilute Applications.** Use the Topsin 4.5 FL per acre use rate for concentrate spray application for tree crops (no more than 400 gallons on apples and pears; or 300 gallons on stone fruit). When making dilute ground application, use Topsin 4.5 FL use rate per 100 gallons. Follow all crop specific application language on this label.

Higher spray volumes will result in better coverage and better disease control. Lack of control when using below minimum spray volumes is solely at the risk of the applicator/user. This includes the use of electrostatic sprayers.

**Chemigation:** Please see DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS for specific information. **DO NOT** apply through any irrigation system unless these instructions are followed.

Topsin 4.5 FL may be used for control of labeled diseases during the non-bearing years of new planting of tree fruit and tree nuts, and on nursery stock.

Plantback restrictions: **DO NOT** plant any crop not labeled for Topsin use within 30 days of last application.

### **RESISTANCE MANAGEMENT:**

For resistance management, Topsin 4.5 FL contains a Group 1 fungicide. Any fungal population may contain individuals naturally resistant to Topsin 4.5 FL and other Group 1 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of Topsin 4.5 FL Fungicide or other Group 1 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which 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 applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM directions for specific crops and pathogens.
- For further information or to report suspected resistance contact Nippon Soda Co., Ltd. at 212-490-0350. You can also contact your pesticide distributor or university extension specialist to report resistance.

#### Mixing instructions:

**SHAKE WELL BEFORE USING.** Some settling may occur during prolonged periods of non-use. When high pH tank mixes exist, the interval between mixing and application should be minimized. The buffering of tank water to pH 6-7 prior to the addition of Topsin 4.5 FL is directed. Add required amount of Topsin 4.5 FL to a partially filled tank (1/2 total volume), agitate by mechanical or hydraulic means, add tank mix product if used (see below), agitate again and then add remaining required amount of water.

Continuous agitation is directed to keep the material in proper suspension. For best results, use spray mixture the same day it is prepared.

Tank mixing instructions:

Topsin 4.5 FL may be tank-mixed with fungicides, insecticides and/or plant growth regulators that are approved for use on the intended crop. Consult the intended tank mix partner product label for appropriate application rates and use instructions.

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

Topsin 4.5 FL is compatible with most commonly used pesticides. If tank mixing with other materials, add products in the following order: wettable powders, dry flowables, liquid flowables, emulsifiable concentrates, and soluble materials including fertilizers. Tank mixes with highly alkaline pesticides, including Bordeaux mixture or lime sulfur are not advised.

No claim of compatibility with other pesticides is implied. It is directed to perform a Compatibility Jar Test to ensure tank mix product compatibility prior to use. See Compatibility Test section of this label for more information.

**Compatibility Test for Mix Components**

It is advised a Compatibility Jar Test be conducted for uncertainty of tank mix products. For 20 gallons per acre spray volume, use 3.3 cups of water from intended source. Add components in the sequence indicated above in Mixing Instructions using 2 teaspoons for each pound or 1 teaspoon for each pint of specified label rate per acre. Tightly replace cap on the jar and invert 10 cycles between component additions.

When all tank mix products have been added to the jar and properly mixed, let sit for 15 minutes. Evaluate the solution for uniformity and stability. The mixed spray solution should not have fine particles on the bottom, nor a thick texture, nor free oil on the surface. If tank mix partners are not compatible, test with the addition of a suitable compatibility agent.

**Mandatory Spray Drift Requirements**

Aerial applications

- **DO NOT** release spray at a height greater than 10 ft above the vegetative canopy, unless a greater application height is necessary for pilot safety.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- The boom length must not exceed 65% of the wingspan for airplanes or 75% of the rotor blade diameter for helicopters.
- Applicators must use ½ swath displacement upwind at the downwind edge of the field.



## **Mandatory Spray Drift Requirements continued**

- Nozzles must be oriented so the spray is direct toward the back of the aircraft.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

### Ground applications

- Apply with the nozzle height recommended by the manufacturer, but not more than 3 feet above the ground or crop canopy.
- For all applications, applicators are required to use a medium or coarser spray droplet size (ASABE S572.1).
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

### Boom-less ground applications

- Applicators are required to use a medium or coarser spray droplet size (ASABE S572.1) for all applications.
- **DO NOT** apply when wind speeds exceed 10 miles per hour at the application site.
- **DO NOT** apply during temperature inversions.

### ○ Spray Drift Advisories

- THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.
- BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.
- IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

#### Controlling Droplet Size - Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

#### Controlling Droplet Size - Aircraft

- Adjust Nozzles - Follow nozzle manufacturers recommendations for setting up nozzles. Generally, to reduce fine droplets, nozzles should be oriented parallel with the airflow in flight.
- **BOOM HEIGHT - Ground Boom**  
Use the lowest boom height that is compatible with the spray nozzles that will provide uniform coverage. For ground equipment, the boom should remain level with the crop and have minimal bounce.
- **RELEASE HEIGHT - Aircraft**  
Higher release heights increase the potential for spray drift. When applying aerially to crops, **DO NOT** release spray at a height greater than 10 ft above the crop canopy, unless a greater application height is necessary for pilot safety.
- **SHIELDED SPRAYERS**  
Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.
- **TEMPERATURE AND HUMIDITY**  
When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.
- **TEMPERATURE INVERSIONS**  
Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.
- **WIND**  
Drift potential generally increases with wind speed. **AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.**  
Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.
- **Boom-less Ground Applications:**  
Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.
- **Handheld Technology Applications:**  
Take precautions to minimize spray drift.

## Crop Specific Directions

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
Almonds	Brown Rot Blossom Blight (Monilinia) Scab (Cladosporium) Jacket Rot (Monilinia, Sclerotinia, Botrytis) Leaf Blight (Seimatosporium)	20 – 30 (0.7 – 1.05)		<p>Apply as needed at 10 to 14-day intervals between pink bud and petal fall. Apply alone at pink bud for Brown Rot control. For all other applications, apply with a contact fungicide including Ziram 76DF (EPA Reg. No. 70506-173, ziram) or Manzate Pro-Stick (EPA Reg. No. 70506-234, mancozeb) for broad-spectrum control and resistance management.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 30.0 fl. oz./A (1.05 lb ai/A) per application.</li> <li>-<b>DO NOT</b> apply more than 60.0 fl. oz. of product (2.1 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is ten (10) days.</li> <li>-<b>DO NOT</b> apply more than three (3) applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days</li> </ul>
Apples	Apple Scab (Venturia) Black Pox* (Helminthosporium papulosum) Flyspeck (Zygophiala) Powdery Mildew (Podosphaera) Sooty Blotch (Gloeodes) Black Rot (Botryosphaeria obtusa) Brooks Fruit Spot	15-20 (0.53 – 0.7) (in CA use 30 (1.05))	3.75 – 5 (0.13 – 0.18)	<p>Apply at 5- to 10-day intervals from green tip through petal fall; continue at 7- to 14-day intervals in cover sprays.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 20.0 fl. oz./A (0.7 lb ai/A) per application.</li> <li>-In California, <b>DO NOT</b> apply more than 30 fl. oz./A (1.05 lb ai/A) per application.</li> <li>-<b>DO NOT</b> apply more than 80.0 fl. oz. of product (2.8 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is five (5) days.</li> </ul>

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
	(Mycosphaerella) White Rot* (Botryosphaeria dothidia)  *Not for use in California			- <b>DO NOT</b> apply more than five (5) applications per year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days -PHI: 1 day
Pre-Harvest use to control Post-Harvest Diseases on Apples				
	Storage Rot Blue Mold (Penicillium expansum) Gray Mold (Botrytis cinerea) Bulls-Eye Rot (Neofabraea spp.)	15-20 (0.53 – 0.7)	3.75 - 5 (0.13 – 0.18)	Apply as a pre-harvest spray within 2 weeks to 3 days of harvest. Thorough coverage of the fruit is required. Application closer to harvest may provide better efficacy. For resistance management, <b>DO NOT</b> use a benzimidazole fungicide post- harvest following Topsin 4.5 FL pre- harvest application. Application of a non-benzimidazole post-harvest fungicide will provide additional protection from post- harvest diseases.  <b>Restrictions:</b> - <b>DO NOT</b> apply more than 20.0 fl. oz./A (0.7 lb ai/A) per application. - <b>DO NOT</b> apply more than 80.0 fl. oz. of product (2.8 lbs a.i.)/A/year. -The minimum retreatment interval is five (5) days. - <b>DO NOT</b> apply more than five (5) applications per year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days -PHI: 1 day
Beans, dry and succulent	White Mold (Sclerotinia)	30-40 (1.05 –		For one application: Apply when 100% of plants have at least one open

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
<p>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</p>	<p>Gray Mold (Botrytis) Anthracnose (Colletotrichum)</p>	<p>1.4)</p> <p><b>OR</b></p> <p>20-30 (0.7 – 1.05)</p>		<p>bloom or when conditions are favorable for disease development.</p> <p><b>OR</b></p> <p>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.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 40.0 fl. oz./A (1.4 lb ai/A) per application.</li> <li>-<b>DO NOT</b> apply more than 80.0 fl. oz. of product (2.8 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is four (4) days.</li> <li>-<b>DO NOT</b> apply more than five (5) applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day for succulent beans.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days for dry beans.</li> </ul> <p>-PHI: <b>California only</b>, 14 days for succulent beans, 28 days for dry beans and lima beans.</p> <p>-PHI: <b>all other States</b>, 14 days for succulent beans and lima beans, 28 days for dry beans.</p>

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
Cucurbits: Cantaloupe, Casaba, Cucumbers, Melons, Pumpkins, Summer and Winter Squash, and Watermelons				<p>Topsin 4.5FL can be used in a tank mix with a protectant fungicide including Manzate Pro-Stick (EPA Reg. No. 70506-234, mancozeb), Penncozeb (EPA Reg. No. 70506-185, mancozeb), or Oranil 6L (EPA Reg. No. 70506-262, chlorothalonil) for additional disease control and resistance management. .</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 10 fl.oz. of product (0.35 lb a.i./A) per application.</li> <li>-<b>DO NOT</b> apply more than 60 fl. oz. of product (2.1 lbs a.i.)/A/year from any combination of application timings.</li> <li>-The minimum retreatment interval is 4 days.</li> <li>-<b>DO NOT</b> make more than 5 applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.</li> <li>- PHI: 1 day</li> </ul>
	Acremonium/ Cephalosporium Hypocotyl Rot	10 (0.35)		<p>Apply in-furrow, on top of the seeds at planting.</p> <p><b>Restrictions:</b> <b>DO NOT</b> use less than 10 gallons of water per acre.</p>
	Anthracnose* (Colletotrichum) Gummy Stem Blight* (Didymella) Powdery Mildew (Erysiphe, Sphaerotheca)			<p>Begin applications when plants begin to run or when disease first appears and repeat at 7 to 14 day intervals or as needed. For Target Spot, use at 7-day intervals as needed.</p>

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
	Target Spot* (Corynespora)  *Not for use in California			
	Belly Rots* (Rhizoctonia, Fusarium)  *Not for use in California			Apply in sufficient volume to allow runoff to the soil. Will not control Pythium or Phytophthora.
	Suppression of Vine Decline (Monosporascus) Charcoal Rot (Macrophomina)			Apply through buried drip irrigation (chemigation) to the root zone. Apply at 14-day intervals, beginning at emergence and continuing to harvest. Applications weekly or biweekly, beginning 4 to 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		20 (0.7)	Completely immerse garlic cloves in suspension for at least 5 minutes. Continuously agitate the solution tank by hydraulic or mechanical means. After treatment, remove cloves from solution and drain. Dry cloves after treatment and prior to planting.
Onions* Garlic (In furrow)  *Not for use in California	White Rot (Sclerotium cepivorum)	40 (1.4) Broadcast equivalent		Spray directly into the open furrow at the time of planting seed, sets or bulbs.  <b>Restrictions:</b> -Not for this use through any type of irrigation system. - <b>DO NOT</b> apply more than 40 fl. oz. (1.4 lbs a.i.) of product per application. - <b>DO NOT</b> make for than one

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
				<p>application per year.</p> <p><b>-DO NOT</b> apply more than 40 fl. oz. of product (1.4 lbs a.i.)/A/year.</p> <p><b>-DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.</p>
Peanuts	<p>Early Leaf Spot (Cercospora)</p> <p>Late Leaf Spot (Cercosporidium)</p> <p>Rust (Puccinia)</p> <p>Limb Rot (Rhizoctonia)</p> <p>Web Blotch (Ascochyta)</p>	10 (0.35)		<p>Begin applications when disease first appears and repeat at 14-day intervals as needed.</p> <p><b>Restrictions:</b></p> <p><b>-DO NOT</b> apply more than 10 fl. oz. (0.35 lbs a.i.) of product per application.</p> <p><b>-DO NOT</b> apply more than 40 fl. oz. of product (1.4 lbs a.i.)/A/year.</p> <p>-The minimum retreatment interval is 14 days.</p> <p><b>-DO NOT</b> apply more than 4 applications per year.</p> <p>-Topsin 4.5FL should not be used alone. Use only in combination with a non-benzimidazole fungicide including Manzate Pro-Stick (EPA Reg. No. 70506-234, mancozeb), Penncozeb (EPA Reg. No. 70506-185, mancozeb), or Oranil 6L (EPA Reg. No. 70506-262, chlorothalonil)</p> <p><b>-DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.</p> <p>-PHI: 14 days</p>
Pecans	<p>Brown Spot (Cercospora)</p> <p>Downy Spot</p>	20 (0.7)		<p>Begin applications when first leaves are showing and repeat at 3- to 4-</p>



Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
	(Mycosphaerella) Liver Spot (Gnomonia) Powdery Mildew (Microsphaera) Scab (Fusicladium) Stem End Blight (Botryosphaeria) Zonate Leaf Spot (Cristulariella)			week intervals until shuck split.  <b>Restrictions:</b> - <b>DO NOT</b> apply after shuck split. - <b>DO NOT</b> apply more than 20 fl. oz. (0.7 lbs a.i.) of product per application. -The minimum retreatment interval is 21 days. - <b>DO NOT</b> make more than three applications per year. - <b>DO NOT</b> apply more than 60 fl. oz. of product (2.1 lbs a.i.)/A/year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days. -PHI: 1 day
Pistachios	Shoot Blight (Botrytis, Botryosphaeria)	30 – 40 (1.05 – 1.4)		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.  <b>Restrictions:</b> - <b>DO NOT</b> apply more than 40.0 fl. oz./A (1.4 lb. a.i./A) per application. - <b>DO NOT</b> apply more than 40.0 fl. oz. of product (1.4 lbs a.i.)/A/year. - <b>DO NOT</b> apply more than one (1) application per year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
Potatoes	White Mold (Sclerotinia sclerotiorum)	20-30 (0.7 – 1.05)		<p>Make the first application at row closure to full bloom of the primary flower clusters (prior to petal drop). Repeat the application within 7 to 14 days and at 7- to 14-day intervals if conditions for disease development are favorable. Thorough coverage of the flowers, stems, and branches is essential for disease control.</p> <p>Use a minimum of 6 gallons of water/A for aerial application. Apply prior to the development of disease for optimal results.</p> <p>May be tank mixed with Manzate Pro-Stick (EPA Reg. No. 70506-234, mancozeb) or Penncozeb (EPA Reg. No. 70506-185, mancozeb) for early and late blight control.</p> <p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 30.0 fl. oz./A (1.05 lb. a.i./A) per application.</li> <li>-<b>DO NOT</b> apply more than 80.0 fl. oz. of product (2.8 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is seven (7) days.</li> <li>-<b>DO NOT</b> apply more than four (4) applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days.</li> <li>-Pre-harvest interval: 21 days</li> </ul>

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
Soybeans				<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 40 fl. oz./A (1.4 lb. a.i./A) per for a single application for white mold control otherwise <b>DO NOT</b> apply more than 20 fl. oz./A (0.7 lb. a.i./A) per for a single application.</li> <li>-<b>DO NOT</b> apply more than 40 fl. oz. of product (1.4 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is seven (7) days.</li> <li>-<b>DO NOT</b> apply more than two (2) applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.</li> <li>-Pre-harvest interval: 21 days</li> <li>-<b>DO NOT</b> graze or feed treated vines or hay to livestock.</li> </ul>
Anthracnose (Colletotrichum) Brown Spot (Septoria) Frogeye Leaf Spot (Cercospora) Pod and Stem Blight (Diaporthe, Phomopsis) Purple Seed Stain (Cercospora)		10-20 (0.35 – 0.7)		Apply from full bloom to when pods are 1/8" to 1/4" in length. Make a second application 14 to 21 days later. <b>DO NOT</b> make the second application later than 14 days after pods average 1/4" in length or when beans form in the pod. Use the high rate under severe disease pressure.
		20 (0.7)		FOR SEED BEANS ONLY---For seed quality, make a single application when beans form in the pod.
White Mold (Sclerotinia)		20 (0.7) for split application OR 40 (1.4) for single		For split applications, apply initial application of 20 fl. oz./A at early bloom R-1 stage). Follow with a second application 7 to 14 days later. OR For a single application, apply 40 fl.

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
		application		oz./A at early bloom (R-1 stage).  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)	20 (0.7)		Make initial application when disease threatens and repeat 14 to 21 days later if needed.
Stone Fruit				<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 30 fl. oz./A (1.05 lb. a.i./A) per application.</li> <li>-<b>DO NOT</b> apply more than 80 fl. oz. of product (2.8 lbs a.i./A)/year.</li> <li>-The minimum retreatment interval is ten (10) days.</li> <li>-<b>DO NOT</b> make more than four (4) applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days.</li> <li>-Pre-harvest interval: 1 day</li> </ul>
Apricots	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	20-30 (0.7 – 1.05)  (in California use 30 (1.05))	6.7-10 (0.24 – 0.35)	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 European Brown Rot Fruit Brown Rot (Monilinia)	20-30 (0.7 – 1.05)  (in California use 30	6.7-10 (0.24 – 0.35)	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

<b>Crop</b>	<b>Diseases</b>	<b>Fl. Oz./ Acre (lb a.i./A)</b>	<b>Fl. Oz./100 gal. (lb a.i./100 gal.)</b>	<b>Application Instructions</b>
		(1.05))		bloom and final pre-harvest sprays.
	Cherry Leaf Spot (Coccomyces)	22.5-30 (0.8 – 1.05)	7.5-10 (0.26 – 0.35)	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)	20-30 (0.7 – 1.05) (in California use 30 (1.05))  <b>PLUS</b>  22.5-30 (0.8 – 1.05)	6.7-10 (0.24 – 0.35)  <b>PLUS</b>  7.5-10 (0.26 – 0.35)	Apply at early bloom (early popcorn). Make a second application at full bloom.  <b>PLUS</b>  Apply at shuck fall and first cover.
Nectarines	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	20-30 (0.7 – 1.05) (in California use 30 (1.05))	6.7-10 (0.24 – 0.35)	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)	20-30 (0.7 – 1.05) (in California use 30 (1.05))	6.7-10 (0.24 – 0.35)	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)	20-30 (0.7 – 1.05) (in	6.7-10 (0.24 – 0.35)	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
		California use 30 (1.05)  <b>PLUS</b>  22.5-30 (0.8 – 1.05)	<b>PLUS</b>  7.5-10 (0.26 – 0.35)	development.  <b>PLUS</b>  Apply at shuck split and at first cover sprays.
Plums and Prunes	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	20-30 (0.7 – 1.05)  (in California use 30 (1.05))	6.7-10 (0.24 – 0.35)	Apply at early bloom (green tip). 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)			Apply at pre-bloom, petal fall, and at first, second, and third cover sprays at 10- to 14-day intervals.
	Leaf Spot (Coccomyces)			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.
Strawberries				<p><b>Restrictions:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply more than 20 fl. oz./A (0.7 lb. a.i./A) per application.</li> <li>-<b>DO NOT</b> apply more than 80 fl. oz. of product (2.8 lbs a.i.)/A/year.</li> <li>-The minimum retreatment interval is seven (7) days.</li> <li>-<b>DO NOT</b> apply more than 4 applications per year.</li> <li>-<b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.</li> <li>-Pre-harvest interval: 1 day</li> </ul>

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
	Crown Rot* (Colletotrichum spp.)  Suppression only  *Not for use in California	15-20 (0.53 – 0.7)		Begin applications after establishment of the transplants and continue through first bloom at 10 to 14-day intervals. Use the high rate if the fields have a history of Colletotrichum crown rot and/or conditions are favorable for development of the disease. Will not control Phytophthora species.
	Fruit Rot (Botrytis) Leaf Blight (Dendrophoma) Leaf Scorch (Diplocarpon) Powdery Mildew (Sphaerotheca)			Begin applications at early bloom and continue at 7- to 10-day intervals. Use the higher rate under conditions of severe disease pressure.
	Charcoal Rot (Macrophomina)	20 (0.7)		Apply through buried drip irrigation (chemigation) to the root zone. Apply at 14-day intervals beginning at transplant.
Sugar Beets				<b>Restrictions:</b>  - <b>DO NOT</b> apply more than 20 fl. oz./A (0.7 lb. a.i./A) per application. - <b>DO NOT</b> apply more than 60 fl. oz. of product (2.1 lbs a.i.)/A/year. -The minimum retreatment interval is fourteen (14) days. - <b>DO NOT</b> apply more than 3 applications per year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day. -Pre-harvest interval: 21 days
	Cercospora Leaf Spot (Cercospora)	10–20 (0.35 –		Apply when conditions become favorable for disease development

Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
		0.7)		<p>before the disease appears and follow with a non-benzimidazole fungicide within 14 days of application or as needed.</p> <p>Topsin 4.5FL should be tank mixed with a protectant fungicide including Manzate Pro-Stick (EPA Reg. No. 70506-234, mancozeb), Penncozeb (EPA Reg. No. 70506-185, mancozeb) or Super Tin 4L (EPA Reg. No. 70506-212, triphenyltin hydroxide) when resistant strains of Cercospora are present in the field.</p> <p>For areas east of the Rocky Mountains: <b>DO NOT</b> make more than one application of Topsin 4.5FL per season for Cercospora Leaf Spot.</p>
	Powdery Mildew (Erysiphe)	10–20 (0.35 – 0.7)		<p>Apply as soon as disease symptoms appear and follow with a non-benzimidazole fungicide at a 14-day interval or as needed.</p> <p>Topsin 4.5FL can be tank-mixed with sulfur products including Microthiol Disperss (EPA Reg. No. 70506-187, sulfur) at 5 to 10 lbs/A for additional disease control and resistance management.</p>



Crop	Diseases	Fl. Oz./ Acre (lb a.i./A)	Fl. Oz./100 gal. (lb a.i./100 gal.)	Application Instructions
Triticale and Fall-seeded Wheat  <b>For this use            in Idaho,            Oregon, and            Washington            ONLY</b>	Foot Rot, Strawbreaker, Eye Spot (Pseudocercospora)	20 (0.7)		Apply in a single application by air or ground after tillering but before stem elongation has begun. Use sufficient water to obtain thorough coverage.  <b>Restrictions:</b> - <b>DO NOT</b> apply more than 20 fl. oz. of product (0.7 lb a.i./A) per application. - <b>DO NOT</b> apply more than 20 fl. oz. of product (0.7 lb a.i./A)/year. - <b>DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. - <b>DO NOT</b> cut for hay within 90 days of application. - <b>DO NOT</b> allow livestock to graze in treated areas before harvest.

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

## DIRECTIONS FOR USE

### In the Aid in Control of Certain Canker Diseases Following Pruning of Almonds, Apricots, Cherries, Nectarines, Peaches, Plums and Prunes.

To protect pruning cuts from canker diseases caused by fungal pathogens including *Leucostoma persoonii* (Cytospora), *Calosphaeria pulchella*, *Lasiodiplodia theobromae*, and *Diaporthe neotheicola* (Phomopsis) apply Topsin 4.5 FL fungicide in spray or paint-on to pruning wounds.

**Spray:** Apply Topsin 4.5 FL at 30 fl. oz. (1.05 lb a.i.) per acre in a minimum of 30 gallons alone, or a minimum of 50 gallons when tank mixed per acre, using power operated ground application equipment or a backpack sprayer. If backpack sprayer is used, chemical-resistant coveralls or a chemical-resistant coat must be worn.

**Paint-on:** Apply Topsin 4.5 FL at 4.0 fl. oz. (0.14 lb a.i.) per 1gallon water (20 fl. oz (0.7 lb a.i.) per 5 gallons of water) as a paint to cut or pruned surfaces immediately after cutting and before rain, dew, fog and fungal spores come into contact with fresh wood.

Results are improved by thorough coverage of pruning wounds and by pruning at a time when little or no rain is expected soon after treatment.

For improved management of canker diseases by fungal pathogens and for fungicide resistance management, it is directed to apply Topsin 4.5 FL in a tank-mix with Rally® 40 WSP (EPA Reg. No. 62719-410, myclobutanol) at 6 oz/acre for almonds, apricots, cherries, nectarines, peaches, plums and prunes and/or in the tank mix with other fungicides registered for canker disease management. Refer to the Rally 40 WSP (EPA Reg. No. 62719-410, myclobutanol) Special 2(ee) Recommendation for further information on this use. Protect pruning cuts as soon as possible especially if irrigation, rainfall or fog is expected. Application within 24 hours is highly advised. Applications after 24 hours are permitted, but disease control may be reduced. Assure thorough coverage of all cut wood surfaces. For these pathogens, multiple applications may be needed. Make additional applications at approximately two-week intervals, especially if irrigation, rainfall or high humidity conditions exist.

The addition of a labeled rate of a registered organo-silicone spray adjuvant may increase penetration of cut wood surfaces. It is the responsibility of the user to assure that the organo-silicone spray adjuvant is safe to the crop under the existing conditions of use and label on the adjuvant container. Addition of a registered spray dye to the tank mix, and visual inspection of the pruning cuts after application, will help assure thorough coverage of susceptible tissue.

**Specific Use Restrictions:**

<b>Crop</b>	<b>Maximum Use Rate Per Acre Per Year</b>	<b>REI</b>
Almonds	60 fl. oz. (2.1 lbs ai)/A/Year	3 days
Apricots, Cherries, Nectarines, Peaches, Plums and Prunes	80 fl. oz. (2.8 lbs ai)/A/Year	2 days

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

<b>CROP</b>	<b>DISEASE</b>	<b>RATE (Lb/A), MINIMUM GALLONAGE</b>	<b>APPLICATION INSTRUCTIONS</b>
Conifers (Pine) Austrian Red Scots Christmas Trees	Tip Blight (Diplodia)	20 fl. oz. (0.7 lb a.i.) per 100 gal./A	<p>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.</p> <p><b>Restrictions:</b></p> <p><b>-DO NOT</b> apply more than 60 fl. oz. of product (2.1 lbs. a.i.)/A/year.</p> <p>-The minimum retreatment interval is ten (10) days.</p> <p><b>-DO NOT</b> apply more than 3 applications per year.</p> <p><b>-DO NOT</b> enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.</p> <p><b>-DO NOT</b> graze livestock in treated areas.</p>

CROP	DISEASE	RATE (Lb/A), MINIMUM GALLONAGE	APPLICATION INSTRUCTIONS
(Fir) Douglas	Swiss Needle Cast (Phaecryptopus) Rhabdocline Needle Cast	20 fl. oz. (0.7 lb a.i.) per 50 gal./A	Apply initially in early May. Repeat at 4-week intervals. Add a spreader/sticker to improve coverage. Use minimum gallonage with mist-blower types of sprayers and higher gallonage with conventional sprayers.  <b>Restrictions:</b> - <b>DO NOT</b> apply more than 100 fl. oz. of product (3.5 lbs. a.i.)/A/year. -The minimum retreatment interval is (28) days. - <b>DO NOT</b> apply more than 5 applications per year.
Conifers (seedling treatment) Longleaf	Brown Needle Blight (Scirrhia)	1.25 fl. oz. product (0.044 lb a.i.) per 9.5 oz. dry Kaolinite clay for seedling roots	Wet seedling roots in clean water, then dip roots into Topsin 4.5FL/Kaolinite mixture.
Loblolly Longleaf Slash	Fusarium and Rhizoctonia Root Rot	2.5 fl. oz. product (0.088 lb a.i.) per 50 oz. Kaolinite clay, plus enough water to make a slurry	Dip seedling roots with Topsin 4.5FL/Kaolinite slurry.
<p><b>Restrictions for Seedling Treatment:</b></p> <ul style="list-style-type: none"> <li>-<b>DO NOT</b> apply mixture to seedling foliage</li> <li>-During treatment, avoid excessive drying of roots or exposure to temperatures greater than 90 °F or less than 32 °F.</li> <li>-<b>DO NOT</b> enter or allow workers to enter into treated areas during the restricted entry interval (REI) of 12 hours.</li> <li>- Note: Topsin 4.5FL does not control Pythium or Phytophthora.</li> </ul>			

## **DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS**

USE IN CALIFORNIA BY CHEMIGATION ONLY FOR BEANS, CUCURBITS (CANTALOPE, CASABA, CUCUMBERS, MELONS, PUMPKINS, SQUASH, WATERMELONS), PEANUTS, POTATOES, SOYBEANS, STRAWBERRIES, AND SUGAR BEETS.

### **PRODUCT 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 (including greenhouse systems) used for pesticide irrigation to any public water system unless the pesticide label-prescribed safety devices for public water systems are in place. 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**

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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, including 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 4.5FL 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 directed 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 4.5FL may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, including aqueous ammonia, is

likely to 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 4.5FL 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 4.5FL and then the remaining volume of water.

### **Sprinkler Irrigation**

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 4.5FL into the irrigation water line so as to deliver the desired rate per acre. The suspension of Topsin 4.5FL 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 4.5FL 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**

Observe all System Requirements and Application Instructions above.  
A pesticide supply tank is advised.

### **SEED TREATMENT USES**

### **INSTRUCTIONS AND INFORMATION**

NOTE: This product contains no colorant. The purchaser of this product is responsible for ensuring that all seed treated with this product are adequately colored with a suitable colorant to prevent its accidental use as food for man or feed for animals. Refer to 21CFR, Part 2.25.

Any colorant added to treated seed must be cleared for use under 40CFR, Part 180.1001. Alternatively, use in combination with other colored seed treatment products may provide adequate coloration.

TOPSIN 4.5 FL is an effective fungicide for seed treatment that provides early season protection of seedlings against rhizoctonia. Seed should be sound and well-cured before treatment.

**DO NOT** use TOPSIN 4.5 FL in combination with other seed treatment products unless compatibility has been verified. Read and follow carefully all label directions of each combination product. When using combinations of products, the most restrictive of label limitations and precautions must be followed.

Seed Treatment Equipment: TOPSIN 4.5 FL may be used both for commercial and for on-farm application. It can be applied with mechanical, slurry, or mist-type seed treating equipment, as long as the equipment can be calibrated to accurately and uniformly apply the product to seed without undue mechanical damage to the seed. Uniform application to seed is important for all seed treatment products.

Treatment of mechanically damaged seed or seed of low vigor or poor quality may result in reduced germination. Treat and conduct germination tests on a small test sample of seed before using this product on commercial quantities. Due to seed quality and seed storage conditions beyond the control of Nippon Soda Co., Ltd. (Nisso), Nisso makes no claims or guarantees as to germination of carry-over seed.

Seed should be sound and well-cured before treatment. Refer to the label rates below. TOPSIN 4.5 FL is typically diluted with water and/or mixed with other products to attain an appropriate slurry application volume (fl.oz/cwt slurry rates) to provide effective treating. The appropriate volume of slurry depends on crop, weather, type of treater and other factors and should be adjusted as per normal treating practices for the circumstances. Contact your local supplier or distributor representative for specific directions.

**TO ENSURE UNIFORMITY, MIX PRODUCT WELL BEFORE USE.**

TOPSIN 4.5 FL plus water and/or other treatments should be mixed thoroughly prior to treating seed. Recalibrate treating equipment to compensate for the required slurry rate to ensure all products are applied at the correct rate.



APPLICATION INSTRUCTIONS

<b>Crop(s)</b>	<b>Application Rate</b>
<p>WHEAT, TRITICALE</p> <p><i>For early season control of seed decay (Fusarium, Rhizoctonia) and suppression of seedling blight (Fusarium, Rhizoctonia)</i></p>	<p>0.14 – 0.28 fl. oz./cwt (0.005 – 0.01 lb ai/cwt)</p>
<p>SOYBEANS</p> <p>NOTE: Seed may be treated on a fl.oz./seed unit (to deliver a target mg active ingredient/kernel) basis or and a per weight of seed basis, as shown.</p> <p><i>For early season control of seed decay (Phomopsis, Fusarium, Rhizoctonia) and suppression of seedling blight (Fusarium, Rhizoctonia)</i></p>	<p>Per Seed Unit: 0.065-0.13 fl. oz./seed unit (140,000 seeds) (0.002 – 0.005 lb a.i./seed unit (140,00 seeds) (applies 0.0075-0.015 mg ai/seed)</p> <p>OR</p> <p>Per Seed Weight: 0.14 – 0.28 fl. oz./cwt (0.005 – 0.01 lb a.i./cwt)</p>
<b>Crop(s)</b>	<b>Application Rate</b>
<p>DRY BEANS and SNAP BEANS:</p> <p><i>For early season control of seed decay (Phomopsis, Rhizoctonia) and suppression of seedling blight (Fusarium, Rhizoctonia)</i></p>	<p>0.14 – 0.28 fl. oz./cwt (0.005 – 0.01 lb a.i./cwt)</p>

Use higher rates for higher levels of seedling blight protection.

TREATED SEED LABELING

THE FEDERAL SEED ACT REQUIRES THAT BAGS CONTAINING TREATED SEED MUST BE LABELED WITH THE FOLLOWING INFORMATION:

- "This bag contains seed treated with TOPSIN 4.5 FL Seed Treatment Fungicide containing thiophanate-methyl. **DO NOT** use for food, feed, or oil purposes. Store away from feed and food stuffs."

LABELS FOR COMMERCIALY TREATED SEED MUST ALSO INCLUDE THE FOLLOWING ENVIRONMENTAL HAZARDS STATEMENTS:

- “Exposed treated seed may be hazardous to birds and wildlife. Dispose of all excess treated seed and seed packaging or containers by burial away from bodies of water in accordance with any local requirements. Cover, incorporate, or collect treated seeds spilled during loading and planting. **DO NOT** contaminate bodies of water when disposing of planting equipment wash water.”

**SEED TREATMENT RESTRICTIONS:**

- “**DO NOT** allow children, pets or livestock to have access to treated seeds.”
- “**DO NOT** graze or feed livestock on treated areas for 45 days after planting.”
- “Wear long pants, long-sleeved shirt, shoes, socks and chemical-resistant gloves when opening this bag or loading/pouring the treated seed.”
- “After the seeds have been planted, **DO NOT** enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the treated seed is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated. 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, including plants, soil or water is: coveralls, chemical-resistant gloves made of any waterproof material, and chemical-resistant footwear.”

**USE RESTRICTIONS**

Care must be exercised in the handling of treated seed. Augers used for handling treated seed should not be used to move seed for feed, food or oil processing. **DO NOT** re-use bags from treated seed to handle food or feed products.

**STORAGE AND DISPOSAL**

**DO NOT** contaminate water, food, or feed by storage and disposal.

**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, absorb with sand or other inert material and dispose of absorbent 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 by use 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 HANDLING:** Nonrefillable container. **DO NOT** reuse or refill this container.

**For containers ≤ 5 gallons:**

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available 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.

**For containers > 5 gallons:**

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available 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.

**Refillable Containers:**

Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or a mix tank. Fill the container about 10% full of water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump water into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**IMPORTANT INFORMATION  
READ BEFORE USING PRODUCT****CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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

The Directions for Use of this product reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of Nippon Soda Co., Ltd. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of Nippon Soda Co., Ltd. and Seller.

All such risks shall be assumed by Buyer and User, and Buyer

and User agree to hold Nippon Soda Co., Ltd. and Seller harmless for any claims relating to such factors.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NIPPON SODA CO., LTD. AND SELLER MAKE NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ON THIS LABEL.

To the extent consistent with applicable law, Nippon Soda Co., Ltd. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product and **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF NIPPON SODA CO., LTD. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF NIPPON SODA CO., LTD. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

Treatment of seed, especially seed that is mechanically damaged or seed known to be of low vigor and poor quality, may result in reduced germination and/or reduction of seed and seedling vigor. Treat and conduct germination tests on a small test sample of seed before treating commercial quantities with a selected chemical treatment that includes this product. Due to seed quality and seed storage conditions beyond the control of Nippon Soda Co., Ltd. (Nisso), Nisso makes no claims or guarantees as to germination of carry-over seed.

Nippon Soda Co., Ltd. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by the duly authorized representative of Nippon Soda Co., Ltd.

**[Note to PM: This section is the T&O sublabel portion of the master label]**

<b>Thiophanate-methyl</b>	<b>GROUP 1 FUNGICIDE</b>
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**TOPSIN<sup>®</sup> 4.5FL**  
**Turf and Ornamental Fungicide**

**ACTIVE INGREDIENT:**

Thiophanate-methyl (dimethyl[1,2-phenylene]-bis(iminocarbonothioyl)]bis[carbamate])* .....	45.0%
OTHER INGREDIENTS: .....	55.0%
TOTAL: .....	100.0%

Contains 4.5 pounds thiophanate-methyl per gallon.

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

**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**FIRST AID**

**If inhaled:**

- 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 center or doctor for further 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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. Contact the Rocky Mountain Poison Control Center at 1-866-673-6671 for emergency medical treatment information.

EPA Reg. No.8033-122  
NET CONTENTS: \_\_\_\_\_ Gallons

EPA Est. No.  
Batch/Lot # \_\_\_\_\_

Nippon Soda Co., Ltd.  
c/o Nisso America Inc.  
379 Thornall Street, 5<sup>th</sup> Floor  
Edison, NJ 08837

## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if absorbed through the skin or inhaled. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

Handlers mixing, loading, and applying the product as a dip (including application of product in Kaolinite clay to conifer seedling roots) must wear:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves,
- Chemical-resistant footwear plus socks,
- Chemical-resistant apron.

All other mixers, loaders, and applicators must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves,
- Chemical-resistant apron for mixers, loaders, and other handlers exposed to the concentrate.

### USER SAFETY REQUIREMENTS

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

### ENGINEERING CONTROLS

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

### USER SAFETY RECOMMENDATIONS

- Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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**

**DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high-water mark. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. **DO NOT** contaminate water when disposing of equipment wash water or rinsate.

## **DIRECTIONS FOR USE**

### **SHAKE WELL BEFORE USING**

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

**DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**DO NOT** apply when wind speed favors drift beyond the area intended for treatment.

### **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).

Exemption: The Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

**DO NOT** enter or allow workers entry into treated areas during the restricted-entry interval (REI). The REI for each crop is listed in the directions for use associated with that crop.

Exemption: If this product is applied by drenching, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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, including plants, soil, or water, is:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves made of any waterproof material,
- Chemical-resistant footwear plus socks,
- Chemical-resistant headgear for overhead exposures.

### **NON-AGRICULTURAL USE REQUIREMENTS**

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

**DO NOT** allow others to enter until sprays have dried.

### **PRODUCT INFORMATION for Turf and Ornamental Uses**

Topsin 4.5FL Turf and Ornamental Fungicide is a broad-spectrum fungicide exhibiting preventative, curative, and systemic properties. It is useful on a wide variety of turf and ornamental disease problems. Apply Topsin 4.5 FL Turf and Ornamental Fungicide with ground equipment, using sufficient volume of spray to provide thorough coverage. Use the higher rates under conditions of severe disease pressure. Also, see local State Extension Service directions for application schedules.

Chemigation instructions follow Directions For Use. Read and follow these instructions carefully for this method of application.

Mixing instructions: **SHAKE WELL BEFORE USING.** Some settling may occur during prolonged periods of non-use. When high pH tank mixes exist, the interval between mixing and application should be minimized. The buffering of tank water to pH 6-7 prior to the addition of Topsin 4.5 FL Turf and Ornamental Fungicide is directed. Add required amount of Topsin 4.5FL Turf and Ornamental Fungicide to partially filled tank (1/2 total volume), agitate by mechanical or hydraulic means, add tank mix product if used (see below), agitate again and then add remaining required amount of water.

Continuous agitation is directed to keep the material in proper suspension. For best results, use spray mixture the same day it is prepared.

Tank mixing instructions: Topsin 4.5 FL Turf and Ornamental Fungicide is compatible with most commonly used pesticides. If tank mixing with other materials, add products in the following order: wettable powders, dry flowables, liquid flowables, emulsifiable concentrates, and soluble materials including fertilizers. No claim of compatibility with other products is implied. **DO NOT** tank mix with copper-containing materials or with highly alkaline pesticides, including Bordeaux mixture or lime sulfur. Consult the intended tank mix partner product label for appropriate application rates and use instructions. Follow the label directions for the most restrictive of label precautions and limitations. This product may not be mixed with any product containing a label prohibition against such mixing. Read and observe the most restrictive precautionary statements and other information appearing on product labels used in mixtures. Topsin 4.5 FL Turf and Ornamental Fungicide may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, including aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided.



## **RESISTANCE MANAGEMENT:**

For resistance management, Topsin 4.5 FL Turf & Ornamental Fungicide contains a Group 1 fungicide. Any fungal population may contain individuals naturally resistant to Topsin 4.5 FL Turf & Ornamental Fungicide and other Group 1 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same fields. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance, take one or more of the following steps:

- Rotate the use of Topsin 4.5 FL Turf & Ornamental Fungicide or other Group 1 fungicides within a growing season sequence with different groups that control the same pathogens.
- Use tank mixtures with fungicides from a different group that are equally effective on the target pest when such use is permitted. Use at least the minimum application rate as labeled by the manufacturer.
- Adopt an integrated disease management program for fungicide use that includes scouting, uses historical information related to pesticide use, and crop rotation, and which 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 applications. Note that using predictive models alone is not sufficient to manage resistance.
- Monitor treated fungal populations for resistance development.
- Contact your local extension specialist or certified crop advisor for any additional pesticide resistance-management and/or IPM directions for specific crops and pathogens.
- For further information or to report suspected resistance contact Nippon Soda Co., Ltd. at 212-490-0350. You can also contact your pesticide distributor or university extension specialist to report resistance.

**TURF APPLICATION –Not for homeowner use. For use only by certified applicators or those under their immediate supervision. DO NOT apply with fixed wing or rotary aircraft. Not for use on turf being grown for sale or other commercial use as sod.**

**DO NOT enter or allow others to enter until sprays have dried.**

For use on all fine turf applications including commercial and residential lawns, parks, athletic fields, golf course greens, tees, and fairways, and cemeteries, consisting of cool and warm season grasses including Bentgrass, Bluegrass, Bermudagrass, Fescue, Ryegrass, St. Augustinegrass, Zoysiagrass, or their mixtures. When used in accordance with the label, Topsin 4.5 FL Turf and Ornamental Fungicide is not phytotoxic to any of the above-mentioned grasses. Topsin 4.5 FL Turf and Ornamental Fungicide has both preventive and

curative activity, and is to be used for the prevention and control of the diseases mentioned below.

**Ground Application:** Apply Topsin 4.5 FL Turf and Ornamental Fungicide with properly calibrated hand held, mechanical or motorized spray equipment or by chemigation through appropriate sprinkler irrigation systems. Spray uniformly over the area to be treated. Apply specified amounts in sufficient water to obtain thorough coverage of treatment area (2-4 gal. of finished spray per 1,000 sq ft is suggested). When treating golf greens, always treat aprons and approaches. Use the highest specified rate under conditions of severe disease pressure. For best results, apply after mowing or avoid mowing for at least twelve hours after application.

Lightly water the treatment area with one to two tenths inch of water to move the fungicide into active root zone. Excessive irrigation may move Topsin 4.5 FL Turf and Ornamental Fungicide below active root zone and reduce application effectiveness. Green design and drainage will influence irrigation practices. When tank mixing with contact action fungicides for foliar diseases, applications should be allowed to dry on leaf surfaces. Normal watering may proceed after sprays have dried.

#### Restrictions

- **DO NOT** graze animals on treated turf.
- **DO NOT** feed clippings to livestock or poultry.
- **DO NOT** apply with fixed wing or rotary aircraft.
- Minimum retreatment interval on turf is 14 days.
- **DO NOT** enter or allow others to enter until sprays have dried.

Restrictions for use on residential or public turf (commercial and residential lawns, parks, athletic fields, cemeteries):

- **DO NOT** apply more than 1.8 fl. oz. product (0.06 lb a.i.)/1000 ft<sup>2</sup> in one application
- **DO NOT** apply more than 7.2 fl. oz. product (0.25 lb a.i.)/1000 ft<sup>2</sup> per year

Restrictions for use on golf courses (tees, greens, apron):

- **DO NOT** apply more than 5.34 fl. oz. product (0.19 lb a.i.)/1000 ft<sup>2</sup> in one application
- **DO NOT** apply more than 14.4 fl. oz. product (0.51 lb a.i.)/1000 ft<sup>2</sup> to tees or greens per year
- **DO NOT** apply more than 3.6 fl. oz. product (0.13 lb a.i.)/1000 ft<sup>2</sup> to fairways (except Florida) per year
- In Florida, **DO NOT** apply more than 1.8 fl. oz. product (0.06 lb a.i.)/1000 ft<sup>2</sup> to fairways per year

Diseases	Rate: fl. oz. product (lb a.i.)/1,000 sq. ft.			Application Instructions
	Golf courses		Non Golf Course	
	Tees & Greens	Fairways **	*	
Anthracnose: basal <i>Colletotrichum graminicola</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	For prevention in historic areas of disease pressure, apply twice at 14-day intervals when soil temperature reaches 60°F. For curative control, apply when disease first appears and continue at 14-day intervals as needed. Rotations and/or tank mix combinations with chlorothalonil or triadimefon can be used.
Anthracnose: foliar <i>Colletotrichum graminicola</i>	2 – 4 (0.07 – 0.14)			
Bermudagrass decline: <i>Gaeumannomyces graminis</i> <i>var. graminis</i> Take-All-Patch: <i>Gaeumannomyces graminis</i> <i>var. avenae</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Apply in mid-July or when disease symptoms first appear and repeat at 14-day intervals for suppression. Use higher rates under most severe disease pressure. Follow proper agronomic directions to maintain plant vigor.
Cool Season Brown Patch: <i>Rhizoctonia cerealis</i> Necrotic Ring Spot: <i>Leptosphaeria korrea</i> Spring Dead Spot: <i>Leptosphaeria korrea</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	For prevention, apply in fall before turf has stopped all growth activity. Make second application in early spring when soil temperatures reach 55-60°F or when disease first appears. For curative action, apply when disease first appears in early spring and continue at 14-day intervals.
Coprinus Snow Mold: <i>Coprinus psychromorbidus</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Make 2 treatments at 21-day intervals in late fall to early winter, with the last application made just prior to first permanent snow cover.

Diseases	Rate: fl. oz. product (lb a.i.)/1,000 sq. ft.			Application Instructions
	Golf courses		Non Golf Course	
	Tees & Greens	Fairways **	*	
Fusarium Blight: <i>Fusarium roseum</i> , <i>F. triticum</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Apply when disease first appears at 14-day intervals.
Dollar Spot: <i>Moellerodiscus, Lanzia</i> Large Brown Patch: <i>Rhizoctonia solani</i> Ascochyta Leaf Blight: <i>Ascochyta</i> Copper Spot: <i>Gloeocercospora sorghi</i> Fusarium patch: <i>Fusarium nivale</i> Red Thread: <i>Corticium fuciforme</i> Zoysia Patch: <i>Rhizoctonia solani</i>	2 – 3.6 (0.07 – 0.13)	2 - 3.6 (0.07 – 0.13)	1.8 (0.06)	Apply when disease first appears and continue at 14-day intervals. Rotations and/or tank mix combinations with chlorothalonil, iprodione, or mancozeb can be used.
Gray Leaf Spot (Blast),: <i>Pyricularia grisea</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Make preventative application before expected period of disease development. Continue applications at 14 day intervals.
Leaf Spot: <i>Drechlsera</i> Leaf, crown, and root diseases: <i>Bipolaris</i> , <i>Curvularia</i> , <i>Exserohilum</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Apply when disease first appears and make applications at 14-day intervals as needed. Rotations and/or tank mix combinations with chlorothalonil, iprodione, or mancozeb are advised under severe conditions.

Diseases	Rate: fl. oz. product (lb a.i.)/1,000 sq. ft.			Application Instructions
	Golf courses		Non Golf Course	
	Tees & Greens	Fairways **	*	
Pink Snow Mold: <i>Microdochium nivale</i>	2 – 3.6 (0.07 – 0.13)	2 – 3.6 (0.07 – 0.13)	1.8 (0.06)	Apply in late fall to early winter before turf has stopped all growth activity. A second application may be used in combination with chlorthalonil, or thiram at directed rates before snow cover or during spring thaw.
Rusts: <i>Puccinia, Uromyces</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Make 2 applications at 14-day intervals when disease first appears. Rotations and/or tank mix combinations with chlorothalonil or mancozeb are directed.
Stripe Smut: <i>Ustilago striiformis</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	Apply at 14-day intervals when disease first appears. For prevention, apply in spring and fall.
Summer Patch: <i>Magnaporthe poae</i>	3.6 – 5.4 (0.13 – 0.19)	3.6 (0.13)	1.8 (0.06)	For prevention, make 3 applications starting late April or early May using 21-day intervals. Rotations and/or tank mix combinations may be used as part of the three-application program. For suppression, apply at 14-day intervals when disease first appears.

\* public turf (commercial and residential lawns, parks, athletic fields, cemeteries)

\*\* In Florida, **DO NOT** apply more than 1.8 fl. oz. product (0.06 lb a.i.)/1000 ft<sup>2</sup> per year to fairways

## HORTICULTURAL APPLICATIONS

Nursery Greenhouse, Landscape & Interiorscape  
Annual and Perennial Flowers, Bedding Plants, Foliage Plants, Ground Covers, plus  
Deciduous and Evergreen Trees and Shrubs

**DO NOT** apply this product in a way that will contact any person, pet, either directly or through drift. Keep people and pets out of the area during application.

**Homeowners: For use on ornamentals only. DO NOT apply to home orchards/fruit trees. DO NOT ALLOW PEOPLE OR PETS TO ENTER THE TREATED AREA UNTIL SPRAYS HAVE DRIED.**

**Certified applicators: DO NOT enter or allow others to enter until sprays have dried.**

**DO NOT use fruit, nuts, or sap from treated trees as food or feed.**

**Not for homeowner use in New York State.**

Topsin 4.5 FL Turf and Ornamental Fungicide is a broad-spectrum systemic fungicide which controls a variety of foliar, stem, and root diseases on a wide range of commercially important plants. Topsin 4.5 FL Turf and Ornamental Fungicide is also effective as a pre-plant dip on cuttings and bulbs. For soil drench applications, best plant protection is achieved with preventative treatments repeated every 21-28 days. For foliar applications, begin treatments when disease first appears, or during suspected periods of disease development. Make additional applications every 7-14 days or as otherwise instructed for the prevention or control of the listed diseases. Use of a wetting agent is directed for plants that have leaves that are difficult to wet properly. Use of a spreader-sticker is advised to enhance product performance in wet weather conditions or during periods of overhead irrigation. Topsin 4.5 FL Turf and Ornamental Fungicide may be used to control listed diseases on “backyard” ornamental fruit and nut trees including almond, apple, apricot, cherry, nectarine, peach, pecan, plum, and prune trees. Topsin 4.5 FL Turf and Ornamental Fungicide may be applied as a ground application using hand held, mechanical or motorized spray equipment, or as a chemigation spray or through an applicable sprinkler irrigation system; or as an aerial application where applicable. See specific instructions below.

Note: The “Directions For Use” of this product reflect the cumulative inputs from both historical field use and product testing programs. However, it is impossible to test this product on all species and cultivars. A preliminary trial is suggested on a small scale before a full treatment is applied to any plant type not shown on this label but found in a similar use site with a listed disease problem. Wait 5-7 days after treatment to evaluate results. This product is not directed for use on Swedish Ivy (*Neprolepis exhaltata*), Boston Fern (*Plectranthus australis*), and Easter Cactus (*Hatiora gaertneri*).

Some plants may occasionally show some sensitivity to Topsin 4.5 FL Turf and Ornamental Fungicide applications, primarily as seedlings. Symptoms rarely affect marketability of the plants. Please check compatibility under your conditions on small groups of plants to see if there is any sensitivity.

Application Instructions: Apply material with properly calibrated hand held, mechanical or motorized spray equipment or by chemigation thorough appropriate sprinkler irrigation, flood, or drip systems. Begin applications when disease first appears and repeat at 7-14 day intervals or as needed during the growing season. Use the shortest interval when conditions are unusually favorable for the development of disease. For hand held, mechanical, or motorized applications, mix 10 - 20 oz. of Topsin 4.5 FL Turf and Ornamental Fungicide per 100 gal. and apply as a full coverage spray to drip for the prevention and control of the diseases listed below. Spray volume may range up to 400 gallons of finished spray per acre depending upon plant species and plant growth stage. For applications through irrigation systems, refer to aerial use rates indicated in the foliar application chart. For small volume applications less than 100 gallons, divide the directed rate by 16 to get the number of teaspoons of Topsin 4.5 FL/gallon water.

Special Instructions For Proportional Injectors (e.g. Dosatron, Dosmatic, Anderson, and similar equipment): Determine the treatment rate as indicated below in the ground application column for crop and pathogen. Determine the injection ratio for the individual system to be used for application. For systems using a 1:100 ratio, measure and add the exact amount of directed material per 100 gallons to each gallon of water in a stock bucket or tank. For systems using a 1:200 ratio, multiply the directed amount per 100 gallons by 2. For systems using a 1:50 ratio, divide the directed amount per 100 gallons by 2. For systems using a 1:16 ratio, divide the directed amount per 100 gallons by 6. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time. An injection ratio of 1:100 is directed for most greenhouse and nursery systems.

Note: Homeowners **DO NOT** apply more than 51.4 fl. oz. product (1.8 lb a.i.) per acre per single application (1.2 fl. oz. (0.04 lb a.i.) per 1000 sq. ft.). For cut flowers **DO NOT** apply more than 14.2 fl. oz. Topsin 4.5 FL Turf and Ornamental Fungicide (0.5 lb a.i.) per acre per application.

## FOLIAR APPLICATION

Diseases Controlled	Rate fl. oz. product (lb a.i.)/100 gallons or per acre	Application Instructions
Anthracnose	10 – 20 (0.35 – 0.7)	Apply as buds break or at first sign of disease period. Repeat at 7-14 day intervals as needed during disease period.
Black Spot of Rose <i>Diplocarpon rosae</i>	10 – 20 (0.35 – 0.7)	Apply in early summer or at first sign of disease. Repeat at 7-14 days as needed during disease period.
Brown Rot and Blight <i>Monilinia, Sclerotinia, Whetzellinia</i>	10 – 20 (0.35 – 0.7)	Apply in late spring or at first sign of disease. Repeat every 7-14 days as needed during disease period.
Fusicladium and Venturia Leaf Scabs on: Crabapple, Hawthorn, Pear, Mountain Ash, Pyracantha, etc.	10 – 20 (0.35 – 0.7)	Apply as buds break. Repeat every 7-14 days as needed during disease period. Effective control requires coverage during leaf expansion. Rotations and/or tank mix combinations with mancozeb, chlorothalonil or propiconazole can be utilized.
Leaf Spots and Blights caused by: <i>Ascochyta, Blumeriella, Botrytis, Cercospora, Coccoomyces, Corynespora, Curvularia, Didymellina, Entomosporium, Fabraea, Fusarium, Ramularia, Rhizoctonia, Marssonina, Mycosphaerella, Myrothecium, Phoma, Physalospora, Schizothyrium, Septoria, Sphaceloma</i>	10 – 20 (0.35 – 0.7)	Apply when disease symptoms first appear. Repeat every 7-14 days as needed during disease period. Rotations and/or tank mix combinations with mancozeb or chlorothalonil can be utilized.
Ovulinia Blight	10 – 15 (0.35 – 0.53)	Apply as flowers open. Repeat every 7-14 days as needed during disease period.
Powdery Mildews <i>Erysiphe, Microsphaera, Phyllactinia, Podosphaera, Oidium, Sphaerotheca</i>	10 – 20 (0.35 – 0.7)	Apply when disease first appears and repeat every 7-14 days during disease period. Rotations and/or tank mix combinations with mancozeb or triadimefon can be utilized.



<b>Diseases Controlled</b>	<b>Rate fl. oz. product (lb a.i.)/100 gallons or per acre</b>	<b>Application Instructions</b>
Rust Diseases caused by: <i>Puccinia</i> , <i>Gymnosporangium</i> , <i>Uromyces</i>	10 – 20 (0.35 – 0.7)	Apply in late spring or when symptoms first appear. Repeat every 7-14 days as needed during disease period. Rotations and/or tank mix combinations with mancozeb or chlorathalonil are directed.
Tip Blight of Pine <i>Sphaeropsis sapinea</i> , <i>Diplodia pinea</i>	15 – 20 (0.53 – 0.7)	Begin application in spring when new growth starts. Make a second application just before needles emerge from the sheath and a third application 14 days later. Thorough coverage is essential for optimal disease control.
Twig Blights, Cankers, and Diebacks <i>Diaporthe</i> , <i>Kabatina</i> , <i>Phoma</i> , <i>Phomopsis</i>	15 – 20 (0.53 – 0.7)	Apply when symptoms first appear. Repeat every 7-14 days as needed during disease period.

## SOIL DRENCH APPLICATION

Germination of seedlings of some species and cultivars planted in soil drenched with Topsin 4.5FL Turf and Ornamental Fungicide may be delayed slightly, but the plants typically recover, and will be protected from seedling root infection. Soil drenches on young plants may cause a slight chlorosis (yellowing) of lower leaves, but typically do not affect the upper foliage. Other plants may also show a temporary stunting.

<b>Diseases Controlled</b>	<b>Rate Fl. Oz. product (lb a.i.)/100 gal.</b>	<b>Application Instructions</b>
Stem, Crown, and Root Rots caused by: <i>Botrytis</i> , <i>Cylindrocladium</i> , <i>Fusarium</i> , <i>Gliocladium</i> , <i>Myrothecium</i> , <i>Penicillium</i> , <i>Ramularia</i> , <i>Rhizoctonia</i> , <i>Sclerotinia</i> Black Root Rot: <i>Thielaviopsis</i>	10 – 20 (0.35 – 0.7)	Apply as a drench or directed spray using hand held, mechanical, or motorized spray equipment, or as a chemigation drench or directed spray using applicable sprinkler irrigation systems, after seeding or sticking of cuttings (7 oz.) or after transplanting (11-14 oz.) to propagation beds, containers, pots, trays, or nursery or landscape beds at a rate to thoroughly soak the growing media through the root zone. A guide is 0.25-3 pints of finished mixture per sq ft depending on the media type and depth (about 4 oz. per 4 inch pot or 8 oz. per 6 inch pot). Repeat every 21-28 days for adequate crop protection. Note: Topsin 4.5 FL Turf and Ornamental Fungicide does not control <i>Pythium</i> or <i>Phytophthora</i> . Tank mix combinations with metalaxyl, mefenoxam, etridiazole, fosetyl-Al or propamocarb are required for the control of <i>Pythium</i> and <i>Phytophthora</i> .

## PLANT DIP APPLICATIONS

Diseases Controlled	Rate Fl. Oz. product (lb a.i.)/100 gal.	Application Instructions
Plant or Cutting Diseases caused by: <i>Botrytis</i> , <i>Cylindrocladium</i> , <i>Fusarium</i> , <i>Gliocladium</i> , <i>Myrothecium</i> , <i>Penicillium</i> , <i>Ramularia</i> , <i>Rhizoctonia</i> , <i>Sclerotinia</i> , <i>Thielaviopsis</i>	10 – 20 0.35 – 0.7)	Immerse plants or cuttings for 10-15 min. Remove and allow to drain. Note: Follow accepted hygiene practices to minimize the introduction and spread of water borne bacterial and water mold fungal diseases.
Bulb, Corm, and Rhizome Rots caused by: <i>Botrytis</i> , <i>Cylindrocladium</i> , <i>Fusarium</i> , <i>Gliocladium</i> , <i>Myrothecium</i> , <i>Penicillium</i> , <i>Ramularia</i> , <i>Rhizoctonia</i> , <i>Sclerotinia</i> , <i>Thielaviopsis</i>	10 – 20 (0.35 – 0.7)	Soak cleaned bulbs for 15-30 min in warm solution (80-85 °F). For storage disease prevention, treat bulbs preferably within 48 hours after digging. After treatment, dry well before storing. If bulbs are for forcing, treat bulbs that have been heat-cured. Note: Follow accepted hygiene practices to minimize the introduction and spread of water borne bacterial and water mold fungal diseases.

## DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS

### 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 (including greenhouse systems) used for pesticide irrigation to any public water system unless the pesticide label-prescribed safety devices

for public water systems are in place. 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**

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

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 including 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 4.5 FL Turf and Ornamental Fungicide 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 directed 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 4.5 FL Turf and Ornamental Fungicide may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, including aqueous ammonia, is likely to 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 4.5 FL Turf and Ornamental Fungicide 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 4.5 FL Turf and Ornamental Fungicide and then the remaining volume of water.

### **Sprinkler Irrigation**

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 4.5 FL Turf and Ornamental Fungicide into the irrigation water line so as to deliver the desired rate per acre. The suspension of Topsin 4.5 FL Turf and Ornamental Fungicide 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 4.5 FL Turf and Ornamental Fungicide 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**

Observe all System Requirements and Application Instructions above.  
A pesticide supply tank is advised.

#### **STORAGE AND DISPOSAL**

**DO NOT** contaminate water, food, or feed by storage and disposal.

**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, absorb with sand or other inert material and dispose of absorbent 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 by use 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 HANDLING:** Nonrefillable container. **DO NOT** reuse or refill this container.

#### **For containers ≤ 5 gallons:**

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available 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.

**For containers > 5 gallons:**

Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling if available 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.

**Refillable Containers:**

Refillable container. Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents into application equipment or a mix tank. Fill the container about 10% full of water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump water into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**IMPORTANT INFORMATION  
READ BEFORE USING PRODUCT****CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

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

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

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**NIPPON SODA CO.,LTD.**

SHIN-OHEMACHI BLDG., 2-1, 2-CHOME OHEMACHI  
CHIYODA-KU, TOKYO 100-8165, JAPAN

# Supplemental Label

## TOPSIN® 4.5 FL Fungicide For Use on Soybeans to Control White Mold

EPA Reg. No. 8033-122

This supplemental label expires on April 30, 2023  
and must not be used or distributed after this date

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.  
Follow all applicable directions, restrictions and precautions on the federally-registered label.

This label must be in the possession of the user at the time of pesticide application. Read the label affixed to the container for TOPSIN 4.5 FL Fungicide before applying. Use of TOPSIN 4.5 FL Fungicide according to this labeling is subject to the use precautions and limitations imposed by the label affixed to the container of TOPSIN 4.5 FL Fungicide.

Crop	Disease	Fl. oz./A (lb a.i./A)	Application Instructions
Soybeans	White mold (Sclerotinia)	20 (0.7) for split application OR 40 (1.4) for single application	For split applications, apply initial application of 20 fl. oz of product/A (0.7 lb a.i./A) at early bloom (R-1 stage). Follow with a second application 7 to 14 days later.  OR  For a single application, apply 40 fl. oz. of product /A (1.4 lb a.i./A) at early bloom (R-1 stage).  Thorough coverage of the flowers, stems, and branches is essential for disease control.  Use a minimum of 5 gallons water/A by air.

### Restrictions:

- DO NOT apply more than 40 fl. oz./A (1.4 lb. a.i./A) per for a single application for white mold control otherwise DO NOT apply more than 20 fl. oz./A (0.7 lb. a.i./A) per for a single application.
- DO NOT apply more than 40 fl. oz. of product (1.4 lbs a.i.)/A/year.
- The minimum retreatment interval is seven (7) days.
- DO NOT apply more than two (2) applications per year.
- DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day.
- Pre-harvest interval: 21 days
- DO NOT graze or feed treated vines or hay to livestock.

**ACCEPTED**

04/30/2020

Under the Federal Insecticide, Fungicide  
and Rodenticide Act as amended, for the  
pesticide registered under  
EPA Reg. No. 8033-122