



TOPSIN[®] 4.5FL

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 lbs. thiophanate-methyl per gallon.

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

EPA Reg. No. 8033-122-70506

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 Rocky Mountain Poison and Drug Safety at 1-866-673-6671 for emergency medical treatment information.

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



FUNGICIDE

NET CONTENTS: _____ GALLONS



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 ≥ 14 mils, nitrile rubber ≥ 14 mils, neoprene rubber ≥ 14 mils, natural rubber ≥ 14 mils, polyethylene, polyvinyl chloride (PVC) ≥ 14 mils, and viton ≥ 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 handheld 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, such as 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 4.5FL 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 4.5FL 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 4.5FL 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 4.5FL 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 4.5FL contains a Group 1 fungicide. Any fungal population may contain individuals naturally resistant to Topsin 4.5FL 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 4.5FL 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 your UPL representative. 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 4.5FL is directed. Add required amount of Topsin 4.5FL 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 4.5FL 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 4.5FL 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 1/2 swath displacement upwind at the downwind edge of the field.
- 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.

Mandatory Spray Drift Requirements (continued)

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.

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TOPSIN® 4.5FL

CROP	DISEASES	FL. OZ./ACRE (lbs. a.i./A)	FL. OZ./100 GAL. (lbs. 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)		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 broadspectrum control and resistance management. Restrictions: - DO NOT apply more than 30 fl. ozs./A (1.05 lbs. a.i./A) per application. - DO NOT apply more than 60 fl. ozs. of product (2.1 lbs. a.i./A)/year. - The minimum retreatment interval is ten (10) days. - DO NOT apply more than three (3) applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.
Apples	Apple Scab (Venturia) Black Pox* (Helminthosporium papulosum) Flyspeck (Zygophiala) Powdery Mildew (Podosphaera) Sooty Blotch (Gloeodes) Black Rot (Botryosphaeria obtusa) Brooks Fruit Spot (Mycosphaerella) White Rot* (Botryosphaeria dothidia) *Not for use in California.	15 - 20 (0.53 - 0.7) In California 30 (1.05)	3.75 - 5 (0.13 - 0.18)	Apply at 5- to 10-day intervals from green tip through petal fall; continue at 7- to 14-day intervals in cover sprays. Restrictions: - DO NOT apply more than 20 fl. ozs./A (0.7 lb. a.i./A) per application. - In California, DO NOT apply more than 30 fl. oz./A (1.05 lbs. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is five (5) days. - DO NOT apply more than five (5) applications per year. - DO NOT 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, DO NOT use a benzimidazole fungicide post-harvest following Topsin 4.5FL pre-harvest application. Application of a non-benzimidazole post-harvest fungicide will provide additional protection from post-harvest diseases. Restrictions: - DO NOT apply more than 20 fl. ozs./A (0.7 lb. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is five (5) days. - DO NOT apply more than five (5) applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days. - PHI: 1 day
Beans, dry and succulent Including: Lima bean Snap bean Kidney bean Mung bean Navy bean Pinto bean Wax bean Broad bean Fava bean Asparagus bean Blackeyed pea Cowpea Sweet lupine White lupine White Sweet lupine Grain lupine Chick pea Garbanzo bean	White Mold (Sclerotinia) Gray Mold (Botrytis) Anthracnose (Colletotrichum)	30 - 40 (1.05 - 1.4) OR 20 - 30 (0.7 - 1.05)		For one application: Apply when 100% of plants have at least one open bloom or when conditions are favorable for disease development. OR For multiple applications: Make the first application when 10% to 30% of plants have at least one open bloom and follow with sequential applications on a 4- to 7-day interval. Apply prior to the development of disease for best results. Restrictions: - DO NOT apply more than 40 fl. ozs./A (1.4 lbs. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is four (4) days. - DO NOT apply more than five (5) applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day for succulent beans. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days for dry beans. - PHI: California only , 14 days for succulent beans, 28 days for dry beans and lima beans. - PHI: All other States , 14 days for succulent beans and lima beans, 28 days for dry beans.

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

(continued)

CROP	DISEASES	FL. OZ./ACRE (lbs. a.i./A)	FL. OZ./100 GAL. (lbs. a.i./100 gal.)	APPLICATION INSTRUCTIONS
Cucurbits Cantaloupe, Casaba, Cucumbers, Melons, Pumpkins, Summer and Winter Squash, and Watermelons	General Information			<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>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 10 fl. ozs. of product (0.35 lb. a.i./A) per application. - DO NOT apply more than 60 fl. ozs. of product (2.1 lbs. a.i./A/year) from any combination of application timings. - The minimum retreatment interval is 4 days. - DO NOT make more than 5 applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day. - PHI: 1 day
	Acremonium/Cephalosporium Hypocotyl Rot	10 (0.35)		<p>Apply in-furrow, on top of the seeds at planting.</p> <p>Restrictions:</p> <p>DO NOT use less than 10 gallons of water per acre.</p>
	Anthrachnose* (<i>Colletotrichum</i>) Gummy Stem Blight* (<i>Didymella</i>) Powdery Mildew (<i>Erysiphe</i> , <i>Sphaerotheca</i>) Target Spot* (<i>Corynespora</i>) *Not for use in California.	10 (0.35)		<p>Begin applications when plants begin to run or when disease first appears, and repeat at 7- to 14-day intervals or as needed.</p> <p>For Target Spot, use at 7-day intervals as needed.</p>
	Belly Rots* (<i>Rhizoctonia</i> , <i>Fusarium</i>) *Not for use in California.	10 (0.35)		<p>Apply in sufficient volume to allow runoff to the soil. Will not control Pythium or Phytophthora.</p>
	Suppression of Vine Decline (<i>Monosporascus</i>) Charcoal Rot (<i>Macrophomina</i>)	10 (0.35)		<p>Apply through buried drip irrigation (chemigation) to the root zone. Apply at 14-day intervals, beginning at emergence and continuing to harvest.</p> <p>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.</p>
Garlic (clove treatment)	Penicillium Clove Rot		20 (0.7)	<p>Completely immerse garlic cloves in suspension for at least 5 minutes.</p> <p>Continuously agitate the solution tank by hydraulic or mechanical means.</p> <p>After treatment, remove cloves from solution and drain.</p> <p>Dry cloves after treatment and prior to planting.</p>
Onions* Garlic (In furrow) *Not for use in California.	White Rot (<i>Sclerotium cepivorum</i>)	40 (1.4) Broadcast equivalent		<p>Spray directly into the open furrow at the time of planting seed, sets or bulbs.</p> <p>Restrictions:</p> <ul style="list-style-type: none"> - Not for this use through any type of irrigation system. - DO NOT apply more than 40 fl. ozs. (1.4 lbs. a.i.) of product per application. - DO NOT make more than one application per year. - DO NOT apply more than 40 fl. ozs. of product (1.4 lbs. a.i./A/year). - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.
Peanuts	Early Leaf Spot (<i>Cercospora</i>) Late Leaf Spot (<i>Cercosporidium</i>) Rust (<i>Puccinia</i>) Limb Rot (<i>Rhizoctonia</i>) Web Blotch (<i>Ascochyta</i>)	10 (0.35)		<p>Begin applications when disease first appears and repeat at 14-day intervals as needed.</p> <p>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 10 fl. ozs. (0.35 lb. a.i.) of product per application. - DO NOT apply more than 40 fl. ozs. of product (1.4 lbs. a.i./A/year). - The minimum retreatment interval is 14 days. - DO NOT apply more than 4 applications per year. - 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). - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 1 day. - PHI: 14 days
Pecans	Brown Spot (<i>Cercospora</i>) Downy Spot (<i>Mycosphaerella</i>) Liver Spot (<i>Gnomonia</i>) Powdery Mildew (<i>Microsphaera</i>) Scab (<i>Fusicladium</i>) Stem End Blight (<i>Botryosphaeria</i>) Zonate Leaf Spot (<i>Cristulariella</i>)	20 (0.7)		<p>Begin applications when first leaves are showing and repeat at 3- to 4-week intervals until shuck split.</p> <p>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply after shuck split. - DO NOT apply more than 20 fl. ozs. (0.7 lb. a.i.) of product per application. - The minimum retreatment interval is 21 days. - DO NOT make more than three applications per year. - DO NOT apply more than 60 fl. ozs. of product (2.1 lbs. a.i./A/year). - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days. - PHI: 1 day
Pistachios	Shoot Blight (<i>Botrytis</i> , <i>Botryosphaeria</i>)	30 - 40 (1.05 - 1.4)		<p>Apply at bloom.</p> <p>Apply in a minimum of 100 gallons per acre by ground or 20 gallons per acre by air.</p> <p>For aerial application, fly over every row or center.</p> <p>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 40.0 fl. ozs./A (1.4 lbs. a.i./A) per application. - DO NOT apply more than 40.0 fl. ozs. of product (1.4 lbs. a.i./A/year). - DO NOT apply more than one (1) application per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 3 days.

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

(continued)

CROP	DISEASES	FL. OZ./ACRE (lbs. a.i./A)	FL. OZ./100 GAL. (lbs. a.i./100 gal.)	APPLICATION INSTRUCTIONS
Potatoes	White Mold (<i>Sclerotinia sclerotiorum</i>)	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/A for aerial application.</p> <p>Apply prior to the development of disease for the best 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>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 30 fl. ozs./A (1.05 lbs. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is seven (7) days. - DO NOT apply more than four (4) applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days. - Pre-harvest interval: 21 days
Soybeans	General Information			<p>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 40 fl. ozs./A (1.4 lbs. a.i./A) per for a single application for white mold control otherwise DO NOT apply more than 20 fl. ozs./A (0.7 lb. a.i./A) per for a single application. - DO NOT apply more than 40 fl. ozs. 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.
	Anthrachnose (<i>Colletotrichum</i>)	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. DO NOT 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.
	Brown Spot (<i>Septoria</i>) Frogeye Leaf Spot (<i>Cercospora</i>) Pod and Stem Blight (<i>Diaporthe</i> , <i>Phomopsis</i>) Purple Seed Stain (<i>Cercospora</i>)	20 (0.7)		FOR SEED BEANS ONLY – For seed quality, make a single application when beans form in the pod.
	White Mold (<i>Sclerotinia</i>)	20 (0.7) for split application OR 40 (1.4) for single application		For split applications, apply initial application of 20 fl. ozs./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. ozs./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	General Information			<p>Restrictions:</p> <ul style="list-style-type: none"> - DO NOT apply more than 30 fl. ozs./A (1.05 lbs. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is ten (10) days. - DO NOT make more than four (4) applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 2 days. - Pre-harvest interval: 1 day
Apricots	Brown Rot Blossom Blight Fruit Brown Rot (<i>Monilinia</i>)	20 - 30 (0.7 - 1.05) In California 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 (<i>Monilinia</i>)	20 - 30 (0.7 - 1.05) In California 30 (1.05)	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 bloom and final pre-harvest sprays.
	Cherry Leaf Spot (<i>Coccomyces</i>)	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 (<i>Podosphaera</i> , <i>Sphaerotheca</i>)	20 - 30 (0.7 - 1.05) In California 30 (1.05) PLUS 22.5 - 30 (0.8 - 1.05)	6.7 - 10 (0.24 - 0.35) PLUS 7.5 - 10 (0.26 - 0.35)	Apply at early bloom (early popcorn). Make a second application at full bloom. PLUS Apply at shuck fall and first cover.
Nectarines	Brown Rot Blossom Blight Fruit Brown Rot (<i>Monilinia</i>)	20 - 30 (0.7 - 1.05) In California 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.

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

(continued)

CROP	DISEASES	FL. OZ./ACRE (lbs. a.i./A)	FL. OZ./100 GAL. (lbs. a.i./100 gal.)	APPLICATION INSTRUCTIONS
Peaches	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	20 - 30 (0.7 - 1.05) In California 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 California 30 (1.05) PLUS 22.5 - 30 (0.8 - 1.05)	6.7 - 10 (0.24 - 0.35) PLUS 7.5 - 10 (0.26 - 0.35)	Apply at early bloom (pink bud). Make a second application at full bloom if conditions favor disease development. PLUS Apply at shuck split and at first cover sprays.
Plums and Prunes	Brown Rot Blossom Blight Fruit Brown Rot (Monilinia)	20 - 30 (0.7 - 1.05) In California 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)	20 - 30 (0.7 - 1.05) In California 30 (1.05)	6.7 - 10 (0.24 - 0.35)	Apply at pre-bloom, petal fall, and at first, second, or third cover sprays at 10- to 14-day intervals.
	Leaf Spot (Coccomyces)	20 - 30 (0.7 - 1.05) In California 30 (1.05)	6.7 - 10 (0.24 - 0.35)	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	General Information			Restrictions: - DO NOT apply more than 20 fl. ozs./A (0.7 lb. a.i./A) per application. - DO NOT apply more than 80 fl. ozs. of product (2.8 lbs. a.i./A)/year. - The minimum retreatment interval is seven (7) days. - DO NOT apply more than 4 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: 1 day
	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 thru 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)	15 - 20 (0.53 - 0.7)		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.
	General Information			Restrictions: - DO NOT apply more than 20 fl. ozs./A (0.7 lb. a.i./A) per application. - DO NOT apply more than 60 fl. ozs. of product (2.1 lbs. a.i./A)/year. - The minimum retreatment interval is fourteen (14) days. - DO NOT apply more than 3 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
Sugar Beets	Cercospora Leaf Spot (Cercospora)	10 - 20 (0.35 - 0.7)		Apply when conditions become favorable for disease development before the disease appears and follow with a non-benzimidazole fungicide within 14 days of application or as needed. Topsin 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. For areas east of the Rocky Mountains: DO NOT make more than one application of Topsin 4.5FL per season for Cercospora Leaf Spot.
	Powdery Mildew (Erysiphe)	10 - 20 (0.35 - 0.7)		Apply as soon as disease symptoms appear and follow with a non-benzimidazole fungicide at a 14-day interval or as needed. Topsin 4.5FL can be tank-mixed with sulfur products such as Microthiol® Disperss (EPA Reg. No. 70506-187, sulfur) at 5 to 10 lbs./A for additional disease control and resistance management.
	General Information			Restrictions: - DO NOT apply more than 20 fl. ozs. of product (0.7 lb. a.i./A) per application. - DO NOT apply more than 20 fl. ozs. of product (0.7 lb. a.i./A)/year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. - DO NOT cut for hay within 90 days of application. - DO NOT allow livestock to graze in treated areas before harvest.
Triticale and Fall-seeded Wheat For this use in Idaho, Oregon, and Washington ONLY	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. Restrictions: - DO NOT apply more than 20 fl. ozs. of product (0.7 lb. a.i./A) per application. - DO NOT apply more than 20 fl. ozs. of product (0.7 lb. a.i./A)/year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours. - DO NOT cut for hay within 90 days of application. - DO NOT 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, Grapes, 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 4.5FL fungicide in spray or paint-on to pruning wounds.

Spray: Apply Topsin 4.5FL at 30 fl. ozs. (1.05 lbs. 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 4.5FL at 4.0 fl. ozs. (0.14 lb. a.i.) per 1 gallon water (20 fl. ozs. (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 4.5FL in a tank-mix with Rally® 40 WSP (EPA Reg. No. 62719-410, myclobutanil) at 6 ozs./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, myclobutanil) 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

CROP	MAXIMUM USE RATE PER ACRE PER YEAR	REI
Almonds	60 fl. ozs. (2.1 lbs. a.i.)/A/Year	3 days
Apricots, Cherries, Nectarines, Peaches, Plums and Prunes	80 fl. ozs. (2.8 lbs. a.i.)/A/Year	2 days

DIRECTIONS FOR USE ON CONIFERS

(Not for this use in California)

CROP	DISEASE	RATE (lbs./A), MINIMUM GALLONAGE	APPLICATION INSTRUCTIONS
Conifers (Pine) Austrian Red Scots Christmas Trees	Tip Blight (<i>Diplodia</i>)	20 fl. ozs. (0.7 lb. a.i.) per 100 gal./A	Apply at bud break. Repeat 10 to 14 days later, just before needles emerge from sheath; repeat again 10 to 14 days after needle emergence. Restrictions: - DO NOT apply more than 60 fl. ozs. of product (2.1 lbs. a.i.)/A/year. - The minimum retreatment interval is ten (10) days. - DO NOT apply more than 3 applications per year. - DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. - DO NOT graze livestock in treated areas.
(Fir) Douglas	Swiss Needle Cast (<i>Phaeocryptopus</i>) Rhabdochline Needle Cast	20 fl. ozs. (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. Restrictions: - DO NOT apply more than 100 fl. ozs. of product (3.5 lbs. a.i.)/A/year. - The minimum retreatment interval is (28) days. - DO NOT apply more than 5 applications per year.
Conifers (seedling treatment) Longleaf	Brown Needle Blight (<i>Scirrhia</i>)	1.25 fl. ozs. product (0.044 lb. a.i.) per 9.5 ozs. dry Kaolinite clay for seedling roots	Wet seedling roots in clean water, dip roots into Topsin 4.5FL/Kaolinite mixture.
Loblolly Longleaf Slash	Fusarium and Rhizoctonia Root Rot	2.5 fl. ozs. product (0.088 lb. a.i.) per 50 ozs. Kaolinite clay, plus enough water to make a slurry	Dip seedling roots with Topsin 4.5FL/Kaolinite slurry.
Restrictions for Seedling Treatment: - DO NOT apply mixture to seedling foliage. - During treatment, avoid excessive drying of roots or exposure to temperatures greater than 90°F or less than 32°F. - DO NOT enter or allow workers to enter into treated areas during the restricted entry interval (REI) of 12 hours. - Note: Topsin 4.5FL does not control Pythium or Phytophthora.			

DIRECTIONS FOR USE THROUGH CHEMIGATION SYSTEMS

USE IN CALIFORNIA BY CHEMIGATION ONLY FOR BEANS, CUCURBITS (CANTALOUPE, 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, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

APPLICATION INSTRUCTIONS

Observe the requirements in the System Requirements section above.

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

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

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

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

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

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

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

Topsin 4.5FL may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as 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 1/2 or 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 4.5FL 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 4.5FL 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 4.5FL 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 UPL NA INC. (UPL), UPL 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 4.5FL 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 4.5FL 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.

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

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 4.5FL 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.

PESTICIDE STORAGE: Store in the original container in a dry area. **DO NOT** store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling, 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 1/4 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 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 of 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 UPL NA Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of UPL NA Inc. and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold UPL NA Inc. and Seller harmless for any claims relating to such factors.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, UPL NA INC. 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, UPL NA Inc. 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 UPL NA INC. 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 UPL NA INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

UPL NA Inc. 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 UPL NA Inc.

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U-8033-122-70506(052120-7839)