

# GROTTO™

## Flowable Liquid Copper Fungicide

## SPECIMEN LABEL

### Intended for Commercial Use Only

**A liquid copper formulation for broad spectrum control of listed fungal and bacterial\* diseases on greenhouse and shadehouse vegetables and herbs, ornamentals and turf.**

\*Non-public health bacteria.

### For Organic Production

#### Active Ingredient:

Copper Octanoate (Copper Soap) CAS Reg. No. 20543-04-8... 10.0%

**Other Ingredients:** ..... 90.0%

**Total:** ..... 100.0%

Metallic copper equivalent: 1.8%

One gallon contains 0.16 lb. metallic copper equivalent



EPA Reg. No. 67702-2-59807

EPA Est. No. 48498-CA-1

### KEEP OUT OF REACH OF CHILDREN CAUTION

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

FIRST AID	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. For emergency information concerning this product, call the National Pesticide Information Center (NPIC) at 1-800-858-7378 Monday through Friday, 7:30 am to 3:30 pm Pacific Time (NPIC website: <a href="http://www.npic.orst.edu">www.npic.orst.edu</a>) During other times, call the poison control center 1-800-222-1222.</p>	

**CAUTION:** Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash hands 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 listed below. If you want more options, follow the instructions for category A on an EPA chemical resistance category selection sheet. Mixers/loaders and other handlers must wear the following: long-sleeved shirts, long pants, chemical resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber or butyl rubber, and shoes plus socks. 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 absorbent material that have been drenched or heavily contaminated with the product's concentrate. Do not reuse them.

#### User Safety Recommendations

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Net Contents: **1 Gallon (3.78 L)**



An American Vanguard Company

## ENVIRONMENTAL HAZARDS

This product is toxic to fish and aquatic organisms and may contaminate water through runoff. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment washwaters or rinsate. This product may contaminate water through runoff. Poorly draining soils with shallow water tables are more prone to produce runoff that contains this product. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

## DIRECTIONS FOR USE

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

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

Read and follow all applicable directions and precautions on this label before using.

Shake well before use. Most conventional liquid pesticide plant sprayers can be used to apply **GROTTO** to plants. A spreader may be used to improve the spreading of **GROTTO** on hard to wet plants.

### Agricultural Use Requirements

Use this product 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), restricted-entry interval, and notification to workers. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard (WPS).

**Entry-Restrictions:** Do not enter or allow worker entry into treated areas during the restricted-entry interval of 4 hours.

PPE required for early-entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, wear:

Long sleeved shirt,

Long pants,

Shoes,

Socks and

Chemical-resistant gloves made of any waterproof material, such as polyvinyl chloride, nitrile rubber, or butyl rubber.

### Non-Agricultural Use Requirements

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

Do not enter or allow others to enter until sprays have dried.

### Tank Mixing GROTTO with Other Pesticides

Read and follow all applicable directions and precautions on the label of other products, before mixing with **GROTTO**.

**GROTTO** can be applied up to day of harvest. When tank-mixed with products, do not apply that product closer to harvest than is permitted or stated on the other product's label.

Pour **GROTTO** into spray tank at least half filled with water using adequate agitation. When mixed with other products proven or known to be compatible, wettable powders should be added first, followed in order by flowables (such as **GROTTO**), and then emulsifiable concentrates.

**GROTTO** can be mixed with Bravo® (WP, 720, 500), Captan, Daconil® 2787, Ferbam, maneb (WP or Flowable), Dithane® M-45, Manzate® 200, sulfur (wetable or flowable), organophosphates, Thiodan®, Pentathlon® DF, Pentathlon® LF, *Bacillus thuringiensis* Berliner, Guthion®, Pydrin®, Diazinon®, malathion for use on the crops listed on this label, in accordance with the most restrictive of label limitations and precautions. Do not exceed label dosage rates. This product cannot be mixed with any product containing a label prohibition against such mixing. Use caution if mixing **GROTTO** with chelated or liquid fertilizers. Use caution when using product with other fungicides and insecticides. Observe all cautions and limitations on all products used in mixtures.

### Chemigation

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

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

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

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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.

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regular serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow 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 the pesticide introduction. There shall be a complete physical break (air gap) between the flow 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.

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 back flow.

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 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, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

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 con-

structured of materials that are compatible with pesticides and capable of being fitted with a system interlock.

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

### Directions for use on Greenhouse and Shadehouse Vegetables and Herbs, Nuts, Fruits including Citrus and Berries

**GROTTO** controls listed diseases of a wide range of plants, including many vegetables, fruit and ornamentals. As with most fungicides, **GROTTO** acts to protect plants from infection. Therefore, it is important to have **GROTTO** on the leaf, flower or fruit before the pathogen is able to cause an infection.

Mix 0.5 to 2.0 gallons of **GROTTO** with 30 to 100 gallons of water and apply to one acre. Alternately: Mix 6.4 to 25.6 fluid ounces of **GROTTO** with 10 gallons of water. Apply 1.1 to 2.3 gallons of diluted spray

per 1,000 ft<sup>2</sup>. For application by aircraft, apply 5 - 40 gallons of diluted spray to one acre. Begin treatment when disease first appears, and unless otherwise directed in the crop table, reapply at 7 to 10 day intervals for as long as needed, following crop-specific application notes. Use the higher rate following heavy rain or when the amount of disease is increasing rapidly. If possible, time applications so that 12 hours of dry weather follow application. Use the higher rate to control diseases that may go dormant and overwinter.

Hydroponic use: Apply as soon as disease appears, or as a preventive spray 2 weeks before disease normally appears. Apply as a foliar spray only. Do not apply directly to the water in hydroponic growing systems. Discarded water from hydroponic growing systems may be used in greenhouses and for irrigating site vegetation. Water from these systems is prohibited from being discarded directly into a water source.

**GROTTO** may cause some copper toxicity on some plant species.

### Fruit and Nut Crops

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Specific Use Instructions
Almonds	Bacterial spot, Bacterial canker ( <i>Pseudomonas syringae</i> ), Brown rot, Blossom blight, Leaf and fruit spots, Coryneum blight (shot-hole), Anthracnose, Bacterial blast	112 gal/acre	For bacterial canker, apply as a dormant spray as buds begin to swell, repeating at the bud burst stage, and weekly thereafter as needed, up to six sprays. In fall spray again at 10 and 80% of leaf fall. For brown rot blossom blight apply full cover spray at delayed dormant (bud swell), popcorn, full bloom and petal fall stages. During wet weather, additional bloom sprays may be necessary. Do not reapply within 5 days during the growing season or within 7 days during the dormant season.
Blueberries	Gray mold, Mucor fruit rot, Rhizopus fruit rot, Bacterial canker, Phomopsis Twig blight	53 gal/acre	Apply at the start of flowering and reapply every 7 to 10 days until harvest.
Cranberries	Fruit rot, Rose bloom, Bacterial stem canker, Leaf blight, Red leaf spot, Stem blight, Tip blight	13.3 gal/acre	Apply at the start of flowering and reapply every 7 to 10 days until harvest.
Caneberries (Blackberries, Raspberries)	Gray mold, mucor fruit rot, Rhizopus fruit rot, Anthracnose, Cane spot, Leaf spot, Pseudomonas blight, Purple blotch, Yellow rust	63.5 gal/acre	Apply at the start of flowering and reapply every 7 to 10 days until harvest.
Citrus (Grapefruit, Lemon, Kumquat, Lime, Orange, Pummelo, Tangerine)	Melanose spot, greasy spot, citrus scab, Alternaria brown spot, citrus canker, <i>Phytophthora</i> brown rot, and <i>Septoria</i>	80 gal/acre	May cause phytotoxicity if conditions are conducive, when mixed with other products, or when applied to citrus seedlings grown in greenhouses or shadehouses. Reapply every 7 to 14 days if needed.
Papaya	Anthracnose	16.7 gal/acre	Apply before disease appears and reapply every 10 to 14 days if needed.
Starfruit (carambola)	Anthracnose	13.3 gal/acre	Apply just before flowering and reapply every 7 to 14 days until just before harvest.
Currants, Gooseberries	Powdery mildew, Anthracnose, Leaf spot	102 gal/acre	Do not reapply within 10 days.
Grapes	Downy mildew, black rot, phomopsis cane, leaf spot, powdery mildew, gray mold, ripe rot*	127 gal/acre	Begin treatment when new growth reaches 1/2 inch and reapply every 7 to 14 days throughout the growing season. Use Precaution: Do not mix <b>GROTTO</b> with lime. Certain Vinifera and French Hybrid varieties may be sensitive to copper sprays resulting in marginal leaf burn. Before spraying these varieties, consult your State Experiment Station or make test sprays.
Kiwi	<i>Erwinia herbicola</i> , <i>Pseudomonas fluorescens</i> , <i>Pseudomonas syringae</i>	13.3 gal/acre	Apply when disease appears and reapply every 30 days to a maximum of 3 applications per crop.
Pome Fruits (Apples, Pears, Quince)	Anthracnose, Cedar Apple Rust, Fireblight, Scab, Sooty Blotch, Flyspeck, Quince Rust, Blossom blast, European Canker ( <i>Nectria</i> ), Shoot blast ( <i>Pseudomonas</i> ), Collar rot, Crown rot	102 gal/acre	May cause russetting of susceptible apple varieties. Do not exceed the 1.0 gallon of product/100 gallons water use rate. As a dormant or delayed dormant application, up to 200 gallons diluted spray/acre may be applied. Do not exceed one application during the fall, late dormant period. Do not exceed one application between silver tip and green tip growth stages. Do not reapply within 5 days during the bloom and growing stages.
Strawberries	Gray mold, mucor fruit rot, Rhizopus fruit rot, angular leaf spot, leaf scorch, mycosphaerella leaf spot, phomopsis leaf blight, powdery mildew, septoria leaf spots, anthracnose fruit rot	52 gal/acre	Apply at the start of flowering and reapply every 7 to 10 days until harvest.

(continued)

## Fruit and Nut Crops *(continued)*

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Specific Use Instructions
Stone Fruits (Apricots, Cherries, Peaches, Nectarines, Plums)	Bacterial spot, Bacterial canker ( <i>Pseudomonas syringae</i> ), Monolinia brown rot, Blossom blight, leaf and fruit spots, Coryneum blight (shot-hole), Anthracnose, Peach leaf curl, Bacterial blast, Black knot* (plums), Cherry leaf spot* (sour cherries only)	114 gal/acre	For bacterial canker, apply as a dormant spray as buds begin to swell, repeating at the bud burst stage, and weekly thereafter as needed, up to six sprays. In fall spray again at 10 and 80% of leaf fall. For brown rot blossom blight apply full cover spray at delayed dormant (bud swell), popcorn, full bloom and petal fall stages. During wet weather, additional bloom sprays may be necessary. For peach leaf curl make first application before fall rains and as a dormant spray in late fall during a period of dry weather. Do not reapply within 5 days during the growing season or within 7 days during the dormant season.
Mangos	Anthracnose	20.3 gal/acre	Apply when fruit sets and reapply every 7 days until harvest.
Walnuts	Blight	203 gal/acre	Make first application when leaflets start to unfold (prior to, but no later than 1% pistillate bloom) and reapply every 7 days as needed, especially until seasonal rainfall stops. When rain threatens, additional applications are important, applied before or immediately after the rain.
Banana/Plantain	Sigatoka (Black and yellow), Black Pitting	6.7 gal/acre	Apply to the fruit stem and the basal portion of the leaf crown. Apply during the first and second weeks after fruit emergence.
Avocado	Anthracnose, blotch, Scab	12 gal/acre	Apply when blossom buds open and reapply every 14 to 30 days for a maximum of 6 applications.
Filbert (WA and OR only)	Bacterial blight, Eastern Filbert Blight	38 gal/acre	For bacterial blight apply as a post-harvest spray. For Eastern Filbert Blight, apply at bud swell and reapply every 14 days until harvest.
Pecan	Kernel Rot, Shuck Rot ( <i>Phytophthora catorum</i> ) Zonate Leaf Spot ( <i>Cristulariella pyramidalias</i> ), Ball Moss*, Spanish Moss*	13.3 gal/acre	Apply when kernel growth starts and reapply every 14 to 30 days until shucks open. For Ball Moss and Spanish moss, wet moss thoroughly when moss is actively growing.
Pistachio	Botryosphaeria Panicle and Shoot Blight, Botrytis Blight, Late Blight ( <i>Alternaria alternata</i> ), Septoria Leaf Blight	13.3 gal/acre	Apply at bud swell and reapply every 14 to 28 days until harvest.
Guava	Anthracnose, Red Algae	7.8 gal/acre	Apply just before flowering and reapply every 7 to 14 days until harvest.
Lychee	Anthracnose	7.8 gal/acre	Apply just before flowering and reapply every 7 to 14 days until harvest.
Macadamia	Anthracnose, Phytophthora Blight ( <i>P. capsici</i> ), Raceme Blight ( <i>Botrytis cinerea</i> )	15 gal/acre	Apply during raceme development and bloom periods and reapply every 7 days as needed. For Anthracnose, apply at first sign of flowering.
Passion Fruit	Anthracnose	15 gal/acre	Apply just before flowering and reapply every 7 days until harvest.
Sugar Apple (Annona)	Anthracnose	20 gal/acre	Apply just before flowering and reapply every 7 days until harvest.
Mamey Sapote	Algal Leaf Spot, Anthracnose	13.3 gal/acre	Apply when disease first appears. Reapply every 14 to 30 days if needed.

## Other Crops

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Specific Use Instructions
Coffee	Coffee Berry Disease, Bacterial Blight, Leaf Rust, Iron Spot, Pink Disease	13.3 gal/acre	Apply just before flowering, after flowering, and before long rain periods. Reapply every 14 to 21 days if needed.
Cacao	Black Pod	14.3 gal/acre	Apply at the start of rainy season and reapply every 14 to 21 days if needed.
Olives	Olive knot, Peacock spot	38 gal/acre	Apply before winter rain begins. Reapply in early spring if needed and continue every 30 days if needed.

## Greenhouse and Shadehouse Vegetables, Herbs

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Application Notes
Artichoke	Powdery mildew, bacterial spot, bacterial soft rot and bottom rot	16.8 gal/acre	For powdery mildew, plants that are very susceptible should be sprayed every 7 days during the first 2 weeks after emergence, and weekly thereafter.
Bean, Pea	Anthracnose leaf and fruit spot, Ascochyta leaf and pod spot, Bacterial blights (halo, common and brown spot), Downy mildew, Gray mold ( <i>Botrytis</i> ), Powdery mildew, White mold ( <i>Sclerotinia</i> )	For peas: 25 gal/acre For beans: 30 gal/acre	For powdery mildew, plants that are very susceptible reapply every 7 days. For white mold, to prevent floral infection, apply at 25% bloom.

*(continued)*

**Greenhouse and Shadehouse Vegetables, Herbs** *(continued)*

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Application Notes
Beet, Sugar beet, Chard, Spinach	Cercospora leaf spot, Downy mildew, Powdery mildew, White rust, Anthracnose Blue Mold	For beets: 49.9 gal/acre For spinach and chard: 25 gal/acre	Do not reapply within 10 days on beets or within 7 days on spinach or chard.
Carrot	Alternaria leaf blight, Bacterial leaf blight, Cercospora leaf blight	31.8 gal/acre	Do not reapply within 7 days.
Celery and celeriac	Bacterial leaf spot, Cercospora (early) blight, Septoria (late) blight	33.7 gal/acre	Do not reapply within 7 days.
Corn (Field Corn, Popcorn, Seed Corn, Sweet Corn)	Alternaria blight, Anthracnose, Ascochyta leaf and pod spot, Bacterial blights (halo, common, and brown spot), Bacterial leaf spot, Downy mildew, Gray mold, Southern leaf blight, Cercospora leaf blight, Common or Southern Rust, Gray Leaf Spot, Stewart's Wilt*, Bacterial Stalk Rot*	26.7 gal/acre	Do not reapply within 7 days.
Crucifer Crops (Broccoli, Brussel sprouts, Cauliflower, Cabbage, Chinese Cabbage, Collard Greens, Kale, Kohlrabi, Mustard Greens, Turnip Greens)	Alternaria blight, Bacterial leaf spot, Black rot ( <i>Xanthomonas</i> ), Downy mildew, Powdery mildew, White mold ( <i>Sclerotinia</i> ), Black Leaf Spot ( <i>Alternaria</i> )	16.8 gal/acre	Begin application after transplants are set in the field, or shortly after emergence of field seeded crops or when conditions favor disease development. For white mold, to reduce floral infection apply at 25% bloom. For Rutabaga, do not reapply within 10 days. For other crops, do not reapply within 7 days.
Cucurbits (Cucumbers, Cantaloupe, Honeydew, Muskmelon, Squash, Pumpkin, Zucchini, Watermelon)	Alternaria blight, scab, Angular leaf spot, Anthracnose, Downy mildew, Gray mold, Ulocladium leaf spot, Bacterial spot, Powdery mildew, Gummy Stem Blight, Watermelon Bacterial Fruit Blotch (suppression)	33 gal/acre	On plants that are very susceptible to powdery mildew, such as greenhouse-grown cucumber, spray the plants every 5 days during the first 2 weeks after emergence, and weekly thereafter.
Ginseng	Alternaria blight, Botrytis blight, Phytophthora, Powdery mildew	33 gal/acre	Do not reapply within 7 days.
Basil, Chives, Coriander, Mint, Lavender, Rosemary	Anthracnose, Alternaria blight, Bacterial Blight, Botrytis, Downy mildew, Leaf scorch, Leaf spot, Rhizoctonia Leaf blight	16.8 gal/acre	Begin applications when environmental conditions favor disease development. Reapply every 10 to 14 days as needed.
Dill	Anthracnose, Alternaria blight, Bacterial Blight, Botrytis, Downy mildew, Leaf scorch, Leaf spot, Rhizoctonia Leaf blight, Phoma Leaf Spot	25 gal/acre	Begin applications when environmental conditions favor disease development. Reapply every 10 to 14 days as needed.
Parsley	Anthracnose, Alternaria blight, Bacterial Blight, Botrytis, Downy mildew, Leaf scorch, Leaf spot, Rhizoctonia Leaf blight	12.7 gal/acre	Begin applications when environmental conditions favor disease development. Reapply every 10 to 14 days as needed.
Hop	Anthracnose leaf and fruit spot, Cercospora leaf spot, Downy mildew, Powdery mildew	16.8 gal/acre	Do not reapply within 10 days.
Lettuce, Chicory, Endive	Bacterial soft rot and bottom rot, Downy mildew, Powdery mildew, Septoria leaf spot	50.8 gal/acre	For powdery mildew, plants that are susceptible, reapply every 5 days for the first 2 weeks after emergence, and every 7 days thereafter. Use Precaution: Use lower rate on copper sensitive varieties of lettuce.
Onion, Garlic, Leek, Shallot	Botrytis leaf blight, Downy mildew, Neck rot, Bacterial soft rot, Bacterial Blight, Purple Blotch	38 gal/acre	Do not reapply within 7 days.
Tomato, Eggplant, Pepper	Anthracnose, Bacterial speck, Bacterial spot, Cercospora leaf spot, Early blight, Gray mold, Late blight, Leaf mold, Septoria leaf spot, Alternaria blight, Phomopsis	For tomatoes: 51 gal/acre For eggplant: 50 gal/acre For peppers: 75 gal/acre	Use 2.0 gallons in 30 to 100 gallons of water when spraying to control late blight. On tomatoes and peppers, do not reapply within 3 days. On eggplant, do not reapply within 7 days.
Okra*	Anthracnose, Bacterial Leaf Spot, Leaf Spots, Pod Spot, Powdery Mildew	6.7 gal/acre	Apply when disease first appears and reapply every 5 to 7 days if needed.
Potato	Early blight, Late blight	159 gal/acre	Apply when plants are 2 to 6 inches high. Use 2.0 gallons in 30 to 100 gallons of water when spraying to control late blight. Do not reapply within 5 days.

*(continued)*

## Greenhouse and Shadehouse Vegetables, Herbs *(continued)*

Crop	Diseases Controlled	Maximum Annual Rate (Gallons of Product/Acre)	Application Notes
Tobacco	Blue mold (Downy mildew)	50.8 gal/acre	Use on tobacco in transplant beds (or on field grown plants). Do not reapply within 10 days.
Watercress	Cercospora Leaf Spot	9.7 gal/acre	Apply when plants are first established in the field and reapply every 7 to 14 days if needed.

\* Not registered for use in California

## Directions for Use on Ornamentals

**GROTTO** can be used for controlling diseases on ornamentals grown in nurseries, greenhouses, interior landscapes and other sites. For control of these diseases on plants grown on a large scale, mix 0.5 to 2.0 gallons in 30 to 100 gallons of water, and apply to 1 acre.

Alternatively: mix 1.5 to 5.9 fluid ounces in 2.3 gallons of water, and apply to 1,000 ft<sup>2</sup>. For plants grown on a small scale, mix 0.5 to 2.0 fluid ounces in 1 gallon of water, and spray all plant surfaces thoroughly. When necessary, repeat sprays every 7 to 10 days. **GROTTO** may cause some copper toxicity on some plant species. Before spraying a

specific plant species, consult your State Experiment Station or make a test spray. Do not apply more than 127 gallons of product per acre per year. Do not reapply within 7 days. Use the higher rate to control diseases that may go dormant and overwinter.

## Ornamental Plants

The ornamental species listed below may be treated with **GROTTO**. The diseases controlled have been designated with the following codes.

Code	Common Name	Causal Pathogen
ANTH	Anthracoise	<i>Colletotrichum, Glomerella</i>
BOT	Botrytis blight	<i>Botrytis cinerea</i>
BLS	Bacterial leaf spot and blight	<i>Erwinia, Pseudomonas, Xanthomonas</i>
DM	Downy mildew	<i>Plasmopara</i>
LEAFSPOT	Leaf spot (fungal)	<i>Acremonium, Alternaria, Cephalosporium, Cercospora, Colletotrichum, Corynespora, Curvularia, Dactylaria, Drechslera, Exosporium, Exserohilium, Glomerella, Myrothecium, Phyllosticta, Phytophthora</i>
PM	Powdery mildew	<i>Oidium</i>
RHIZC	Rhizoctonia blight	<i>Rhizoctonia</i>
SOFTROT	Soft rot	<i>Erwinia</i>

Ornamental Plant	Common Name	Diseases Controlled
<i>Aechmea fasciata</i>	Urn plant, bromeliad	ANTH, BLS
<i>Aeschynanthus pulcher</i>	Lipstick vine	BOT, LEAFSPOT
<i>Aglaonema</i> species	Chinese evergreen	ANTH, BLS, LEAFSPOT, RHIZC, SOFTROT
<i>Anthurium</i> species	Tailflower	ANTH, BLS, LEAFSPOT, RHIZC, SOFTROT
<i>Aphelandra squarrosa</i>	Zebra plant	BOT, LEAFSPOT, RHIZC
<i>Araucaria heterophylla</i>	Norfolk Island pine	Colletotrichum needle blight
<i>Arecastrum romanzoffianum</i>	Queen palm	LEAFSPOT, Phytophthora bud rot
<i>Asplenium nidus</i>	Bird's nest fern	BLS
<i>Brassaia actinophylla</i>	Schefflera	ANTH, BLS, LEAFSPOT, RHIZC
<i>Caladium</i> species	Caladium	BLS, RHIZC
<i>Calathea</i> species	Rattlesnake plant	BLS, LEAFSPOT
<i>Caryota mitis</i>	Fishtail palm	BLS, LEAFSPOT
<i>Chamaedorea</i> species	various palms	LEAFSPOT
<i>Chrysalidocarpus lutescens</i>	Areca palm	LEAFSPOT
<i>Cissus</i> species	Grape ivy	ANTH, BOT, DM, PM, RHIZC
<i>Codiaeum variegatum</i>	Croton	ANTH, BLS
<i>Cordyline terminalis</i>	Ti plant	ANTH, LEAFSPOT
<i>Chryptanthus</i> species	Bromeliad, earthstar	ANTH

*(continued)*

Ornamental Plant	Common Name	Diseases Controlled
<i>Dieffenbachia</i> species	Dieffenbachia	BLS, LEAFSPOT, RHIZC
<i>Dracaena</i> species	Dracaena, Corn plant	BLS, BOT, LEAFSPOT
<i>Epipremnum aureum</i>	Pothos, Devil's ivy	BLS, RHIZC
<i>Euphorbia milii</i>	Euphorbia	RHIZC
<i>Fatsia japonica</i>	Japanese fatsia	BLS, LEAFSPOT, RHIZC
<i>Ficus benjamina</i>	Weeping fig	LEAFSPOT
<i>Ficus elastica</i>	India-rubber tree	BOT, LEAFSPOT
<i>Fittonia verschaffeltii</i>	Nerve plant	RHIZC
<i>Hedera helix</i>	English ivy	ANTH, BLS, BOT, LEAFSPOT, RHIZC
<i>Hoya carnosa</i>	Wax plant	BOT, LEAFSPOT, RHIZC
<i>Maranta leuconeura</i>	Prayer plant	LEAFSPOT
<i>Monstera deliciosa</i>	Swiss cheese plant	ANTH, BLS, RHIZC, SOFTROT
<i>Nephrolepis exaltata</i>	Boston fern	BLS, BOT, RHIZC
<i>Peperomia</i> species	Peperomia	LEAFSPOT, RHIZC
<i>Philodendron</i> species	Philodendron	ANTH, BOT, LEAFSPOT
<i>Pilea</i> species	Aluminum plant	ANTH, BLS, LEAFSPOT, RHIZC
<i>Platycerium bifurcatum</i>	Staghorn fern	BLS, RHIZC
<i>Polyscias</i> species	Aralia	ANTH, BLS, LEAFSPOT
<i>Rhapis</i> species	Ladyfinger palm	LEAFSPOT
<i>Rhoeo spathacea</i>	Oyster plant	LEAFSPOT
<i>Saintpaulia ionantha</i>	African violet	BLS, BOT, LEAFSPOT, PM
<i>Sansevieria trifasciata</i>	Snake plant	BLS, LEAFSPOT
<i>Schefflera arboricola</i>	Dwarf Schefflera	BLS, LEAFSPOT
<i>Schlumbergera</i> species	Cactus	LEAFSPOT
<i>Sedum</i> species	Sedum	LEAFSPOT
<i>Spathiphyllum</i> species	Spathe flower	LEAFSPOT, RHIZC
<i>Syngonium podophyllum</i>	Nepthytis	BLS, LEAFSPOT, RHIZC
<i>Yucca</i> species	Yucca	LEAFSPOT

Crop	Diseases Controlled	Specific Use Instructions
Pine	Needle Blight	Apply when new needles are just emerging. Make a second application 3 weeks later.
Rose and Ornamental Shrubs (Crape Myrtle, Forsythia, Hydrangea, Willow, Mock-Orange, Deutzia, Pyracantha, Japanese quince, Abelia, Summersweet)	Blackspot, Downy mildew, Gray mold, Leafspots, Powdery mildew, Rust	Begin treatment when new spring growth emerges and repeat every 7 to 10 days for as long as needed to control disease. <b>GROTTO</b> may cause copper toxicity on some rose varieties. Copper toxicity appears as purple spots.
Sycamore	Anthraxnose	Make first application just before buds begin to swell, and repeat twice at 7-day intervals.

## Directions for Use on Turf

**GROTTO** is suitable for controlling diseases of turf in golf courses, turf farms, home lawns and other sites. For large areas, mix 0.5 to 2.0 gallons in 30 to 100 gallons of water and apply to 1 acre. Alternatively: mix 1.5 to 5.9 fluid ounces with 2.3 gallons of water and apply to 1000 ft<sup>2</sup>. For best control, begin treatment 2 weeks before disease normally appears. Alternatively, begin treatment when disease first appears, and repeat at 10 day intervals for as long as needed. In frequently diseased areas, prune adjacent trees and shrubs to reduce turf shading and to improve air movement. Do not apply more than 133 gallons of product per acre per year. Do not reapply within 10 days. Use the higher rate to control diseases that may go dormant and overwinter.

### Ascochyta leaf blight, Cercospora leaf spots, Dollar spot

To reduce Ascochyta leaf blight mow less frequently, only as necessary to maintain recommended height. Water before noon to allow grass to

dry. Water thoroughly only as required to avoid moisture stress. Apply **GROTTO** when disease first appears, and reapply every 10 days if needed.

### Rust

To reduce rust, mow frequently to reduce rust spore production. Water and fertilize lawn as required to avoid moisture and nutrient stress. Water before noon to allow grass to dry. Apply **GROTTO** when disease first appears, and reapply every 10 days if needed.

### Algae

Apply **GROTTO** to control algae. Reapply every 10 days if necessary. Phytotoxicity may occur on sensitive varieties of turf. Discontinue use if injury occurs.

## PESTICIDE STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in a secure place, away from open fire or flame. Keep container closed and reseal after use. Product may be damaged by freezing. Do not store product below 4°C. If spilled, use absorbent materials and dispose of in an approved manner.

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

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

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.

## TERMS AND CONDITIONS OF USE

If terms of the following **WARRANTY DISCLAIMER, INHERENT RISKS OF USE** and **LIMITATION OF REMEDIES** are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, to the extent consistent with applicable law, use by the buyer or any other user constitutes acceptance of the terms under **WARRANTY DISCLAIMER, INHERENT RISKS OF USE**, and **LIMITATION OF REMEDIES**.

### WARRANTY DISCLAIMER

OHP, Inc. warrants that the product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, OHP, INC. MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

### INHERENT RISKS OF USE

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of OHP, Inc. or the seller. To the extent consistent with applicable law, all such risks shall be assumed by buyer.

## LIMITATION OF REMEDIES

To the extent consistent with applicable law, the exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories) shall be limited to, at OHP, Inc.'s election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used.

To the extent consistent with applicable law, OHP, Inc. shall not be liable for losses or damages resulting from handling or use of this product unless OHP, Inc. is promptly notified of such losses or damages in writing. To the extent consistent with applicable law, in no case shall [sub-registrant] be liable for consequential or incidental damages or losses.

The terms of the **WARRANTY DISCLAIMER, INHERENT RISKS OF USE** and this **LIMITATION OF REMEDIES** cannot be varied by any written or verbal statements or agreements. No employee or sales agent of OHP, Inc. or the seller is authorized to vary or exceed the terms of the **WARRANTY DISCLAIMER** or this **LIMITATION OF REMEDIES** in any manner.

## NOTICE TO BUYER

Seller warrants that this product conforms to the chemical description on this label and is reasonably fit for purposes stated on this label only when used in accordance with directions under normal use conditions. This warranty does not extend to use of this product contrary to label directions, or under abnormal use conditions, or under conditions not reasonably foreseeable to seller. To the extent consistent with applicable law, buyer assumes all risk of any such use. Seller makes no other warranties, either expressed or implied.

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