



## UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES  
AND TOXIC SUBSTANCES

OCT 30 2007

John T. Tice  
Loveland Products, Inc.  
P.O. Box 1286  
Greeley, CO 80632-1286

SUBJECT: Label Amendment Per Agency Letter Dated July 27, 2007  
Chlorothalonil 90 DF  
EPA Reg. No. 34704-878  
Your Submission Dated August 29, 2007

Dear Mr. Tice:

In a letter dated July 27, 2007 the Agency requested that you add use site restriction language to the label for Chlorothalonil. The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA), as amended, is acceptable provided that you.

1. Make the following changes to the label:

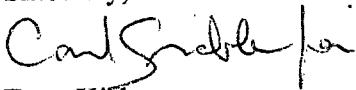
- On page 1, in the First Aid section, subheading "If Swallowed", move the first sentence to the end of that section.

- On page 1, in the Personal Protective Equipment section change "waterproof gloves" to "chemical resistant gloves".

Submit one copy of your final printed labeling before you release the product for shipment.

If you have any questions regarding this correspondence, contact Rose Kearns of my staff by phone at 703-305-5611 or via email at [kearns.rosemary@epa.gov](mailto:kearns.rosemary@epa.gov) or myself at 703-308-9443 or via email at [kish.tony@epa.gov](mailto:kish.tony@epa.gov).

Sincerely,



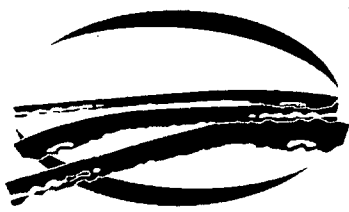
Tony Kish  
Product Manager (22)  
Fungicide Branch  
Registration Division (7504P)

Enclosure

3 8 6

ACCEPTED  
with COMMENTS  
In EPA Letter Dated

OCT 30 2007  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
34704-878



# CHLOROTHALONIL 90DF

## TURF AND ORNAMENTAL FUNGICIDE

ACTIVE INGREDIENT: Chlorothalonil (tetrachloroisophthalonitrile) ..... 90.0%  
OTHER INGREDIENTS: ..... 10.0%  
TOTAL 100.0%

### KEEP OUT OF REACH OF CHILDREN DANGER—PELIGRO

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

#### FIRST AID

<b>If Inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth to mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<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.</li> <li>• 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 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 for treatment advice.</li> <li>• Have affected person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told by a poison control center of doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL:**  
1-800-301-7976.  
Have the product container or label with you when calling a poison control center or doctor or going for treatment.  
**NOTES TO PHYSICIAN:** Probable mucosal damage may contraindicate the use of gastric lavage. Persons having a temporary allergic reaction respond to treatment with antihistamines or steroid creams and/or systemic steroids.

EPA REG. NO. 34704-878  
EPA EST. NO. 34704-MS-1  
NET CONTENTS 50 LBS. (22.68 KG)  
IHT EXP 08/07

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER—PELIGRO

Fatal if inhaled. Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Avoid contact with skin. Do not breathe dust. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

**Personal Protective Equipment (PPE):**  
**Mixers, loaders, applicators, and all other handlers must wear:** Long-sleeved shirt and long pants, shoes plus socks, protective eye wear, waterproof gloves (some of the materials that are chemical-resistant to this product are barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyethylene, polyvinyl chloride, or viton; if you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart), and a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N, R, P, or HE prefilter.

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

**Engineering Controls:**  
When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesti-

cides [40 CFR 170.240(J)(4-6)], the handler's PPE requirements may be reduced or modified as specified in the WPS.

USER SAFETY RECOMMENDATIONS	
Users should:	
Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.	
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.	
Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.	

#### ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates and wildlife. DO NOT apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. DO NOT contaminate water when disposing of equipment washwater or rinsate.  
Chlorothalonil can contaminate surface water through spray drift. DO NOT apply when weather conditions favor drift from treated areas. Under some conditions it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlying tile drainage systems that drain to surface water.  
Chlorothalonil degradates are known to leach through soil into ground water under certain conditions as a result of label use. Use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

#### DIRECTIONS FOR USE

**General Precautions and Restrictions**  
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, or pets, either directly or through drift. Only protected handlers may be in the area during applications. For any requirements specific to your State or Tribe, consult the Agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS	
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.	
DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.	
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 shirts and long pants, chemical-resistant gloves, chemical-resistant footwear plus socks, protective eye-wear, chemical-resistant headgear. Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.	
<b>Special Eye Irritation Provisions:</b> This product is a severe eye irritant. Although the restricted-entry interval expires after 12 hours, for the next 6 1/2 days entry is permitted only when the following safety measures are provided: At least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site intended for workers entering the treated area. Workers must be informed, in a manner they can understand:	
<ul style="list-style-type: none"> <li>• that residues in the treated area may be highly irritating to their eyes;</li> <li>• that they should take precautions, such as refraining from rubbing their eyes, to keep the residues out of their eyes;</li> <li>• that if they do get residues in their eyes, they should immediately flush their eyes using the eyeflush container that is located at the decontamination site or using other readily available clean water; and</li> <li>• how to operate the eyeflush container.</li> </ul>	

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# CHLOROTHALONIL 90DF EPA REG. NO. 34704-878

## 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):  
DO NOT enter or allow others to enter into treated areas until spray deposits have dried.

## STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**PESTICIDE STORAGE:** Store in a cool place. Protect from excessive heat.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray 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 DISPOSAL:** DO NOT reuse empty container. Triple rinse (or equivalent) and offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**RETURNABLE REFILLABLE CONTAINER:** If CHLOROTHALONIL 90DF is packaged in a returnable refillable container, then, after use, do not rinse container. Return container intact to point of purchase. This container must only be refilled with CHLOROTHALONIL 90DF. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Before refilling, inspect thoroughly for damage such as cracks, punctures, abrasions, and damaged or worn threads on closure devices. Check for leaks after refilling and before transport.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

This product must not be applied within 150 feet (for aerial and air-blast applications), or 25 feet (for ground applications) from marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

## AERIAL DRIFT ADVISORY INFORMATION

### INFORMATION ON DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable conditions (see Wind, Temperature).

### CONTROLLING DROPLET SIZE

- Volume - Use high flow rate nozzles to apply the highest practical spray volume.
- Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

### BOOM LENGTH

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

### APPLICATION HEIGHT

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### SWATH ADJUSTMENT

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, small drops, etc.).

## WIND

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

## TEMPERATURE AND HUMIDITY

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

## TEMPERATURE INVERSION

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversion. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified 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.

## INTEGRATED PEST MANAGEMENT

CHLOROTHALONIL is an excellent disease control agent when used according to the label directions for control of a broad spectrum of plant diseases. CHLOROTHALONIL is recommended for use in programs that are compatible with the principles of Integrated Pest Management (IPM), including the use of disease resistant crop varieties, cultural practices, pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides.

## FUNGICIDE RESISTANCE MANAGEMENT

CHLOROTHALONIL is effective for strategic use in programs that attempt to minimize disease resistance to fungicides. Some other fungicides which are at risk from disease resistance exhibit a single-site mode of fungicidal action. CHLOROTHALONIL, with a multi-site mode of action, may be used to delay or prevent the development of resistance to single-site fungicides. Consult with your federal or state Cooperative Extension Service representatives for guidance on the proper use of CHLOROTHALONIL in programs which seek to minimize the occurrence of disease resistance to other fungicides.

## MIXING, LOADING AND APPLYING

CHLOROTHALONIL is intended to be diluted into water, then applied to crops by typical agricultural spraying techniques. Slowly invert container several times to assure uniform mixture. **Always apply CHLOROTHALONIL in sufficient water to obtain thorough, uniform coverage of foliage and crop surfaces intended to be protected from disease.** Spray volume to be used will vary with crop and amount of plant growth. Spray volume should normally range from 20 to 150 gallons per acre (200 to 1400 liters per hectare) for dilute sprays and 5 to 10 gallons per acre (50 to 100 liters per hectare) for concentrate ground sprays and aircraft applications. Both ground and aircraft methods of application are recommended unless specific directions are given for a crop.

Measure the required amount of CHLOROTHALONIL and pour into the spray tank during filling. Keep agitator running when filling spray tank and during spray operations. Do not use on greenhouse-grown crops except as directed in the Ornamental Plants section of this label.

## TANK MIXING

When tank mixing this product with other pesticides observe the more restrictive label limitations and precautions. No label dosage rates should be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not combine CHLOROTHALONIL in sprayer tank with pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use. Do not combine CHLOROTHALONIL with Dipel 4L, Foil, Triton AG-98, Triton B-1956 or Latron B-1956, as phytotoxicity may result from the combination when applied to the crops on this label. DO NOT tank mix CHLOROTHALONIL with oil or with any adjuvants which contain oil as their principal ingredient. Do not use with Copper-Count N in concentrated spray suspensions. Dipel is a registered trademark of Abbott Laboratories; Foil is a registered trademark of Ecogen, Inc; Latron and B-1956 are trademarks of Rohm and Haas Company; Copper-Count is a registered trademark of Mineral Research and Development Corporation.

## CONIFERS

### 16.5 lbs a.i./A Maximum Seasonal Total

Apply this product in sufficient water and with proper calibration to obtain uniform coverage of tree canopy. Application with ground equipment is preferable to aerial application because ground applications generally give better coverage of the tree canopy. If application with ground equipment is not feasible, this product may be applied with aircraft using at least 20 gallons of spray per acre. When concentrate sprays are used or when treating immature trees, use the lower rate of this product listed for the crop being treated.

DO NOT allow livestock to graze in treated areas.

**DO NOT apply Chlorothalonil within one week before or after application of oil or an oil-based pesticide.**

**CHLOROTHALONIL 90DF**  
EPA REG. NO. 34704-878

Diseases	Rate per Acre	Spray Volume (gallons/acre)	Application Directions
Swiss needlecast	2 1/4 to 4 1/2 lbs	5 to 10 (concentrate ground or aircraft) to 100 (dilute)	Single application technique: In Christmas tree plantations or forest stands make one application in the spring when new shoot growth is 1/2 to 2 inches in length.
Scleroderris canker (pines), Swiss needlecast Sirococcus tip blight	1-1/8 to 2 1/4 lbs		Make the first application in spring when new shoot growth is 1/2 to 2 inches in length. Make additional applications at 3 to 4 week intervals until conditions no longer favor disease development. For use in nursery beds, apply the highest rate specified on a 3 week schedule.
Rhizosphaera needlecast (spruces), Scirrhia brown spot (pines)	1-5/8 to 2 3/4 lbs		Apply in early spring prior to budbreak. Repeat applications at approximately 6 to 8 week intervals, until spore release ceases in late fall. Apply monthly during periods of frequent rainfall, and where Lophodermium infections occur during dormancy (Pacific Northwest). During drought periods, applications may be suspended, then resumed upon next occurrence of needle wetness.
Cyclaneusma and Lophodermium needlecasts (pines)	4 1/2 lbs		Apply at budbreak and repeat at 3 to 4 week intervals until needles are fully elongated and conditions no longer favor disease development. In plantations of mixed provenance, or when irregular budbreak occurs, apply weekly until all trees have broken bud, then every 3 to 4 weeks as specified above. In nursery beds, use the high rate on a 3 week schedule.
Rhabdocline needlecast (Douglas-fir)	2 1/4 to 2 1/2 lbs		Begin applications in nursery beds when seedlings are 4 inches tall and when cool, moist conditions favor disease development. Make additional applications at 7 to 14 day intervals as long as disease favorable conditions persist.
Botrytis seedling blight, Phoma twig blight	2 1/2 lbs		Begin applications when 10% of buds have broken and repeat twice thereafter at 7-10 day intervals.
Autoecious needle rust (Weir's cushion rust) (spruces)	4 1/2 lbs		

**TURFGRASSES**

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, play fields, recreational park athletic fields, athletic fields located on or next to schools (i.e., elementary, middle and high schools), campgrounds, churches and theme parks. Sod farm turf treated with chlorothalonil prior to harvest must be mechanically cut, rolled and harvested. **NOTE: Do not use for sodfarms at application rates greater than 13 pounds of active ingredient, per acre, per year.** Do not apply more than the following totals of chlorothalonil active ingredient from all registered product sources to the indicated types of turfgrass:

Type of Turfgrass	Total Chlorothalonil Active Type of Ingredient Per Acre Per Year
Golf Course Greens	73 lbs
Golf Course Tees	52 lbs
Golf Course Fairways	26 lbs
Sod Farms	13 lbs
Other Turf	26 lbs

Apply CHLOROTHALONIL in 90 to 450 gallons of water per acre on golf course greens and tees, and 30 to 100 gallons of water per acre on fairways, lawns and other turfgrass. Apply with ground equipment only.

Begin applications when conditions favor disease development and repeat applications as long as these conditions persist. Under severe disease conditions use the highest rate and shortest interval corresponding with the application schedule selected from the table below. DO NOT mow or irrigate after treatment until spray deposit on turfgrass is thoroughly dry. Chlorothalonil should always be used in conjunction with good turf management practices.

Diseases Controlled	Interval of Application	Golf Course Greens & Tees Rate Per 1,000 Sq.Ft.	Golf Course Fairways, Lawns & Other Turfgrass Rate Per Acre
1. Dollar spot 2. Brown patch 3. Leaf spot, Melting-out, brown blight 4. Gray leaf spot	7-14 days	1.7 to 3 ounces (4.1 to 7.3 lbs a.i./acre)	4.6 to 8.1 lbs (4.1 to 7.3 lbs a.i./acre)
5. Red thread 6. Anthracnose 7. Copper spot 8. Stem rust (bluegrass) 9. Dichondra leaf spot	7 days or 14 days	3 ounces or 4.6 ounces (7.3 to 11.3 lbs a.i./acre)	8.1 lbs or 12.6 lbs (7.3 to 11.3 lbs a.i./acre)

Diseases listed are caused by fungi, some of which are named as follows:

1. Dollar spot: *Sclerotinia homeocarpa*; *Lanzia* or *Moellerodiscus* spp.
2. Brown Patch: *Rhizoctonia solani*, *R. zeae*, *R. cerealis*
3. Leaf spots, Melting-out, Brown blight: *Drechslera* spp. (including *D. poae*, *D. siocans*), *Bipolaris sorokiniana*, *Curvularia* spp.
4. Gray leaf spot: *Pyricularia grisea*, *P. oryzae*
5. Red thread: *Laetisaria fuciformis*
6. Anthracnose: *Colletotrichum graminicola*
7. Copper spot: *Gloeocercospora sorghi*
8. Stem rust: *Puccinia graminis*
9. Dichondra leaf spot: *Alternaria* spp.

**Gray Snow Mold** caused by *Typhula* spp.: Apply in sufficient water to obtain adequate coverage (2 to 10 gallons per 1,000 square feet). Apply 4.6 ounces of CHLOROTHALONIL 90DF per 1,000 square feet of turf area (12.6 lbs per acre). Application must be made before snow cover in autumn. If snow cover is intermittent or lacking during the winter, re-apply CHLOROTHALONIL at monthly intervals until Gray Snow Mold conditions no longer prevail. In areas where Pink Snow Mold (Microdochium or Fusarium patch) is likely to occur, apply CHLOROTHALONIL 90 DF at 4.6 ounces in combination with products containing iprodione at 2 ounces active ingredient, per 1,000 square feet of turf area. Read and observe all label directions for products containing these active ingredients.

**Fusarium (Microdochium) Patch:** CHLOROTHALONIL is effective against Fusarium patch only in areas where snow cover is intermittent or lacking during the winter. Apply 4.6 ounces of CHLOROTHALONIL 90 DF per 1,000 square feet of turf area. Begin applications in late autumn and re-apply at 21 to 28 day intervals until conditions favorable for Fusarium patch no longer prevail.

**Algal scum:** Apply CHLOROTHALONIL 90DF at 1.7 to 3 ounces per 1,000 square feet on a 7 to 14 day schedule. When colonies of algae are well established, every attempt should be made to dry out the afflicted area. Once dry, spiking or verticutting should be done to enhance turfgrass recovery in conjunction with the use of CHLOROTHALONIL. Several applications of CHLOROTHALONIL at the high rate may be necessary for turfgrass recovery. When environmental conditions are favorable for algae growth, a preventive program with CHLOROTHALONIL will suppress re-colonization of the turf.

**ORNAMENTAL PLANTS**

Apply CHLOROTHALONIL 90DF at a rate of 1.1 lbs per 100 gallons of water unless other directions are given in the tables below. Apply enough diluted spray per acre to provide thorough coverage of all plant parts that are intended to be protected from disease, generally ranging from 20 to 150 gallons per acre. Repeat applications at 7 to 14 day intervals until conditions are no longer favorable for disease. During periods when conditions favor severe disease incidence, generally cloudy or wet weather, apply CHLOROTHALONIL at 7 day intervals. **DO NOT apply more than a total of 36.4 lbs chlorothalonil active ingredient per acre per growing season on field-grown ornamentals.** Fruits and other structures which may be borne on treated plants **MUST NOT BE EATEN.**

This product may be used in greenhouses. DO NOT use mistblowers or high pressure spray equipment when making applications of this product in greenhouses.

CHLOROTHALONIL is recommended for control of fungal diseases referred to by numbers in parentheses following each type of ornamental plant. The user should test for possible phytotoxic responses, using recommended rates on each type of ornamental plant on a small area prior to widespread use. Applications made during bloom may damage flowers and/or fruits.

**ORNAMENTALS RECOMMENDED FOR TREATMENT WITH CHLOROTHALONIL**  
Broadleaf Shrubs and Trees

Andromeda ( <i>Pieris</i> )(4)	Flowering peach (1,2)
Ash ( <i>Fraxinus</i> )(1)	Flowering plum(1,2)
Aspen (1)	Flowering quince (1,2)
Azalea (1,2,4)	Hawthorn (1,6)
Buckeye, Horsechestnut (1)	Holly (1)
Camellia (2)	Lilac (5)
Cherry-laurel (1)	Magnolia (1)
Crabapple (1,6)	Maple(1)
Dogwood (1)	Mountain laurel (1)
Eucalyptus (3)	Oak (red group only)(1,7)
Euonymus (1)	Oregon-grape ( <i>Mahonia</i> )(6)
Firethorn ( <i>Pyracantha</i> )(1)	Red-tip ( <i>Photinia</i> )(1)
Flowering almond (1,2)	Poplar (1)
Flowering cherry (1,2)	Privet ( <i>Ligustrum</i> )(1)

676

# CHLOROTHALONIL 90DF EPA REG. NO. 34704-878

Rhododendron (1,2,4)  
Sand cherry (1,2)  
Sequoia (1)  
Spirea (1)

Sycamore, Planetree (1)  
Viburnum (5)  
Walnut (*Juglans*)(1)

### Flowering<sup>a</sup> Plants and Bulbs

Arabian violet (2)  
Begonia(1)  
Carnation(1,2)  
Chrysanthemum (1,2)  
Crocus (1)  
Daffodil (1)  
Daisy (1)  
Geranium (1,6)  
Gladiolus (1,2)  
Hollyhock (6)  
Hydrangea (foliage only)(1,6)  
Iris (1,2)

Lily (1)  
Marigold (1)  
Narcissus (1)  
Pansy (1)  
Petunia (1,4)  
Phlox (1)  
Poinsettia<sup>b</sup> (1)  
Rose<sup>c</sup> (1)  
Statice (1)  
Tulip (1)  
Zinnia (1,5)

- a/ Avoid applications during bloom periods on plants where flower injury is unacceptable.
- b/ Discontinue applications prior to bract formation; phytotoxicity is possible on the bracts.
- c/ Use 0.8 lb of CHLOROTHALONIL 90DF per 100 gallons of water.

### Foliage Plants

Aglaonema (1)  
Areca palm (1)  
Artemisia (1)  
Boston fern (*Nephrolepis*)(1)  
Dracanea (1)  
Dumbcane (*Dieffenbachia*)(1)  
Fatsia (*Aralia*)(1)  
Ficus (1)  
Florida ruffe fern (1)  
Leatherleaf fern (1)

Lipstick plant (1)  
Ming aralia (1)  
Oyster plant (*Rhoeo*)(1)  
Pachysandra<sup>d</sup> (1)  
Parlor palm (*Chamaedorea*)(1)  
Peperomia (1)  
Philodendron (1,4)  
Prayer plan (*Maranta*)(1)  
Syngonium (1)  
Zebra plant (*Aphelandra*)(1)

- d/ Use 2.3 lbs of CHLOROTHALONIL 90DF per 100 gallons of water.

### Diseases controlled with CHLOROTHALONIL:

#### 1. Leafspots & Foliar Blights:

Actinopelte leafspot  
Alternaria leafspot or leaf blight  
Anthracnose (*Gnomonia*, *Glomerella*, *Colletotrichum*, *Discula*) blights  
Black spot (*Diplocarpon*)  
Botrytis blights  
Cephalosporium leafspot  
Cercospora leafspot  
Cercosporidium leafspot  
Shothole (*Stigmata*)  
Corynespora Stem & leafspots  
Curvularia leafspot  
Dactylaria leafspot  
Didymellina leafspot  
Drechslera (*Bipolaris*) leafspots, inkspot  
Fabraea (*Entomosporium*) leafspot.

Fusarium (*Gibberella*) leafspot  
Gloeosporium black leafspot  
Marssonina leafspot  
Monilinia blossom blight, twig blight  
Mycosphaerella ray blight  
Myrothecium leafspot, brown rot  
Phyllosticta leafspot  
Ramularia leafspot  
Rhizoctonia web blight  
Scab (*Venturia*)  
Septoria leafspot  
Sphaeropsis leafspot  
Stagonospora leaf scorch  
Tan leafspot (*Curvularia*)  
Volutella leaf blight

#### 2. Flowers Spots & Blights:

Botrytis flower spot, flower blight  
Curvularia flower spot  
Monilinia blossom blight

Ovulinia flower blight  
Rhizopus blossom blight  
Sclerotinia flower blight

#### 3. Cylindrocladium stem canker

#### 4. Phytophthora leaf blight, dieback

#### 5. Powdery mildews:

*Erysiphe cichoracearum*  
*Sphaerotheca fuliginea*

*Microsphaera* spp.

#### 6. Rusts:

*Gymnosporangium* Spp.  
*Pucciniastrum hydrangeae*

*Puccinia* spp.

#### 7. Taphrina blister

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