

100-1395

6/22/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D C 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

Fred Pearson
Syngenta Crop Protection LLC
P O Box 18300
Greensboro NC 27419 8300

JUN 22 2012

SUBJECT Label Amendment
Chlorothalonil 82 5 SDG
EPA Reg No 100 1395 Decision # 463541
Your Submission Dated March 29 2012

Dear Mr Pearson

The label referred to above submitted in connection with registration under the Federal Insecticide Fungicide and Rodenticide Act (FIFRA) as amended to clarify allowable turf use sites and rates and to comply with the National Marine Fishery Services (NMFS) Salmon Biological Opinion (BIOP) by restricting against use on forests is acceptable providing you submit a final printed label with these changes

- 1 On page 6 in the Agricultural Use Requirements box line 1 first paragraph add (WPS) after Worker Protection Standard
- 2 On page 6 in the Agricultural Use Requirements box line 7 add (REI) after restricted entry interval
- 3 On page 6 second paragraph delete restricted entry interval and parenthesis around (REI)
- 4 On page 16 under Sod Farms first bullet must read Sod farm turf treated with Chlorothalonil 82 5 SDG prior to harvest must be mechanically cut rolled and harvested

A copy of the label stamped Accepted with Comments is enclosed

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 or myself at 703 308 9443 or via email at kish.tony@epa.gov

Sincerely



Tony Kish
Product Manager 22
Fungicide Branch
Registration Division (7505P)

30228

MASTER

[Insert SuperWeatherStik® logo]

Chlorothalonil 82.5 SDG

Fungicide

For control of diseases on turf, ornamentals and conifers

<i>Active Ingredient</i>	
<u>Chlorothalonil (tetrachloroisophthalonitrile)</u>	<u>82.5%</u>
<u>Other Ingredients</u>	<u>17.5%</u>
Total	100.0%

(82.5% Water Dispersible Granules)

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 the label, find someone to explain it to you in detail.)

See additional precautionary statements and directions for use inside booklet

EPA Reg. No. 100-1395

EPA Est. 50534 TX 001

Net Weight _____

ACCEPTED
with COMMENTS
In EPA Letter Dated
JUN 22 2012
 Under the Federal Insecticide
 Fungicide and Rodenticide Act
 as amended, for the pesticide
 registered under EPA Reg. No.
100-1395

FIRST AID	
If in eyes	<ul style="list-style-type: none"> • 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 • Rinse eye only with water Do not put eye drops drugs or ointments in eyes unless specifically recommended by a medical doctor or a poison control center • Call a poison control center or doctor for treatment advice
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air • If person is not breathing call 911 or an ambulance then give artificial respiration preferably mouth to mouth if possible • Call a poison control center or doctor for further treatment advice
If on skin or clothing	<ul style="list-style-type: none"> • 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
NOTE TO PHYSICIAN	
<p>Possible mucosal damage may contraindicate the use of gastric lavage chemical adsorbents are recommended to reduce adsorption of the product Persons suffering with temporary allergic skin reactions may respond to treatment with oral antihistamines and topical or oral steroids</p> <p>If in eyes the upper and lower lids should be retracted and irrigated and any particulate matter should be carefully removed from the conjunctival fornix Irrigation should be continued until the conjunctival sac is neutral on pH testing with universal indicator paper Fluorescein staining is required to reveal the extent of corneal or conjunctival epithelial loss Topical antibiotic ointments are indicated when corneal epithelial damage is identified Use of steroid eye drops is not advocated unless expressly requested by an ophthalmologist</p>	
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment</p>	
HOT LINE NUMBER	
<p>For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill Leak Fire or Accident) Call 1 800 888 8372</p>	

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

DANGER/PELIGRO

Corrosive Causes irreversible eye damage May be fatal if inhaled Causes skin irritation Do not get in eyes on skin or on clothing Do not breathe dust Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals Wash thoroughly with soap and water after handling and before eating drinking chewing gum using tobacco or using the toilet Remove and wash contaminated clothing before reuse

Personal Protective Equipment (PPE)

Some materials that are chemical resistant to this product are made of any waterproof material If you want more options follow the instructions for Category A on an EPA chemical resistance category selection chart

Mixers loaders applicators and all other handlers must wear

- coveralls over short sleeved shirt and short pants
- chemical resistant gloves made of any waterproof material
- chemical resistant footwear plus socks
- protective eyewear
- chemical resistant headgear for overhead exposure
- chemical resistant apron when cleaning equipment mixing or loading
- dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC 21C) or a NIOSH approved respirator with any N R P or HE filter
- For exposures in enclosed areas such as a greenhouse applicators and other handlers must wear a respirator with an organic vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC 23C) or a canister approved for pesticides (MSHA/NIOSH approval number prefix TC 14G) or a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any N R P or HE prefilter

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate Do not reuse them 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

Engineering Control Statements

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

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**

- 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/PPE 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 may be hazardous to aquatic organisms in neighboring areas Do not contaminate water when disposing of equipment washwater or rinsate

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use Use of this chemical in areas where soils are permeable particularly where the water table is shallow may result in groundwater contamination

This chemical can contaminate surface water through spray drift Under some conditions it may 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 towards adjacent surface waters frequently flooded areas areas overlaying extremely shallow ground water areas with infield canals or ditches that drain to surface water areas not separated from adjacent surface waters with vegetated filter strips and areas over laying tile drainage systems that drain to surface water

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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 must be followed carefully. It is impossible to eliminate all risks inherently 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 SYNGENTA CROP PROTECTION LLC or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law, (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and (2) Buyer and User assume the risk of any such use. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.**

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA 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 SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

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

Chlorothalonil 82.5 SDG should be used only in accordance with recommendations on this label or in separately published Syngenta supplemental labeling recommendations for this product

Agricultural Uses

Sod farms (including commercial seed production farms) ornamental nurseries and greenhouses and conifers (nursery beds Christmas tree and bough production plantations and tree seed orchards)

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 application 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 workers to enter 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 short sleeved shirt and short pants
- chemical resistant gloves made of any waterproof material
- chemical resistant footwear plus socks
- protective eyewear
- chemical resistant headgear for overhead exposure

Special Eye Irritation Provisions This product is a severe eye irritant Although the restricted entry interval expires after 12 hours for the next 6.5 days entry is permitted only when the following safety measures are provided

- (1) 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
- (2) Workers must be informed in a manner they can understand
 - that residues in the treated area may be highly irritating to their eyes
 - that they should take precautions such as refraining from rubbing their eyes to keep the residues out of their eyes
 - 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
 - how to operate the eyeflush container

Non Agricultural Uses

For use to control turf diseases on golf courses on lawns around commercial (non residential) and industrial buildings and on professional and collegiate athletic fields

For use to control diseases on ornamentals on golf courses and landscape areas around residential institutional public commercial and industrial buildings parks recreational areas and athletic fields

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 the treated area until sprays have dried

USE INFORMATION

Chlorothalonil 82.5 SDG is an excellent disease control agent when used according to label directions for control of a broad spectrum of plant diseases Chlorothalonil 82.5 SDG is recommended for use in programs which are compatible with the principles of Integrated Pest Management (IPM) which include the use of disease resistant crop varieties cultural practices pest scouting and disease forecasting systems which reduce unnecessary applications of pesticides

Resistance Management

Chlorothalonil 82.5 SDG 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 82.5 SDG 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 82.5 SDG in programs which seek to minimize the occurrence of disease resistance to other fungicides.

Tank Mix Precautions and Instructions

Do not combine Chlorothalonil 82.5 SDG in the spray 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 82.5 SDG with Dipel[®], Latron B 1956[®] or Latron AG 98[®], horticultural oil and products containing xylene as phytotoxicity may result from the combination when applied to some species on this label.

The required amount of Chlorothalonil 82.5 SDG should be added slowly into the spray tank during filling. With concentrate sprays, pre-mix the required amount of Chlorothalonil 82.5 SDG in a clean container and add to the spray tank as it is being filled. Keep agitator running when filling spray tank and during spray operations.

When tank mixing other products with Chlorothalonil 82.5 SDG, follow the proper sequence of adding products to the spray tank. Add wettable powders or water dispersible granules such as Chlorothalonil 82.5 SDG to the water in the tank first, followed by flowable products, then emulsifiable concentrates. Provide sufficient mechanical or bypass agitation during mixing and application.

When tank mixing, observe all directions, precautions, and limitations on labeling of all products used. Consult compatibility charts or your local or State agricultural authorities for compatibility information. It is impossible to test every species and variety of plants under all conditions.

USE PRECAUTIONS AND RESTRICTIONS

Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (e.g., elementary, middle and high schools), campgrounds, churches, and theme parks.

Do not apply to forests.

Agricultural Use Sites Sod farms (including commercial seed production farms) ornamental nurseries and greenhouses and conifers (nursery beds Christmas tree and bough production plantations and tree seed orchards)

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

Non Agricultural Uses

For use to control turf diseases on golf courses on lawns around commercial (non residential) and industrial buildings and on professional and collegiate athletic fields

For use to control diseases on ornamentals on golf courses and landscape areas around residential institutional public commercial and industrial buildings parks recreational areas and athletic fields

Spray Drift Precautions

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 public health uses or applications using dry formulations.

- 1 The distance of the outer most nozzles on the boom must not exceed $\frac{3}{4}$ the length of the wingspan or rotor
- 2 Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees

Where states have more stringent regulations they should be observed

The applicator should be familiar with and take into account the information covered in the **Aerial Drift Reduction Advisory Information**

Aerial Drift Reduction Advisory Information

This section is advisory in nature and does not supersede the mandatory label requirements

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 the 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 ft 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 upwind 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, smaller 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 Inversions

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 inversions. 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.

Sensitive Areas

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, nontarget crops) is minimal (i.e., when wind is blowing away from the sensitive areas).

APPLICATION

Application and Calibration Techniques for Chemigation

Apply this product only through center pivot, motorized lateral move, traveling gun, solid set or portable (wheel move, side roll, end tow, or hand move) irrigation system(s). Do not apply this product through any other type of irrigation system. Do not use Chlorothalonil 82.5 SDG through sprinkler irrigation equipment on golf courses.

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

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

Spray mixture in the chemical supply tank must be agitated at all times, otherwise settling and uneven application may occur. Do not apply when wind speed favors drift beyond the area intended for treatment

Always inject Chlorothalonil 82.5 SDG into irrigation water after it discharges from the irrigation pump and after it passes through the check valve. Never inject pesticides into the intake line on the suction side of the pump.

Specific Instructions for Public Water Systems

1. 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 regularly serves an average of at least 25 individuals daily at least 60 days out of the year
2. 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 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

- 3 The pesticide injection pipeline must contain a functional automatic quick closing check valve to prevent the flow of fluid back toward the injection pump
- 4 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
- 5 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
- 6 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
- 7 Do not apply when wind speed favors drift beyond the area intended for treatment

Posting

Posting of areas to be chemigated is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, daycare centers, hospitals, inpatient clinics, nursing homes or any public areas such as schools, parks, playgrounds or other public facilities not including public roads, or 2) when the chemigated area is open to the public

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2½ inches tall and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words PESTICIDES IN IRRIGATION WATER.

160028

This sign is in addition to any sign posted to comply with the Worker Protection Standard

Specific Chemigation Instructions

Chlorothalonil 82.5 SDG may be used through two basic types of sprinkler irrigation systems as outlined in Sections A and B below. Determine which type of system is in place then refer to the appropriate directions provided for each type.

A Center Pivot Motorized Lateral Move and Traveling Gun Irrigation Equipment

For injection of pesticides these continuously moving systems must use a positive displacement injection pump of either diaphragm or piston type constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock and capable of injection at pressures approximately 2-3 times those encountered within the irrigation water line. Venturi applicator units cannot be used on these systems.

Thoroughly mix recommended amount of Chlorothalonil 82.5 SDG for acreage to be covered into the same amount of water used during calibration and inject into system continuously for one revolution or run. Mixture in the chemical supply tank must be continuously agitated during the injection run. Shut off injection equipment after one revolution or run but continue to operate irrigation system until Chlorothalonil 82.5 SDG has been cleared from last sprinkler head.

B Solid Set and Portable (Wheel Move Side Roll End Tow, or Hand Move) Irrigation Equipment

With stationary systems an effectively designed in line Venturi applicator unit is preferred which is constructed of materials that are compatible with pesticides however a positive displacement pump can also be used.

Determine acreage covered by sprinkler. Fill tank of injection equipment with water and adjust flow to use contents over a thirty to forty five minute period. Mix desired amount of Chlorothalonil 82.5 SDG for acreage to be covered with water so that the total mixture of Chlorothalonil 82.5 SDG plus water in the injection tank is equal to the quantity of water used during calibration and operate entire system at normal pressures recommended by the manufacturer of injection equipment used for amount of time established during calibration. Agitation is recommended. Chlorothalonil 82.5 SDG can be injected at the beginning or end of the irrigation cycle or as a separate application. Stop injection equipment after treatment is completed and continue to operate irrigation system until Chlorothalonil 82.5 SDG has been cleared from last sprinkler head.

DIRECTIONS FOR APPLICATION

TURF

- Always use Chlorothalonil 82.5 SDG in conjunction with good turf management practices
- **Do not use on home lawns and turf sites associated with apartment buildings, daycare centers, playgrounds, playfields, recreational park athletic fields, athletic fields located on or next to schools (e.g., elementary, middle and high schools), campgrounds, churches, and theme parks**
- Do not use Chlorothalonil 82.5 SDG on fine fescue turf due to the potential for phytotoxicity or turfgrass injury
- Do not mow or water after treatment until spray deposited on turfgrass is thoroughly dry

Golf Course Greens, Tees, Fairways, and Roughs, Lawns around Commercial and Industrial Buildings, Collegiate and Professional Athletic Fields

Turf Restrictions

- For rates **up to and including** 3.25 oz /1,000 sq. ft
 - The minimum re-treatment interval is 7 days
- For rates **greater than** 3.25 oz /1,000 sq. ft
 - The limit is two applications per year on tees and greens
 - The minimum re-treatment interval is 14 days
 - The limit is one application per year on all other listed turf
- Maximum single application rate of Chlorothalonil 82.5 SDG is 5.0 oz /1,000 sq. ft

- Maximum amount of Chlorothalonil 82.5 SDG per growing season

	Oz /1,000 sq ft	Lb /acre	Lb a i /acre
Greens	32.5	88.5	73
Tees	23.0	63.0	52
Fairways and Roughs Lawns around Commercial and Industrial Buildings and Collegiate and Professional Athletic Fields	11.6	31.5	26

Spray Volumes

For tees and greens apply Chlorothalonil 82.5 SDG in 90 to 450 gallons of water per acre (2 to 10 gallons of water per 1 000 sq ft)

For fairways and roughs lawns around commercial and industrial buildings and collegiate and professional athletic fields apply Chlorothalonil 82.5 SDG in 30 to 450 gallons of water per acre (0.7 to 10 gallons of water per 1 000 sq ft)

Sod Farms

- Sod farm turf treated with Chlorothalonil 82.5 SDG prior to harvest must be mechanically cut, rolled, and palletized
- Do not use for sod farms at application rates greater than 13 pounds of active ingredient per acre per year
- Do not apply more than 15.8 lb /acre (5.8 oz /1 000 sq ft) of Chlorothalonil 82.5 SDG per growing season (13 lb a i /acre per growing season)
- The minimum re-treatment interval for single application rates up to 8.8 lb /acre (3.2 oz /1 000 sq ft) of Chlorothalonil 82.5 SDG (7.3 lb a i /acre) is 7 days
- Do not apply more than one application of a rate greater than 8.8 lb /acre (3.2 oz /1 000 sq ft) of Chlorothalonil 82.5 SDG (7.3 lb a i /acre) per growing season
- The maximum single application rate is 8.8 lb /acre (3.2 oz /1 000 sq ft) of Chlorothalonil 82.5 SDG (7.3 lb a i /acre)

Apply Chlorothalonil 82.5 SDG in 30 to 450 gallons of water per acre (0.7 to 10 gallons of water per 1 000 sq ft)

Application Timing (All Turf)

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.

Diseases Controlled Pathogen(s)	Application Interval (days)	Pre Disease Rates	Post Disease Rates
		oz product/ 1 000 sq ft	oz product/ 1 000 sq ft
Dollar Spot <i>Sclerotinia homeocarpa</i> <i>Lanzia</i> spp <i>Moellerodiscus</i> spp	7 to 10 7 to 21 14	1.0 ^a to 1.8 1.8 to 3.25	3.7 to 5.0
Leaf Spot Melting Out Brown Blight <i>Drechslera</i> spp (including <i>D. poae</i> <i>D. siccans</i>) <i>Bipolaris sorokiniana</i> <i>Curvularia</i> spp	7 to 10 7 to 21 14	1.8 1.8 to 3.25	- 3.7 to 5.0
Brown Patch <i>Rhizoctonia solani</i> <i>R. zeae</i> <i>R. cerealis</i>	7 to 14 14	1.8 to 3.25	3.7 to 5.0
Gray Leaf Spot <i>Pyricularia grisea</i> <i>P. oryzae</i>	7 to 10 14	1.8 to 3.25	3.7 to 5.0
Red Thread <i>Laetisaria fuciformis</i>	7 to 10 14	1.8 to 3.25 3.25 to 5.0	5.0
Anthracnose <i>Colletotrichum graminicola</i>	7 to 14 14	2.75 to 3.25 3.25 to 5.0	-
Copper Spot <i>Gloeocercospora sorghi</i>	14	3.7 to 5.0	5.0
Stem Rust <i>Puccinia graminis</i>	14	3.7 to 5.0	5.0

Diseases Controlled Pathogen(s)	Application Interval (days)	Pre Disease Rates	Post Disease Rates
		oz product/ 1,000 sq ft	oz product/ 1 000 sq ft
Dichondra Leaf Spot (CA only) <i>Alternaria</i> spp	14	3.7 to 5.0	5.0
Gray Snow Mold ^b <i>Typhula</i> spp	30 ^c	5.0	
Pink Snow Mold ^d Fusarium Patch <i>Microdochium nivale</i>	21 to 28 ^e	5.0	
Algae (algal scum)	7 to 14	1.8 to 5.0	5.0

^a Low rate is not effective on intensively mowed turfgrasses such as golf course tees and greens

^b Apply before snow cover in autumn in 2 to 10 gallons of carrier per 1 000 sq ft

^c *Tees and Greens* If snow cover is intermittent or lacking during the winter you may make a second application

^d Do not apply on top of snow. Apply in combination with Banner MAXX[®] Heritage[®] Medallion[®] or with products containing iprodione

^e *Tees and Greens* If conditions are favorable for *Fusarium* you may make a second application

Conversion Chart for Turf Rates

oz product/ 1,000 sq ft	lb product/ acre	lb a.i./ acre
1.0	2.5	2.1
1.8	5.0	4.1
2.75	7.5	6.2
3.25	8.8	7.3
3.7	10.0	8.25
5.0	13.6	11.3

ORNAMENTAL PLANTS

Chlorothalonil 82.5 SDG may be used to control certain diseases of container bench flat plug bed or field grown ornamentals in greenhouses shade houses outdoor nurseries and residential and commercial landscapes

Do not eat edible parts from treated ornamental plants referred to in this Ornamental Plants section

Apply Chlorothalonil 82.5 SDG at a rate of 1.4 pounds (1.6 lb a.i.) per 100 gallons of water unless other directions are given in the tables below

Do not apply more than 44 pounds Chlorothalonil 82.5 SDG (36.4 lb a.i.) per acre per growing season to field grown ornamentals

Apply in a spray to run off when conditions are favorable for disease development Repeat applications at 7 to 14 day intervals until conditions are no longer favorable During periods when conditions favor severe disease incidence apply Chlorothalonil 82.5 SDG at 7 day intervals The minimum re treatment interval is 7 days Apply Chlorothalonil 82.5 SDG when plants are dry or nearly dry

Do not apply Chlorothalonil 82.5 SDG through high pressure spray equipment Do not use mistblowers cold fog or other fogging application equipment when making applications of Chlorothalonil 82.5 SDG in greenhouses

Knock Out® and Double Delight roses can be sensitive to Chlorothalonil 82.5 SDG applications resulting in damage to foliage under certain growing conditions

Table 1 Ornamentals recommended for treatment with Chlorothalonil 82.5 SDG
The numbers in parentheses refer to fungal diseases in Table 2 controlled by Chlorothalonil 82.5 SDG

Broadleaf Shrubs and Trees		
Andromeda (Pieris) (4)	Flowering Almond (1 2)	Oregon Grape (Mahonia) (6)
Ash (Fraxinus) (1)	Flowering Cherry (1 2)	Photinia (1)
Aspen (1)	Flowering Peach (1 2)	Poplar (1)
Azalea (1 2 4)	Flowering Plum (1 2)	Privet (Ligustrum) (1)
Buckeye Horsechestnut (1)	Flowering Quince (1 2)	Rhododendron (1 2 4)
Cherry Laurel (1)	Hawthorn (1 6)	Sand Cherry (1 2)
Crabapple (1 6 8)	Holly (1)	Sequoia (1)
Dogwood (1)	Lilac (5)	Spiraea (1)
Eucalyptus (3)	Magnolia (1)	Sycamore Planetree (1)
Euonymus (1)	Maple (1)	Viburnum (5)
Firethorn (Pyracantha) (1)	Mountain Laurel (1)	Walnut (Juglans) (1)
	Oak (red group only) (1 7)	
Flowering Plants^a, Bulbs and Corms		
Arabian Violet (2)	Geranium (1 6)	Narcissus (1)
Begonia (1)	Gladiolus (1 2)	Pansy (1)
Caladium (1)	Hollyhock (6)	Petunia (1 4)
Camellia (2)	Hydrangea (foliage only) (1 6)	Phlox (1)
Carnation (1 2)	Iris (1 2)	Poinsettia ^b (1)

Chrysanthemum (1 2)	Iris Bulbous (1)	Rose ^c (1)
Crocus (1)	Lily (1)	Statice (1)
Daffodil (1)	Lily Asiatic (1)	Tulip (1)
Daisy (1)	Marigold (1)	Zinnia (1 5)
Foliage Plants		
Aglaonema (1)	Ficus (1)	Peperomia (1)
Areca Palm (1)	Lipstick Plant (1)	Philodendron (1 4)
Artemesia (1)	Ming Aralia (1)	Prayer Plant (Maranta) (1)
Dumbcane (Diffenbachia) (1)	Oyster Plant (Rhoeo) (1)	Syngonium (1)
Dracaena (1)		Zebra Plant (Aphelandra) (1)
Fatsia (Aralia) (1)	Parlor Palm (Chamaedorea) (1)	

^aAvoid applications during bloom period on plants where flower injury is unacceptable
^bDiscontinue applications prior to bract formation phytotoxicity is possible on the bracts
^cUse 1 pound Chlorothalonil 82.5 SDG (0.825 lb a.i.) per 100 gallons of water

Table 2 Diseases Controlled with Chlorothalonil 82.5 SDG

1 Leaf Spots/Foliar Blights		
Actinopelte leaf spot	Coryneum blight (shothole)	Mycosphaerella ray blight
Alternaria leaf spot/leaf blight	Curvularia leaf spot	Myrothecium leaf spot brown rot
Anthracnose leaf blotch spot	Cylindrosporium leaf spot	Nematostoma leaf blight
Anthracnose (Discula) blight	Dactylaria leaf spot	Phyllosticta leaf spot
Ascochyta blight	Didymellina leaf spot	Ramularia leaf spot
Bipolaris (Helminthosporium) leaf spot	Drechslera leaf spot	Septoria leaf spot Rhizoctonia web blight
Black spot on roses	Fabraea (Entomosporium) leaf spot	Sphaeropsis leaf spot
Botrytis leaf spot leaf blight	Fusarium leaf spot	Stagonospora leaf scorch
Cephalosporium leaf spot	Gloeosporium black leaf spot	Tan leaf spot (Curvularia)
Cercospora leaf spot	Ink spot (Drechslera)	Volutella leaf blight
Cercosporidium leaf spot	Marssonina leaf spot	
Corynespora leaf spot	Monilinia blossom blight twig blight	

2 Flower Spots/Blights

Botrytis flower spot flower blight	Monilinia blossom blight	Rhizopus blossom blight
Curvularia flower spot	Ovulinia flower blight	Sclerotinia flower blight
3 Cylindrocladium Stem Canker		
4 Phytophthora Leaf Blight Dieback		
5 Powdery Mildews		
<i>Erysiphe cichoracearum</i>	<i>Microsphaera</i> spp	
6 Rusts		
<i>Gymnosporangium</i> spp	<i>Pucciniastrum hydrangeae</i>	<i>Puccinia</i> spp
7 Taphrina Blister		
8 Scab (<i>Venturia inaequalis</i>)		

Plant Safety

Chlorothalonil 82.5 SDG has been shown to be safe when applied at the recommended rates to the ornamental plants listed in the following tables. However, due to the large number of genera, species, and varieties of ornamental and nursery plants, it is impossible to test every one for tolerance to Chlorothalonil 82.5 SDG. Neither the manufacturer nor the seller has determined whether Chlorothalonil 82.5 SDG can be used safely on genera, species, or varieties of ornamental and nursery plants not specified on this label. The professional user should conduct small scale testing at the recommended rates to ensure plant safety prior to broad scale commercial use on plant genera and species not listed in this label. Applications made during bloom may damage flowers and/or fruits.

Do not apply Chlorothalonil 82.5 SDG to either green or variegated Pittosporum or to Schefflera, as multiple applications may cause phytotoxic responses.

Do not apply Chlorothalonil 82.5 SDG to ferns.

Table 3 The following ornamental plant species that have been tested with Chlorothalonil 82.5 SDG at recommended rates did not exhibit phytotoxicity.

Common Name	
Aechmea	Golden Pothos Scindapsus
Aluminum Plant	Impatiens
Aster	Jade Plant
Baby's Breath	Japanese Holly
Birdsnest Sansevieria	Natal Plum
Bleeding Heart	Norfolk Island Pine
Bougainvillea	Peacock Plant
Caladium	Piggy back Plant

Chinese Holly	Purple Passion Vine
Christmas Cactus	Silver nerve Plant
Croton	Spineless Yucca
False Aralia	Ti Plant
Flame Violet	Venus Fly Trap
Gerbera Daisy	Wax Plant

Bulb and Corm Dip

Chlorothalonil 82.5 SDG may be used to control bulb and corm diseases of ornamental flowering plants

CROP	DISEASES	Lb Product per 100 Gal *	APPLICATION DIRECTIONS
Caladium Crocus Daffodils Iris Lily (bulb) Tulips	Basal Rot Neck Rot Other bulb rot diseases caused by <i>Mucor</i> spp <i>Zygorrhynchus</i> spp <i>Rhizopus</i> spp <i>Curvularia</i> spp <i>Rhizoctonia</i> spp <i>Fusarium oxysporum</i>	2.5 to 5.0	Dip bulbs from 15 minutes up to 4 hours prior to planting. Add the recommended diluted mixture of Chlorothalonil 82.5 SDG to the dip tanks to maintain dip solution at levels needed to achieve complete bulb coverage.
Gladiolus	<i>Botrytis</i> spp <i>Curvularia</i> spp	2.5	Recharge dip tanks with 0.3 lb product per 20,000 corms. Treat corms once before storage and once before planting. Allow to drain and dry before handling corms.

Application of Dip Tank Treatment Water Spent dip tank treatment water may be applied using ground equipment to bulb fields for basal, neck, or other bulb rots. **Do not** apply more than 44 pounds Chlorothalonil 82.5 SDG (36.4 lb a.i.) per acre per growing season.

CONIFERS

Use on conifers is limited to the uses and sites listed in the conifer disease and rate table below

Do not apply to forests

Apply Chlorothalonil 82.5 SDG in sufficient water (minimum of 10 gallons per acre) 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

Aerial application is allowed only for Christmas tree and bough production plantations and tree seed orchards

When concentrate sprays are used or when treating immature trees the lower rate of Chlorothalonil 82.5 SDG listed may be used

Do not apply more than 20 pounds of Chlorothalonil 82.5 SDG (16.5 lb a.i.) per acre during each growing season

Do not allow livestock to graze in treated areas

Do not use on blue spruce

Application

Do not apply Chlorothalonil 82.5 SDG through high pressure spray equipment

Do not use mistblowers, cold fog, or other fogging application equipment when making applications of Chlorothalonil 82.5 SDG in greenhouses

CROP	DISEASES (Pathogen)	Lb Product Per (lb a i per)	APPLICATION DIRECTIONS
		Acre	
Conifers Nursery beds Christmas tree and bough production plantations Tree seed orchards	Swiss needlecast (<i>Phaeocryptopus gaeumannii</i>)	2.5 to 5.0 (2.1 to 4.1)	Minimum Application Plan Make one application in the spring when new shoot growth is 1/2 to 2 inches in length Under high disease pressure a second application may be made 10-14 days after the first application When using aerial applications use the highest rate
	Interior needle blight (<i>Mycosphaerella</i> spp and <i>Phaeocryptopus nudus</i>)		
Conifers in landscapes of golf courses and around residential institutional public commercial and industrial buildings parks recreational areas and athletic fields	Scleroterris canker (<i>Gremmeniella abietina</i>)	1.25 to 2.5 (1.0 to 2.1)	Multiple Application Plan 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. When using aerial applications use the highest rate
	Swiss needlecast (<i>P. gaeumannii</i>)		
	Interior needle blight (<i>Mycosphaerella</i> spp and <i>Phaeocryptopus nudus</i>)		
	Sirococcus tip blight (<i>S. conigenus</i>)	1.8 to 3.2 (1.5 to 2.6)	
	Rhizosphaera needlecast (<i>Rhizosphaera</i> spp)	5.0 (4.1)	
	Scirrhia brown spot (<i>Mycosphaerella dearnessii</i>)		
	Cyclaneusma and Lophodermium needlecast	2.5 to 5.0 (2.1 to 4.1)	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.
	Rhabdocline needlecast	1.4 to 2.5 (1.1 to 2.1)	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 highest rate on a 3 week schedule.

CROP	DISEASES (Pathogen)	Lb Product Per (lb a.i. per)	APPLICATION DIRECTIONS
		Acre	
	Botrytis seedling blight Phoma twig blight	1.4 to 2.5 (1.1 to 2.1)	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.
	Weir's cushion rust (<i>Chrysomyxa weirii</i>)	5.0 (4.1)	Begin applications when 10% of buds have broken and twice thereafter at 7 to 10 day intervals.

STORAGE AND DISPOSAL

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

Pesticide Storage

Store in a dry place.

Pesticide Disposal

Pesticide wastes are acutely hazardous. 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

Non-refillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER

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