

66330-26

02-08-2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

FEB 8 2011

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Gary R. Orr, Ph.D.  
Product Registration  
Arysta Lifescience NA Corporation  
15401 Weston Parkway, Suite 150  
Cary, NC 27513

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request Alternate Brand Name "Orthocide 50 WP"  
EPA Reg. No.66330-26  
Application Dated November 19, 2010

Dear: Ms. Thomas,

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 11/19/10 for the above product. The Registration Division (RD) has conducted a preliminary screen of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

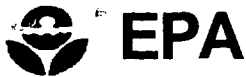
If you have any questions, please call me directly at 703-305-5335 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in cursive script that reads "Paul J. Mastradone".

Paul J. Mastradone, Ph.D., Acting  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

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United States  
**Environmental Protection Agency**  
 Washington, DC 20460

- Registration  
 Amendment  
 **Other: Notification**

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number 66330-26	2. EPA Product Manager Tony Kish	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Captan 50 WP	PM# 22	
5. Name and Address of Applicant (Include ZIP Code)  Arysta LifeScience North America Corporation 15401 Weston Parkway, Suite 150 Cary, NC 27513  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(I), my product is similar or identical in composition and labeling to: EPA Reg. No. _____  Product Name _____	

**Section - II**

Amendment - Explain below.  Final printed labels in response to Agency letter dated \_\_\_\_\_

Resubmission in response to Agency letter dated \_\_\_\_\_  "Me Too" Application

Notification - Explain below.  Other - Explain below

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)

NOTIF Addition of an **alternate brand name** Orthocide 50 WP for the product bearing the **primary brand name** Captan 50 WP (EPA Reg. No. 66330-26).

**Contact:** gary.orr@arystalifescience.com

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic
*Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container <b>40 LB BAG</b>		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On labeling accompanying product	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled <input type="checkbox"/> Other _____					

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)

Name Gary R. Orr, PhD	Title Regulatory Manager	Telephone No. (Include Area Code): 919-378-4879
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**Certification**  
 I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

2. Signature 	3. Title Regulatory Manager	6. Date Application Received (Stamped)
4. Typed Name Gary R. Orr, PhD	5. Date November 19, 2010	



Arysta LifeScience

445- 3/15

via FEDEX

Mr. Tony Kish, Product Manager 22  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard, 2777 South Crystal Drive  
Arlington, VA 22202-4501

November 19, 2010

Dear Mr. Kish:

**Subject: Captan 50 WP (EPA Reg. No. 66330-26)  
Notification of Alternate Brand Name per PR Notice 98-10.**

Arysta LifeScience North America, LLC hereby notifies the Agency of the addition of an **alternate brand name** Orthocide 50 WP for the product bearing the **primary brand name** Captan 50WP (EPA Reg. No. 66330-26).

*This notification is consistent with the provisions of PR Notice 98-10 and the EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling. I understand that it is a violation of 18 U.S. C. Sec. 1001 to willfully make any false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.*

Should you have any questions or comments pertaining to this alternate brand name please me via email [gary.orr@arystalifescience.com](mailto:gary.orr@arystalifescience.com) or by phone at 919-678-4879.

Best regards,

Gary R. Orr  
Regulatory Manager

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GROUP M FUNGICIDE  
NOTIFICATION

**ORTHOCLIDE 50 WP**  
A Fungicide for Plant Disease Control

FEB - 8 2011

ORTHOCLIDE 50 WP is a microfine wettable powder for use in water as a spray for the control of certain fungal diseases of fruit, and ornamental crops, and as a soil treatment for the control of certain seed rots and damping-off diseases.

<b>ACTIVE INGREDIENTS:</b>	<b>By Wt</b>
*CAPTAN.....	48.9%
Related Derivatives.....	1.1%
<b>INERT INGREDIENTS:</b> .....	<b>50.0%</b>
<b>TOTAL</b> .....	<b>100.0%</b>

\*N-Trichloromethylthio-4-cyclohexene-1, 2-dicarboximide.

EPA Reg. No.: 66330-26  
EPA Est. No.: \_\_\_\_\_

Net Contents: \_\_\_\_\_

**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 Inside Booklet for Additional Precautionary Statements**  
**CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE**

If a known exposure occurs or is suspected, immediately start the procedures given below and contact a POISON CONTROL CENTER, PHYSICIAN, OR THE NEAREST HOSPITAL. Describe the type and extent of exposure, the victim's symptoms and follow the advice given.

Made in the U.S.A.

**ARYSTA LIFESCIENCE NORTH AMERICA, LLC**  
15401 Weston Parkway, Suite 150  
Cary, NC 27513

<b>FIRST AID</b>	
<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.</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 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.</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 a person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> </ul>
<p><b>NOTE TO PHYSICIAN:</b> Probable mucosal damage may contraindicate the use of gastric lavage. Have a product container or label with you when calling poison control center or doctor or going for treatment.</p>	
<p><b>EMERGENCY TELEPHONE NUMBERS:</b>  <b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952</b>  <b>FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300</b></p>	

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### DANGER

Corrosive: Causes irreversible eye damage. Harmful if absorbed through skin. Do not get in eyes. Avoid contact with skin. Wear long-sleeved shirt and long pants; socks and shoes, protective eyewear (goggles, face shield or safety glasses), and chemical resistant gloves (such as or made out of any waterproof material, selection category A). Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are polyethylene and poly vinyl chloride. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

All mixers, loaders, applicators, and other handlers (including handlers participating in seeding and transplanting as part of the root-dip or greenhouse-soil treatments) must wear:

- Long-sleeved shirt and long pants,
- Shoes plus socks,
- Chemical-resistant gloves *except* applicators driving motorized equipment,
- Chemical-resistant apron when mixing/loading, participating in dip treatments, cleaning up spills, cleaning equipment or otherwise exposed to the concentrate
- Protective eyewear
- NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter when mixing/loading, cleaning up spills, cleaning equipment, or otherwise exposed to the concentrate.

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.

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

**USER SAFETY RECOMMENDATIONS**

Users should:

- 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.

**ENVIRONMENTAL HAZARDS**

This chemical is toxic to aquatic organisms. Do not apply directly to water, or 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 cleaning equipment or disposing of equipment washwaters or rinsate.

This product may contaminate water through drift of spray in wind. This product has a potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

**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 way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**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), notification to workers, 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). The REI for each crop is listed in the directions for use associated with each crop.

**Early Entry PPE**

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,
- Chemical-resistant gloves made of any water-proof material,
- Shoes plus socks
- Protective eyewear
- Eye-Protection

To mitigate eye irritation concerns from post-application exposures, the Agency is requiring that for at least seven days following the application of captan:

at least one container designed specifically for flushing eyes must be available in operating condition at the WPS-required decontamination site for workers entering the area treated with captan, and workers must be informed orally, 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 with the eyeflush container that is located at the decontamination site, and on how to operate the eyeflush container.

**Double Notification**

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

**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.

**Entry Restrictions for Postharvest Fruit Dip**

Do not contact or allow others to contact the treated fruit until sprays have dried.

**Entry Restrictions for All Other Non-WPS Uses**

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

Read all precautions and directions for use before using. Use only for claims listed and only as specified on this label.

In order that pesticide residues on food and forage crops will not exceed federal tolerances, use only at recommended rates and intervals, and do not apply closer to harvest than specified. Do not apply or allow to drift to adjoining food, fiber or pasture crops. Drift of ORTHOCIDE 50 WP onto sensitive crops (e.g., D'Anjou Pears) can cause severe phytotoxicity and crop loss.

**SPRAY DRIFT MANAGEMENT**

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.

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Apply only when wind speed is 2-10 mph at the application site.

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

Do not apply this product with aerial equipment.

Consult State Agricultural Experiment stations or State Agricultural Extension Service for additional information, as the time of applications needed will vary with the local conditions.

**COMPATIBILITY AND PLANT SAFETY**

ORTHOICIDE 50 WP can be combined safely and effectively at recommended dosage rates with most commonly used fungicides and insecticides, with the exception of oil and strongly alkaline materials. Alkaline materials such as spray lime, lime-sulfur and Bordeaux mixture will reduce the fungicidal activity of ORTHOCIDE 50 WP. Do not apply ORTHOCIDE 50 WP in combination with or immediately before or closely following oil sprays. Do not allow oil sprays on adjacent crops to drift onto crops which have been or will shortly be treated with ORTHOCIDE 50 WP. The time factor governing the safe interval between ORTHOCIDE 50 WP and oil sprays varies due to general climatic conditions, therefore, consult local agricultural spray programs and authorities to determine the proper timing. The use of spreaders which cause excessive wetting is not advised. Combinations with solvent formulations of organic phosphates should not be used. Combinations of ORTHOCIDE 50 WP and sulfur should not be used on crops sensitive to sulfur. Used at high rates or in drenching sprays, ORTHOCIDE 50 WP may cause a necrotic spotting of tender, immature leaves of certain varieties of apples, peaches, plums and cherries.

This type of injury is most likely to occur in the early cover sprays during long periods of warm, cloudy, humid weather. To avoid the hazard of leaf spotting under such conditions, use ORTHOCIDE 50 WP and other spray materials at lowest recommended rates and avoid drenching trees.

Applications can be made by ground power equipment (including concentrate and semi-concentrate equipment). Pour recommended amount of this material into nearly filled spray tank. Add balance of water. Maintain agitation during filling and spraying operation. Do not allow mixture to stand. Do not combine with emulsifiable liquids or wettable powders unless previous experience has proven them to be physically compatible and safe to plants. (Read compatibility and plant safety information.)

For concentrate spray applications, apply the same amount of ORTHOCIDE 50 WP per acre as would normally be applied for dilute spray applications. Apply concentrate sprays in sufficient water for coverage. Do not apply this product through any type of irrigation system.

**RESISTANCE MANAGEMENT**

ORTHOICIDE 50 WP contains a Group M<sup>1</sup> fungicide. Fungal isolates with acquired resistance to Group M<sup>1</sup> may eventually dominate the fungal population if Group M<sup>1</sup> fungicides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by ORTHOCIDE 50 WP or other Group M<sup>1</sup>.

To delay fungicide resistance consider:

- Avoiding the consecutive use of ORTHOCIDE 50 WP or other target site of action Group M<sup>1</sup> fungicides that have a similar target site of action, on the same pathogens.
- Using tank-mixtures or premixes with fungicide from different target site of action Groups as long as the involved products are all registered for the same use and are both effective at the tank mix or prepack rate on the pathogen(s) of concern.
- Basing fungicide use on a comprehensive IPM program.
- Monitoring treated fungal/bacterial populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors, and/or manufacturer for fungicide resistance management and/or IPM recommendations for specific crops and resistant pathogens.
- For further information or to report suspected resistance, you may contact ARYSTA LIFESCIENCE NORTH AMERICA CORPORATION at toll free number 1-866-761-9397.

<sup>1</sup>The Multi-site activity grouping, designated by symbol "M", comprises a collection of various chemicals that act as general toxophores with several sites of action. These sites may differ between group members.

**GENERAL USE PRECAUTIONS**

Except as specified, begin applications before or at first sign of disease and repeat as needed to maintain control but observe use limitations. Unless otherwise specified, application can be made on the day of harvest. Maximum application is for a crop cycle. Crop cycle is defined as prebloom through postharvest. Apply the high rate and/or spray at shorter intervals when climatic conditions most favor disease(s). Apply the low rate and/or spray at larger intervals when climatic conditions least favor disease(s). If you are unaware of the climatic conditions favorable for disease(s) claimed for the specific use sites, you must consult with your State Agricultural Extension Service to learn of these conditions.

**IMPORTANT**

Read label carefully. Although most of the directions on this label may be followed nationwide, a few are limited to either the eastern or western U.S. Follow those directions for your growing area where specified.

**FRUIT AND NUT CROPS**

**ALMONDS**

Brown rot, twig and blossom blight, shothole, scab, leaf blight, anthracnose (for control of anthracnose, use in a disease and resistance management program of rotational sprays with other approved materials). – Apply 4 to 9 pounds ORTHOCIDE 50 WP per acre in 20 to 300 gallons of water using ground equipment. Use 6 to 9 pounds per acre when ORTHOCIDE 50 WP is used alone. To reduce the potential for disease resistance development to other fungicides having a similar spectrum, ORTHOCIDE 50 WP may be used in a tankmix at a rate of 4 to 6 pounds per acre. Apply at popcorn, bloom and petal fall stages in cover sprays and preharvest sprays. The maximum application rate is 9 lbs of ORTHOCIDE 50 WP per acre (4.5 lb ai/acre), with a maximum seasonal



application rate of 40 lbs of ORTHOCIDE 50 WP per acre per crop cycle (20 lb ai/acre per crop cycle). Preharvest interval (PHI) = 30 days. Note the restricted entry interval (REI) is 24 hours. Almond hulls may be fed to livestock.

**APPLES (Eastern U.S.)**

Primary scab, black rot (frog-eye), botrytis blossom-end-rot – Apply 8 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water using ground equipment. Apply at 5 to 7 day intervals as needed to maintain control in prebloom, bloom, petal fall and first cover sprays.

Secondary Scab, Brooks fruit spot, sooty blotch, fly speck, black rot, black pox, Botryosphaeria rot, bitter rot – Apply 4 to 8 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water using ground equipment. Apply at 10 to 14 day intervals in second and later cover sprays.

Powdery mildew – If powdery mildew is a problem, add 6 to 12 pounds sulfur per acre to all postbloom sprays until foliage matures. Do not use ORTHOCIDE 50 WP in combination with or closely following or in alternation with wettable sulfur products on sulfur sensitive varieties of apples such as Red Delicious, Staymen, Baldwin, King, etc., as severe injury and defoliation may occur.

The maximum application rate for apples (Eastern U.S.) is 8 lbs of ORTHOCIDE 50 WP per acre (4 lb ai/acre), with a maximum seasonal application rate of 64 lbs of ORTHOCIDE 50 WP per acre per crop cycle (32 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**APPLES (Western U.S.)**

Primary scab – Apply 4 to 8 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water per acre using ground equipment. To reduce the potential for disease resistance development to other fungicides, having a similar spectrum, the lower rate maybe used in tank mixtures.

**(Pacific Northwest):** Bull's eye rot, Botrytis rot – Apply 6 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water using ground equipment. Make 1 or 2 applications with late cover sprays and 1 final spray prior to harvest. Secondary scab – In mid-summer cover sprays, the dosage may be reduced to 4 pounds per acre.

The maximum application rate for apples (Western U.S.) is 8 lbs of ORTHOCIDE 50 WP per acre (4 lb ai/acre), with a maximum seasonal application rate of 64 lbs of ORTHOCIDE 50 WP per acre per crop cycle (32 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**APRICOTS**

Brown rot (twig blight), jacket rot – Apply 3 to 5 pounds ORTHOCIDE 50 WP per acre in 20 to 250 gallons of water. Apply in red bud, bloom, 75% petal fall, and cover sprays. To reduce the potential for disease resistance development to other fungicides having similar spectrum, use the lower rate in tank mixtures. The maximum application rate is 5 lbs of ORTHOCIDE 50 WP per acre (2.5 lb ai/acre), with a maximum seasonal application rate of 25 lbs of ORTHOCIDE 50 WP per acre per crop cycle (12.5 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours. Note in California: Do not apply after 75% petal fall.

**BLUEBERRIES (Eastern U.S.)**

Botrytis gray mold or berry rot, mummy berry – Apply 5 pound ORTHOCIDE 50 WP per acre in sufficient water for thorough coverage. Start spray program when buds swell or when buds have loose scales. Repeat at 7-day intervals through blossom period. Repeat at 7 to 10 day intervals from late bloom.

The maximum application rate for blueberries (Eastern U.S.) is 5 lbs of ORTHOCIDE 50 WP per acre (2.5 lb ai/acre), with a maximum seasonal application rate of 70 lbs per acre per crop cycle (35 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days.

Note the restricted entry interval (REI) is 48 hours.

**BLUEBERRIES (Western U.S.)**

Botrytis gray mold or berry rot, mummy berry – Apply 2 to 5 pounds of ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water by ground. Begin at mid-bloom, repeat at 7 to 10 day intervals until maturity.

The maximum application rate for blueberries (Western U.S.) is 5 lbs of ORTHOCIDE 50 WP per acre (2.5 lb ai/acre), with a maximum seasonal application rate of 70 lbs per acre per crop cycle (35 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 48 hours.

**CHERRIES (Eastern U.S.)**

Brown rot, leaf spot, Botrytis rot – Apply 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Apply in prebloom, bloom, petal fall, shuck, cover and preharvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat applications at 7 to 20 day intervals as needed to maintain control up to start of harvest. If powdery mildew is a problem, add 6 lbs sulfur per acre to the petal fall, shuck or early cover sprays. If sulfur is added, ORTHOCIDE 50 WP may be reduced to 2 pounds per acre in these sprays. Postharvest sprays: leaf spot – Apply 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Apply immediately after harvest and repeat application in 10 to 14 days.

The maximum application rate for cherries (Eastern U.S.) is 4 lbs of ORTHOCIDE 50 WP per acre (2 lb ai/acre), with a maximum seasonal application rate of 28 lbs per acre per crop cycle (14 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**CHERRIES (Western U.S.)**

Brown rot blossom blight, brown rot (fruit), leaf spot – Apply 3 to 4 pounds of ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Apply in prebloom, bloom, petal fall, shuck, cover and preharvest sprays.

The maximum application rate for cherries (Western U.S.) is 4 lbs of ORTHOCIDE 50 WP per acre (2 lb ai/acre), with a maximum seasonal application rate of 28 lbs per acre per crop cycle (14 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**GRAPES (U.S., except CA)**

Phomopsis cane and leaf spot, downy mildew, suppression of black rot – Apply 2 to 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons water using ground equipment; when shoots are ½ to 1½ inches long, when shoots are 3-5 inches long, and when shoots are 9-12 inches long. Repeat just before bloom immediately after bloom, and continue at 10 to 14 day intervals as long as disease conditions persist. Use the lower rate when spraying less susceptible grape varieties or when conditions are less favorable for disease development. Use the higher rate on susceptible grape varieties and during periods of weather highly favorable for disease development.

Bunch rot (Botrytis) – Apply 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Make 2 applications before bloom and 1 immediately after bloom. Repeat periodically, making 3 cover applications before bunches close.

The maximum application rate for grapes (U.S., except CA) is 4 lbs of ORTHOCIDE 50 WP per acre (2 lb ai/acre), with a maximum seasonal application rate of 24 lb per acre per crop cycle (12 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 48 hours.

**GRAPES (California)**

Bunch rot (Botrytis) – Apply 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Make 2 applications before bloom and 1 immediately after bloom. Repeat periodically, making 3 cover application before the bunches close.

Phomopsis cane and leaf spot (current season infection) – Apply 3 to 4 pounds ORTHOCIDE 50 WP per acre in 20 to 200 gallons of water using ground equipment. Apply first spray when green tissue begins to show but before shoots are 1-inch long and repeat application when shoots are 6 to 8 inches long.

The maximum application rate for grapes (California) is 4 lbs of ORTHOCIDE 50 WP per acre (2 lb ai/acre), with a maximum seasonal application rate of 24 lbs per acre per crop cycle (12 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 48 hours.

**NECTARINES (U.S.)**

Brown rot, scab – Apply 4 to 8 pounds ORTHOCIDE 50 WP per acre in 20 to 250 gallons of water using ground equipment. Use the lower rate of ORTHOCIDE 50 WP in tankmixes to reduce the potential for disease resistance development to other fungicides having a similar spectrum. Apply in full pink, bloom, petal fall, shuck, cover and preharvest sprays. Applications at 3 to 4 day intervals may be necessary during bloom to control blossom blight. Repeat application at 7 to 14 day intervals as needed to maintain control. Continue applications throughout harvest if conditions favor brown rot. If powdery mildew is a problem, add 7.5 pounds sulfur per acre to the petal fall, shuck and early cover spray. If sulfur is added, ORTHOCIDE 50 WP may be reduced to 2.5 pounds per acre in these sprays.

Shothole (Peach blight, Coryneum blight) – Apply 4 to 8 pounds ORTHOCIDE 50 WP per acre in 20 to 250 gallons of water using ground equipment. Apply to pink bud, full bloom, petal fall and cover sprays as necessary and as a postharvest spray (but before leaves drop).

The maximum application rate is 8 lbs of ORTHOCIDE 50 WP per acre (4 lb ai/acre), with a maximum seasonal application rate of 48 lbs per acre per crop cycle (24 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**PEACHES (U.S.)**

Brown rot – Apply 4 to 8 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water using ground equipment. Use the lower rates of ORTHOCIDE 50 WP in tankmixes to reduce the potential for disease resistance development to other fungicides having a similar spectrum. Apply in full pink, bloom, petal fall, shuck stages and in cover and preharvest sprays. When conditions are favorable, make application at 7 to 14 day intervals as needed to maintain control. Continue applications through harvest if conditions favor brown rot. If powdery mildew is a problem, add 12 pounds sulfur per acre to petal fall, shuck and early cover spray. If sulfur is added, ORTHOCIDE 50 WP may be reduced to 4 pounds per acre in these sprays.

Shothole (Peach blight, Coryneum blight) – Apply 8 pounds ORTHOCIDE 50 WP per acre in 20 to 400 gallons of water using ground equipment. Apply in pink bud, full bloom, petal fall stages and cover sprays as necessary and as a postharvest spray (but before leaves drop).

The maximum application rate is 8 lbs of ORTHOCIDE 50 WP per acre (4 lb ai/acre), with a maximum seasonal application rate of 64 lbs per acre per crop cycle (32 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**PLUMS, FRESH PRUNES (Eastern U.S.)**

Brown rot – Apply 6 pounds ORTHOCIDE 50 WP per acre in 20 to 300 gallons of water using ground equipment. Apply in full pink, bloom and petal fall sprays. Repeat applications at 7 to 14 day intervals as needed to maintain control. Continue applications through harvest if conditions favor brown rot. The addition of a neutral spreader may improve coverage.

The maximum application rate for plums, fresh prunes (Eastern U.S.) is 6 lbs of ORTHOCIDE 50 WP per acre (3 lb ai/acre), with a maximum seasonal application rate of 54 lbs per acre per crop cycle (27 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**PLUMS, FRESH PRUNES (Western U.S.)**

Brown rot – Apply 4 to 6 pounds ORTHOCIDE 50 WP per acre in 20 to 300 gallons of water using ground equipment. Use lower rates when tank mixes with fungicides of similar spectrum of activity are used. Apply at green bud, popcorn, bloom and petal fall stages. Repeat in cover sprays as conditions warrant. Prune russet scab (lacy scab) – Apply 4 to 6 pounds ORTHOCIDE 50 WP per acre in 20 to 300 gallons of water using ground equipment. Apply at full bloom.

The maximum application rate for plums, fresh prunes (Western U.S.) is 6 lbs of ORTHOCIDE 50 WP per acre (3 lb ai/acre), with a maximum seasonal application rate of 54 lbs per acre per crop cycle (27 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

**RASPBERRIES, BLACKBERRIES AND DEWBERRIES**

For the control of Anthracnose, Botrytis, and Spur Blight – Apply 4 pounds of ORTHOCIDE 50 WP per acre when blossoms are in bud (young canes are 8-10" long). Make second application two weeks later. Apply a fall spray after old canes are removed.

For the control of Fruit rot – Apply 4 pounds of ORTHOCIDE 50 WP per acre at early bloom (5 to 10% bloom) and again at full bloom. Additional applications can be made at 10-14 day intervals as needed. Do not apply within 3 days of harvest (PHI = 3 days).

Apply ORTHOCIDE 50 WP as indicated above in 45-100 gallons of water per acre using ground equipment. Use the higher volume as foliage increases.

Do not apply more than 20 pounds of ORTHOCIDE 50 WP per acre per crop cycle (10 lbs ai/acre per crop cycle). Note the restricted entry interval (REI) is 48 hours.

**STRAWBERRIES**

Botrytis (gray mold), leaf spot – Apply by broadcast spray at 3 to 6 pounds ORTHOCIDE 50 WP per acre in sufficient water for thorough coverage by ground equipment. Begin applications when new growth starts in the spring and before fruit starts to form. Repeat at 7 to 14 day intervals. Under conditions favorable to fruit rot, continue applications through the harvest period, treating immediately after each picking.

Anthraxnose Fruit Rot (*Colletotrichum* spp.) – Apply 6 pounds ORTHOCIDE 50 WP per acre (3.0 lbs ai/acre) in sufficient water for thorough coverage by ground equipment. Begin applications at flower bud emergence. Apply at 7 day intervals through harvest. The maximum application rate is 6 lbs of ORTHOCIDE 50 WP per acre (3 lb ai/acre), with a maximum seasonal application rate of 48 lbs per acre per crop cycle (24 lb ai/acre per crop cycle). Preharvest interval (PHI) = 0 days. Note the restricted entry interval (REI) is 24 hours.

If applying as a directed/banded spray: use band rate of ORTHOCIDE 50 WP according to the following formula:

$$\frac{\text{Plant Bed Width (inches)}}{\text{Row Spacing (inches)}} \times \text{Broadcast rate per acre} = \text{Banded rate of Captan 50 WP per acre}$$

**SPECIAL USES**

**PEACH PREPLANT ROOT DIP (California)**

Preventative preplant dip treatment for crown gall. Use 4 pounds ORTHOCIDE 50 WP plus 3.2 pints diluted sodium hypochlorite (5.25% household bleach) per 100 gallons of water. Wash nursery trees to remove soil from roots. Cut off all dormant buds and suckers in crown area and prune root system if necessary. Submerge the entire dormant tree for 5 minutes. Recharge dip during operation at a rate of 3.2 pints diluted sodium hypochlorite and 4 pounds ORTHOCIDE 50 WP per 100 gallons of water. Note the restricted entry interval (REI) is 48 hours. Once the treatment and any seeding or transplanting tasks done as part of the treatment are complete, the 48-hour REI begins. Exception, once the seeds or transplants are planted in the soil, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no contact with the soil subsurface.

**POSTHARVEST FRUIT APPLICATION**

For control of various molds and storage rots (Botrytis, Gleosporium, Rhizopus). Use a postharvest dip or spray wash on the following fruits: Apples, Cherries, Pears – Use 2.5 pounds of ORTHOCIDE 50 WP per 100 gallons of water. Apply as a spray or in a dip tank. When used as a dip, recharge wash solution periodically when tank volume is reduced by 25%. Bring water back to volume and add 2.5 pounds ORTHOCIDE 50 WP for each 100 gallons added. At the end of every 8-hour shift, empty tank, flush and charge with fresh dilution. Do not allow dip tank solution to stand overnight. Maintain continuous agitation during dipping operation. For use in mechanical fruit-dip operations only. Hand dipping of fruit is prohibited. Do not contact or allow others to contact the treated fruit until sprays have dried.

**DISPOSAL OF LEFTOVER POSTHARVEST TREATMENT MIXTURE**

Leftover dip or spray mixtures containing ORTHOCIDE 50 WP may be used as a foliar spray for the same crop in case of apples and cherries (but not pears) as treated by the dip or spray mixture, or to registered turf and ornamental sites; observing all restrictions such as maximum pounds applied per application and season.

When calculating application rates, if analytical services are not available to determine the exact quantity of ORTHOCIDE 50 WP remaining in the mixture, assume that the tank still contains 2.5 pounds of ORTHOCIDE 50 WP per 100 gallons of water. If the dip or spray mixture contains other pesticides in addition to ORTHOCIDE 50 WP, refer to the product label(s) for information regarding disposal.

ORTHOCIDE 50 WP wastes are acutely hazardous to the eyes. Improper disposal of spray or dip tank mixtures is a violation of Federal Law. If the leftover dip or spray mixture cannot be disposed of in the manner prescribed above, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance concerning the disposal of spent or excess dip tank mixtures.

**NON-FOOD/ORNAMENTALS**

**USE PRECAUTIONS**

Do not apply spray or ornamental plants listed below beyond the point of drip from the leaf surface. When applying as a drench, apply only sufficient mixture to wet the surface of the soil except when the dose is specified in terms of volume of mixture per square foot of area.

**Post-Application/Entry Restrictions:**

--For applications to ornamentals at non-commercial sites and golf course turfgrass, do not enter or allow others to enter until sprays have dried. The restricted entry interval (REI) for ornamentals grown for commercial or research use is 48 hours.

**AZALEAS**

Damping-off cuttings – Use 4 pounds ORTHOCIDE 50 WP per 100 gallons of water. Dip cuttings before bedding. Petal blight – Use 2 pounds ORTHOCIDE 50 WP per 100 gallons of water. Apply to soil area around plants and spray flowers just before bloom. Repeat at 7 to 14 day intervals through bloom.

**BEGONIAS (Tuberous)**

Damping-off, tuber rot – Use 4 pounds ORTHOCIDE 50 WP per 100 gallons of water. Dip tubers 30 minutes, drain and plant.

**CAMELLIAS**

Petal blight – Use 1 pound ORTHOCIDE 50 WP per 100 gallons of water. Apply to drench soil around plants beginning when flowers start to open. Repeat at 7 to 10 day intervals through bloom.

**CARNATIONS**

Alternaria leaf spot, rust – Use 2 pounds ORTHOCIDE 50 WP per 100 gallons of water. Begin application at first sign of disease. Repeat at 7 to 10 day intervals. Shorten intervals during frequent rains and heavy dews. Damping-off cuttings – Use 4 pounds ORTHOCIDE 50 WP per 100 gallons of water. Dip cuttings before bedding.

**CHRYSANTHEMUM**

Botrytis flower blight, Septoria leaf spot – Use 2 pounds ORTHOCIDE 50 WP per 100 gallons of water. Apply at first sign of disease. Repeat at 7 to 10 day intervals. Damping-off cuttings – Use 4 pounds ORTHOCIDE 50 WP per 100 gallons of water. Dip cuttings before bedding.

**GINSENG**

For control of *Cylindrocarpon* root rot (*Cylindrocarpon destructans*), Grey mold (*Botrytis cinerea*), *Phytophthora* root rot (*Phytophthora cactorum*), *Pythium* root rot (*Pythium* spp.) and *Rhizoctonia* root and crown rot (*Rhizoctonia solani*).

Apply 4 lbs of ORTHOCIDE 50 WP per acre (2 lbs ai/acre) every 7 – 10 days or when conditions favor disease development. For control of grey mold, apply as a foliar spray with a minimum of 100 gal/acre. For control of root and crown diseases, apply as a drench with minimum of 200 gal/acre. Do not use ginseng for food or feed purpose within 1 (one) year of treatment. Do not exceed 8 applications in one growing season.

Do not apply more than 32 lbs of ORTHOCIDE 50 WP (16 lb ai) per acre per season. Note the restricted entry interval (REI) is 48 hours.

**GLADIOLUS (Corms)**

Corm rot and decay, damping-off – Use 6 ounces ORTHOCIDE 50 WP per 10 gallons of water, dip corms 20 to 30 minutes. Drain and plant.

**TURF (golf course)**

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Leaf spot, damping-off, brown patch, melting out, seedling blights, and brown spot on St. Augustine grass – Use 2 pounds ORTHOCIDE 50 WP per 100 gallons of water. Apply 10 gallons spray per 1,000 square feet. Begin when growth starts in spring. Repeat at 7 to 14 day intervals throughout season. Do not graze treated areas or feed clippings to livestock. The maximum application rate for turf (golf course) is 8.6 lbs of ORTHOCIDE 50 WP/acre (4.3 lb ai/acre), with a maximum seasonal application rate of 17.2 lbs of ORTHOCIDE 50 WP/acre (8.6 lb ai/acre). Do not enter or allow others to enter until sprays have dried. Do not apply to turfgrass in residential sites, including homes, apartment buildings, daycare centers, schools, playgrounds, parks, recreational areas, sports fields or other residential areas.

**TURF (sod farms)**

Damping-off and other soil borne diseases – Use 0.125 pounds ORTHOCIDE 50 WP per 1,000 square feet or 2 pounds ORTHOCIDE 50 WP per 100 gallons of water, using 10 gallons spray per 1,000 square feet. Cultivate into upper 3 to 4 inches before planting. The maximum application rate for turf (sod farms) is 8.6 lbs of ORTHOCIDE 50 WP/acre (4.3 lb ai/acre), with a maximum seasonal application rate of 17.2 lbs of ORTHOCIDE 50 WP/acre/season (8.6 lb ai/acre per season). Note the restricted entry interval (REI) is 48 hours. Do not harvest sod until 48 hours after application.

**ROSES**

Black spot, Botrytis blossom blight – Use 2 pounds ORTHOCIDE 50 WP per 100 gallons of water. Begin at first growth or first sign of disease. Repeat at 7 to 14 day intervals, and more frequently during frequent rains and heavy dews.

**SOIL AND GREENHOUSE BENCH TREATMENT**

Preplant treatment for damping-off, root rot diseases on seedlings or transplants of roses (and other shrubs, trees, flowers) and lawn seedbeds – Use 2 pounds of ORTHOCIDE 50 WP per 100 gallons of water at a rate of 15 gallons of spray per 1,000 square feet. Cultivate into upper 3 to 4 inches of soil before planting. Note the restricted entry interval (REI) is 48 hours. Once the treatment and any seeding or transplanting tasks done as part of the treatment are complete, the 48-hour REI begins. Exception, once the seeds or transplants are planted in the soil, the Worker Protection Standard allows workers to enter the treated area without restriction if there will be no contact with the soil subsurface.

**STORAGE AND DISPOSAL**

**PROHIBITIONS:** Do not contaminate water, food, or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited. Do not reuse empty container.  
**PESTICIDE STORAGE:** Keep pesticide in original container. Keep container tightly closed when not in use. Protect from excessive heat. Store in a cool, dry place.  
**PESTICIDE DISPOSAL:** Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide 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:** Nonrefillable container. Do not reuse or refill this container. Completely empty bag into application equipment. Offer for recycling, if available, or 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.

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**Warranty and Disclaimer Statement**

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. To the extent consistent with applicable law, all such risks shall be assumed by the user or buyer.

Arysta 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 described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

**TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ARYSTA, MANUFACTURER, AND SELLER DISCLAIM AND SHALL NOT BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE, HANDLING, APPLICATION, STORAGE, OR DISPOSAL OF THIS PRODUCT OR FOR DAMAGES IN THE NATURE OF PENALTIES, AND THE USER AND BUYER WAIVE ANY RIGHT THAT THEY MAY HAVE TO SUCH DAMAGES. NO AGENT, REPRESENTATIVE OR EMPLOYEE OF ARYSTA IS AUTHORIZED TO MAKE ANY WARRANTY, GUARANTEE OR REPRESENTATION BEYOND THOSE CONTAINED HEREIN OR TO MODIFY THE WARRANTIES CONTAINED HEREIN. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE TOTAL LIABILITY OF ARYSTA, MANUFACTURER, AND SELLER, SHALL BE LIMITED TO THE PURCHASE PRICE PAID, OR AT ARYSTA'S ELECTION, THE REPLACEMENT OF THE PRODUCT.**

ORTHOCIDE 50 WP (MASTER LABEL) AD11/26/07, NOTIFICATION 07/17/09, NOTIFICATION 01/20/11