

81943-13

10/6/2011

10 of 15



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

Sherry B. Hutcheson  
Director, Regulatory Affairs  
Phoenix Environmental Care LLC  
P.O. Box 370  
Valdosta, GA 31603-0370

OCT - 6 2011

Product Name: Raven  
EPA Reg. No.: 81943-13  
Subject: Your notification dated August 15, 2011: Pesticide Registration  
Notice 2007-4  
EPA Decision Number: 453079

Dear Ms Hutcheson:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 2007-4. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 2007-4 and finds that the label changes requested fall within the scope of PRN 2007-4.

The label submitted with the application has been stamped "Notification" and will be placed in our records.

Please be reminded that 40 CFR Part 156.140(a)(4) requires that a batch code, lot number, or other code identifying the batch of the pesticide distributed and sold be placed on nonrefillable containers. The code may appear either on the label (and can be added by non-notification/PR Notice 98-10) or durably marked on the container itself.

If you have any questions, please contact Robert Westin by phone at (703) 305-5721 or via email at westin.robert@epa.gov.

Sincerely,  
*Mary L. Waller*

Mary L. Waller  
Product Manager (21)  
Fungicide Branch  
Registration Division (7504P)

20/15

 <b>EPA</b>	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> <b>Other: Notification</b>	OPP Identifier Number
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**Application for Pesticide - Section I**

1. Company/Product Number 81943-13	2. EPA Product Manager Mary Waller	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Raven	PM# 21	
5. Name and Address of Applicant (Include ZIP Code) <b>Phoenix Environmental Care LLC</b> <b>PO Box 370</b> <b>Valdosta, GA 31603-0370</b>  <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**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)  
 Notification of update of storage and disposal statements per PR Notice 2007-4.  
 Notification of update in Warranty statement per PR Notice 98-10 as well as other minor label changes as highlighted.  
 This notification is consistent with the provisions of PR Notice 2007-4, PR Notice 98-10 and EPA regulation 40 CFR 156.10, 156.140, 156.144, 156.145, 156.156 and 156.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 USC Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 2007-4, PR Notice 98-10 and 40 CFR 156.10, 156.140, 156.144, 156.145, 156.156 and 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.

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If "Yes" Unit Packaging wgt.    No. per container	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No  If "Yes" Package wgt.    No. per container	<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)		
*Certification must be submitted					
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container  2.5 gallons		5. Location of Label Directions <input checked="" 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"/> Other _____ <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application)		
Name Sherry B. Hutcheson	Title Director, Regulatory Affairs	Telephone No. (Include Area Code) 229-245-8856
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.		6. Date Application Received (Stamped)
2. Signature 		
3. Title Director, Regulatory Affairs		
4. Typed Name Sherry B. Hutcheson		
		5. Date 08/05/2011

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Phoenix Environmental Care LLC  
PO Box 370  
Valdosta, GA 31603-0370

August 5, 2011

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Washington, DC 20460-0001

Attn: Mary Waller (PM 21)

**Subject: Raven (EPA Reg. No. 81943-13)**

Dear Ms. Waller,

Phoenix Environmental Care, LLC is submitting through notification the following label changes for Raven.

- Update in the storage and disposal statements per PR Notice 2007-4.
- Update of the Warranty Statement per PR notice 98-10 and EPA's published guidance on Warranty Statements.
- Minor labeling changes as highlighted in the text.

In addition to this transmittal letter, we are supplying:

- EPA form 8570-1, application form
- One clearly marked copy highlighted/underlined with the proposed changes.
- Two clean copies of the proposed label for Raven.

If you have any questions, please feel free to contact me at either 229-245-8856 or [sherry.hutcheson@phoenixenvcare.com](mailto:sherry.hutcheson@phoenixenvcare.com).

Best regards,

Sherry B. Hutcheson  
Director, Regulatory Affairs  
Enclosures



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Raven Draft Label  
Notification PR Notice 2007-4 rev. 2  
Clean copy  
August 15, 2011

# Raven

**A broad-spectrum fungicide for non-residential use on turf and ornamentals**

**ACTIVE INGREDIENT:**

Iprodione: 3-(3,5-dichlorophenyl)-N-(1-methylethyl)-2,4-dioxo-1-imidazolidinecarboxamide\* .....23.3%

**OTHER INGREDIENTS:** .....76.7%

**TOTAL:** .....100.0%

This product contains petroleum distillate.

\*Contains 2 lbs. Iprodione per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give <b>any</b> liquid to the person.</li> <li>• Do not give <b>anything by mouth</b> to an unconscious person</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-888-875-1724 for emergency medical treatment information.	
NOTE TO PHYSICIAN	
Contains petroleum distillate -- vomiting may cause aspiration pneumonia.	

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

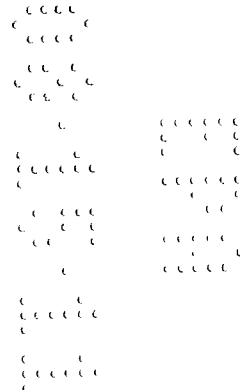
EPA Reg. No. 81943-13

Phoenix Environmental Care, LLC  
P.O. Box 370  
Valdosta, GA 31603-0370

EPA Est. No.

### NOTIFICATION

OCT - 6 2011



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**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Harmful if swallowed. Causes moderate eye irritation. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Avoid contact with eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Mixers, loaders, others exposed to the concentrate, cleaners/repairers of equipment and applicators applying as a dip treatment must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber or viton
- Chemical-resistant apron
- Chemical-resistant footwear plus socks

**Applicators using hand held equipment must wear:**

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber or viton
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Dust/mist filtering respirator (NIOSH approved respirator with any R, P or HE filter)

**Applicators using aircraft or mechanical ground equipment (groundboom, airblast, etc.) and flaggers for aerial applications must wear:**

- Long-sleeve shirt and long pants
- Shoes plus socks

**Applicators using truck-mounted equipment with a handgun at the end of a hose (i.e., for commercial turfgrass or ornamental applications) and all other handlers not specified above must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves made of barrier laminate, nitrile rubber, neoprene rubber or viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

**ENGINEERING CONTROL STATEMENT**

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.

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**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing 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 can contaminate surface water through aerial and ground spray applications. Under some conditions, it may also have a high potential for runoff into surface water after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlaying tile drainage systems that drain to surface water.

This pesticide is toxic to invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift or runoff from treated areas is hazardous to aquatic invertebrates in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product. Do not apply this product in a way that will contact workers or other persons, either directly or indirectly 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 worker entry into treated areas during the restricted-entry interval (REI) of 48 hours for ornamental uses. The restricted entry interval for all other WPS uses is 24 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
- Chemical-resistant gloves such as barrier laminate, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, or viton  $\geq$  14 mils
- Shoes and socks

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**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to ornamental and turf uses (golf courses, landscape and institutional areas) of this product that are NOT within the scope of the Worker Protection Standard (WPS) 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.

**PRODUCT INFORMATION**

Raven is a broad-spectrum fungicide that may be applied as either a foliar spray, drench or dip and controls turfgrass diseases in non-residential sites such as golf courses, sod farms, and institutional areas where fine turf is grown, as well as a wide range of ornamental flowering and foliage plants in field, landscape and conifer nursery sites. Raven is effective in controlling the following diseases:

**Spring, Summer and Fall Turf Diseases:**

- Dollar Spot
- Fusarium Blight
- Leaf Spots like Helminthosporium Leaf Spot caused by *Dreschlera* spp. Pathogens
- Brown Patch
- Necrotic Ring Spot
- Large Patch
- Corticum Red Thread

**Winter Turf Diseases:**

- Fusarium Patch (Pink Snow Mold)
- Gray Snow Mold

**Ornamental and Nursery Diseases:**

- Aerial Web Blight
- Alternaria Leaf Spot
- Fusarium Leaf Spot
- Rhizoctonia stem and root rot
- Tulip Fire
- Ray Blight
- Daffodil Leaf Scorch
- Botrytis Storage Rot
- Alternaria Leaf Blight
- Botrytis Blight
- Helminthosporium Leaf Spot
- Ink Spot
- Alternaria Leaf Blight
- Fusarium Corm rot
- Blossom Blight
- Cylindrocladium Blight and Wilt

**PRECAUTIONS**

- For best results, be sure to follow all the precautions, limitations and recommendations in this label.

**RESTRICTIONS**

- Use of this product at residential sites is prohibited.
- Except for use on golf courses, if applying this product adjacent to a water body such as a lake, reservoir, river, permanent stream, marsh or natural pond, estuary, or commercial fish pond, there must be at least a 25-foot vegetative buffer strip between the water body and the point of application.
- For golf courses only, do not apply to turf cut higher than 1" on golf holes where water bodies are present.
- Do not apply this product when the wind direction is toward aquatic areas.

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**PRODUCT APPLICATION GUIDELINES**

- Apply the recommended rates as indicated in the following sections of the label in 0.5 - 10 gallons of water per 1000 square feet.
- Do not drench the foliage to the point of runoff.
- Product breakdown may occur if the spray mixture is allowed to stand for more than 12 hours.
- Maintain agitation during spray operations.
- Always apply using a properly calibrated sprayer.

**TURF**

**INSTRUCTIONS FOR TURF:**

Unless otherwise noted, make applications when the disease first appears or when conditions favor disease development.

Under severe conditions, the higher rate and/or shorter interval of applications are recommended for all diseases. When disease pressure is light to moderate, the lower rates and longer intervals are recommended.

**RESTRICTIONS:**

- DO NOT apply more than 35 fl. oz. of Raven per 1000 square feet per year (24 lbs. a.i. per acre).
- DO NOT make more than 6 applications to a single site per year.
- DO NOT mix with any sticker, extender, or wetting agent.
- DO NOT mow or irrigate treated areas until the foliage is completely dry. A 24-hour waiting period following treatment is recommended.
- DO NOT graze animals on treated turf, and do not feed clippings from treated turf to livestock or poultry.

TARGET PEST	RATE (fl. oz. / 1000 sq. ft.)	APPLICATION INTERVAL
<b>Dollar Spot</b> <i>(Lanzia spp. and Moellerodiscus spp.)</i> <b>Brown Patch</b> <i>(Rhizoctonia solanii)</i> <b>Leaf Spot</b> <i>(Drechslera spp.)</i>	3 – 4  For Dollar Spot control on fairways use 2 – 4	<b>Greens and Tees:</b> Repeat at 30 day intervals as long as required.
		<b>Fairways and Other Turf Areas:</b> Repeat at 30 day intervals as long as required.
<b>Large Patch</b> <sup>†</sup> <i>(Rhizoctonia solanii)</i>	4	Make first application in fall when conditions are favorable for disease development but no symptoms are visible. Repeat applications every 30 days in spring as needed.
<b>Fusarium Blight</b> <i>(Fusarium spp.)</i> <b>Necrotic Ring Spot</b> <sup>†</sup> <i>(Leptosphaeria korrae)</i>	8	Use only preventative foliar applications when conditions first become favorable for disease development. Make additional applications at 30 day intervals as necessary.
<b>Fusarium Patch</b> <i>(Microdochium nivalis)</i> [Pacific Northwest Only – West of the Cascade Mountains]	4 – 8	Repeat at 30 day intervals as long as required.



TARGET PEST	RATE (fl. oz. / 1000 sq. ft.)	APPLICATION INTERVAL
<b>Gray Snow Mold</b> ( <i>Typhula</i> spp.) <b>Pink Snow Mold</b> ( <i>Fusarium nivale</i> )	4 – 8 (See Tank Mixes for additional information)	Make one application before first permanent snow cover and a second during a mild-winter thaw.
<b>Corticium Red Thread</b> ( <i>Laetisaria fuciformis</i> )	4	Apply every 30 days as required for prevention.
<b>Curvularia</b> ( <i>Curvularia</i> spp.) on Bermudagrass only	4	Apply every 30 days as required for prevention.
<b>Anthracnose</b> ( <i>Colletotrichum</i> ) NOTE: suppression only	4 – 8	Combine Raven with appropriately labeled and registered trifloxystrobin or fosetyl-al products or other anthracnose control fungicides.
<b>Pythium Blight</b>	See Tank Mixes below	

† Not registered for use in California

**TANK MIXTURES FOR TURF APPLICATIONS**

To expand the spectrum of pests controlled, Raven may be tank mixed with most commonly used fungicides containing flutolanil, trifloxystrobin, and azoxystrobin. When tank mixing products, be sure to follow the most restrictive instructions.

**Broad Spectrum Disease Control and Resistance Management:**

Tank mixing Raven with an appropriately labeled and registered thiophanate-methyl product such as T-Bird 4.5L or T-Bird 85 WDG provides effective, broad spectrum turf disease control and also serves as a useful tank mixture in the resistance management program required for other resistance sensitive fungicides.

Disease Pressure	Raven	T-Bird 4.5L	T-Bird 85 WDG
Low to Medium	3 fl. oz./1000 ft. <sup>2</sup>	1.0 fl. oz./1000 ft. <sup>2</sup>	0.66 oz./ 1000 ft. <sup>2</sup>
High	3 fl. oz./1000 ft. <sup>2</sup>	2.0 fl. oz./1000 ft. <sup>2</sup>	1.32 oz./ 1000 ft. <sup>2</sup>

**Summer Stress Complex/Summer Decline:**

Mix 2 – 4 oz. of Raven with 4 – 8 oz. of an appropriately labeled and registered 80% fosetyl-Al product such as Autograph™ per 1000 square feet.

**Pythium Blight:**

Pythium blight will be controlled by the tank mixing of fosetyl-al, Vital®, Vital Sign™, or propamocarb hydrochloride with Raven. If using a tank mixture, follow label directions for the use of that product and apply at the rate recommended for control of the target disease organism.

**Gray Snow Mold:**

In areas where continuous snow cover occurs, use 4-8 fl. oz. Raven per 1000 sq. ft. tank mixed with an appropriately labeled and registered chlorothalonil product such as Pegasus L or Pegasus D<sup>SR</sup> or a registered pentachloronitrobenzene (PCNB) product at the labeled rate.

Make applications in the fall before snow cover occurs and use the higher rates listed if the turf remains frozen prior to snow cover. Apply with 1 – 5 gallons of spray solution per 1000 square feet. For best results, reapply if loss of snow cover occurs during a winter thaw.

**ORNAMENTALS**

FOR USE BY COMMERCIAL NURSERY AND LANDSCAPE PERSONNEL ONLY. NOT FOR RESIDENTIAL AREAS.

The ornamentals listed below have been tested and found to be tolerant to Raven. As it is not possible to test every species or variety of ornamental plant for tolerance, the user should test for phytotoxic responses in plants not listed in this label prior to widespread application.

Raven has been tested on the following ornamentals:

- |                    |                     |                     |                        |
|--------------------|---------------------|---------------------|------------------------|
| Ageratum           | Ajuga               | Almond (ornamental) | Alyssum                |
| Andromeda          | Aphelandra          | Artemisia           | Aster                  |
| Azalea             | Boxwood             | Cactus              | Calendula              |
| Carnation          | Cherry (ornamental) | Chrysanthemum       | Cineraria              |
| Cistena Plum       | Coleus              | Columbine           | Coral Bells (Heuchera) |
| Crape Myrtle       | Crassula            | Croton              | Cyclamen               |
| Daffodilis         | Dahlia              | Delphinium          | Deutzia                |
| Dianthus           | Dieffenbachia       | Dizygotheca         | Dogwood                |
| Dracena            | English Ivy         | Episcia             | Euonymous              |
| Ficus              | Forsythia           | Gazania             | Geranium               |
| Gladiolus          | Gloxinia            | Gypsophila          | Hawthorn               |
| Holly              | Hoya                | Hydrangea           | Impatiens              |
| Iris               | Juniper             | Kalanchoe           | Lillies                |
| Lipstick vine      | Marigold            | Monarda (Bee Balm)  | Pachysandra            |
| Palm               | Pansy               | Peach (ornamental)  | Peperomia              |
| Periwinkle         | Philodendron        | Phlox               | Pilea                  |
| Pine               | Pitosporum          | Plum (ornamental)   | Poinsettia             |
| Poppy              | Pothos              | Primrose            | Privet                 |
| Protea             | Pyracantha          | Rhododendron        | Rose                   |
| Rose Tree of China | Salvia              | Schefflera          | Snapdragon             |
| Statice            | Tree Ivy            | Tulip               | Viburnum               |
| Violet             | Zinnia              |                     |                        |

**NOTE:** DO NOT apply Raven to Peace Lilly or White Anthurium (*Spathiphyllum*).

Use the following table to determine the diseases controlled and the application method to use:

Disease	Can Be Applied To	Foliar Spray	Drench	Drip
Aerial Web Blight	All	✓		
Alternaria Leaf Blight	All	✓		
Alternaria Leaf Spot	All	✓		
Botrytis Blight	All	✓		
Fusarium Leaf Spot	All	✓		
Helminthosporium Leaf Spot	All	✓		
Rhizoctonia Stem and Root Rot	All except Impatiens and Pothos		✓	
Ink Spot	Iris	✓		
Tulip Fire	Tulip	✓		
Alternaria Leaf Blight	Zinnia	✓		
Ray Blight	Chrysanthemum	✓		
Fusarium Corm Rot	Gladiolus			✓
Daffodil Leaf Scorch	Daffodilis	✓		
Blossom Blight	Cistena Plum / Ornamental Plum	✓		
Botrytis Storage Rot	Rose			✓
Cylindrocladium Blight and Wilt	Azalea and Rhododendron			✓

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**FOLIAR SPRAY APPLICATIONS**

Apply when conditions are favorable for disease development using the following instructions:

- Application Rate: 1.0 – 2.5 quarts of product per acre  
For severe pest pressure, use the highest recommended rates.  
For light to moderate pest pressure, use the lower rates listed.
- Application Interval: 7 – 14 days  
For severe pest pressure, use the shortest application intervals.  
For light to moderate pest pressure, use the longer application intervals.
- Application Instructions: Spray plants ensuring complete coverage.
- Use Precautions: DO NOT make more than 4 applications per crop per year.

**DRENCH APPLICATIONS**

To control Rhizoctonia, Raven may be applied as a drench at the seeding and/or transplanting stage using the following instructions:

- Application Rate: 13 fl. oz. per 100 gallons.
- Application Interval: 14 days
- Application Instructions: Apply using 1 – 2 pints of solution per square foot.  
For severe disease pressure use the higher rates.  
For light to moderate disease pressure use the lower rates.
- Use Precautions: DO NOT apply more than 35 fl. oz. / 1000 sq. ft. per year (24 lbs. a.i. per acre).  
DO NOT make more than 6 applications per year.  
DO NOT use Raven as a drench on Impatiens and Pothos.

**DIP APPLICATIONS**

Refer to the following table for use of Raven as a dip to control Botrytis Storage Rot, Cylindrocladium Blight and Fusarium Corn Rot in the following plants:

Plant Species	Application Rate (Quarts Product / 100 Gal Water)	Dip Duration	Instructions
Rose	1.0	5 minutes	Dip bare root roses prior to cold storage.
Azalea and Rhododendron			Dip cuttings prior to planting.
Gladiolus	2.0		Dip corms prior to storage.

**TANK MIXTURES**

In order to broaden the spectrum of control, Raven may be used with most commonly used fungicides. For control of diseases caused by *Pythium* and *Phytophthora* spp., a tank mix of Raven with fosetyl-al may be used.

Read the labels of all tank mix partners for recommended application rates for the target disease organism and be sure to follow the most restrictive instructions.

**DIRECTIONS FOR USE THROUGH SPRINKLER IRRIGATION SYSTEMS**

Raven may be applied using a center pivot irrigation system using the following instructions:

- System Preparation: Be sure all pesticide residues, scale and other foreign materials are cleaned from the chemical tank and injector system. Flush with clean water prior to use.  
Prepare a tank mix of Raven by filling the tank to 1/2 - 3/4 of the final volume with water and begin agitation. Add the recommended amount of Raven and the remaining water until the desired volume is reached.
- Application Rate: Use the recommended dosage per acre per 1 – 4 gallons of water.
- Application Instructions: Set the sprinkler system to deliver 0.1 – 0.3 inches of water per acre.  
Using a positive displacement pump, the Raven mixture should be injected into the main line ahead of a right angle turn to ensure adequate mixing.
- Use Precautions: **Application of this product using a sprinkler system is prohibited in the state of California.**  
This product may only be applied using a center pivot irrigation system. Do not apply this product through any other type of irrigation system.  
To prevent the Raven from being washed off the crop, do not irrigate the treated area for 24 hours after making the Raven application.

**APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS**

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension. Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time. 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.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

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

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

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

**SPRAY DRIFT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backwards parallel with the air stream 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** section below.

**Aerial Drift Reduction Advisory Information:**

(This section is advisory in nature and does not supercede 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 environmental conditions (See Wind, Temperature and Humidity, and Temperature Inversions).

**Controlling Droplet Size**

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

**Boom Length**

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

**Application Height**

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

**Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downwind. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase with increasing drift potential (higher wind, 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, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store in original container only.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Offer for recycling, if available or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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**CONDITIONS OF SALE AND WARRANTY**

The DIRECTIONS FOR USE of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Phoenix Environmental Care, LLC, its Supplemental Distributors, or the Seller. All such risks shall be assumed by the Buyer.

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