

81943-19

10-19-2011

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

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

OCT 19 2011

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

Subject: Notification per PR Notice 2007-4: Update Container Disposal Instructions  
Knighthawk  
EPA Reg. No. 81943-19  
Application Dated: September 28, 2011

Dear Ms. Hutcheson:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice 2007-4 for the subject product.

The Registration Division (RD) has conducted a review of this request for its applicability under PRN 2007-4 and finds that the actions requested falls within the scope of this notice. The label submitted with the application has been date-stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please feel free to contact Maggie Rudick at (703) 347-0257 or [rudick.maggie@epa.gov](mailto:rudick.maggie@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "K. Montague", is written over a horizontal line.

Kathryn Montague, Product Manager 23  
Herbicide Branch  
Registration Division (7505P)



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

☐ Registration  
☐ Amendment  
☒ **Other: Notification**

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 81943--19	2. EPA Product Manager Kathryn Montague	3. Proposed Classification  <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Knighthawk	PM# 23	
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

**NOTIFICATION**

**OCT 19 2011**

**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 as other minor label changes as highlighted per PR Notice 98-10.

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:

Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify)
If "Yes" Unit Packaging wgt. No. per container		If "Yes" Package wgt. No. per container	

**\*Certification must be submitted**

3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container	4. Size(s) Retail Container 5 lbs.	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.)

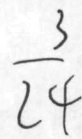
Name Sherry B. Hutcheson	Title Director, Regulatory Affairs	Telephone No. (include Area Code) 229-245-8856
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### Certification

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.

6. Date Application Received  
**(Stamped)**

2. Signature 	3. Title Director, Regulatory Affairs	
4. Typed Name Sherry B. Hutcheson	5. Date 09/28/2011	



*Confidential Business Information*



**NOTIFICATION****OCT 19 2011**Knighthawk Draft Label  
Notification PR Notice 2007-4  
Marked Copy; Rev 2.  
September 14, 20114  
24**Knighthawk  
Herbicide**

For preemergence control of grass and broadleaf weeds in: Established turfgrasses (excluding golf course putting greens), lawns and sod nurseries; Landscape ornamentals in nurseries or in established plantings; Established perennials and wildflower plantings; Plants grown for cut foliage production (Florida only); Conifer and hardwood tree seedling nurseries; Christmas tree farms; Managed transportation and utility rights-of-way, including rail and equipment yards, and public utility facilities (substations, tank farms, pumping stations, parking/storage areas, ungrazed fencerows).

Active Ingredient:	By Wt.
Prodiamine (CAS No. 29091-21-2) .....	65.0%
Other Ingredients: .....	35.0%
Total .....	100.0%

**KEEP OUT OF REACH OF CHILDREN****CAUTION**

~~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.)~~

FIRST AID	
If swallowed:	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water if able to swallow.</li><li>• Do not induce vomiting unless told by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
If on skin or clothing:	<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>
If in eyes:	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
If inhaled:	<ul style="list-style-type: none"><li>• Move person to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li><li>• Call a poison control center or doctor for further treatment advice.</li></ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For medical emergencies involving this product, call toll free 1-888-874-1124.	

**Net Contents:** \_\_\_\_\_ lbs.Phoenix Environmental Care, LLC  
P.O. Box 370 • Valdosta, GA 31603-0370EPA Reg. No. 81943-19  
EPA Est. No.: \_\_\_\_\_



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

**CAUTION**

Causes moderate eye irritation. Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wear long sleeved shirt and long pants, socks and chemical resistant gloves. Prolonged or frequently repeated skin contact, while mixing or handling the concentrated material, may cause allergic reactions in some individuals.

**PERSONAL PROTECTIVE EQUIPMENT**

**WPS USES:**

Mixers, loaders and applicators and other persons who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR part 170) – in general, agricultural-plant uses are covered – must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves, such as butyl rubber >14 mils, or neoprene rubber > 14 mils, or nitrile rubber >14 mils (See instructions for Category A on the EPA chemical resistance category selection chart B you want other options.)
- Shoes plus socks

**NON-WPS USES:**

Mixers and loaders who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR part 170) – in general, only agricultural-plant uses are covered by the WPS – must wear:

- Waterproof gloves

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

**ENGINEERING CONTROL STATEMENTS**

When handlers use closed systems or 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:	<ul style="list-style-type: none"><li>• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li><li>• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li><li>• After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly</li><li>• and change into clean clothing.</li></ul>

**ENVIRONMENTAL HAZARDS**

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment wash water.

### 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 Workers Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.**

Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Waterproof gloves
- Shoes plus socks

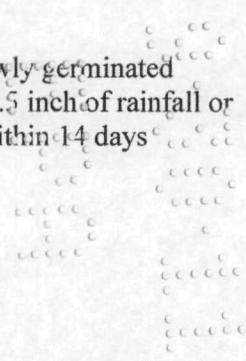
### WHERE TO USE

Knighthawk is a preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- Established turfgrasses (excluding golf course putting greens), lawns and sod nurseries
- Landscape ornamentals in nurseries or in established plantings
- Established perennials and wildflower plantings
- Plants grown for cut foliage production (Florida only)
- Conifer and hardwood tree seedling nurseries
- Christmas tree farms
- Managed transportation and utility rights-of-way, including rail and equipment yards, and public utility facilities (substations, tank farms, pumping stations, parking/storage areas, ungrazed fencerows)

### HOW KNIGHTHAWK WORKS

Knighthawk controls susceptible weeds by preventing growth and development of newly germinated weed seeds. Weed control is most effective with Knighthawk is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1 to 2 inches) before weed seeds germinate and within 14 days following application.





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#### 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 Non-WPS Uses: Keep all persons, children and pets out of treated area until sprays have dried.

#### USE PRECAUTIONS

1. Do not graze or feed livestock forage cut from areas treated with Knighthawk.
2. Follow all applicable directions, restrictions, and precautions on the labels of EPA-registered tank mix partners.
3. Do not blend Knighthawk onto dry fertilizer or any other granular material.
4. Chemigation: Do not apply this product through any type of irrigation system unless instructed otherwise in this label.
5. Do not apply aerially.
6. Do not apply to golf course putting greens.

#### MIXING AND APPLICATION

##### Mixing

Knighthawk must be mixed thoroughly in the spray tank to ensure uniform application. Follow these steps:

1. Fill the spray tank 1/4 full with clean water or fluid fertilizer only.
2. Start agitation and check to ensure it is working properly.
3. Add Knighthawk directly into the tank.
4. Add the rest of the carrier to obtain the final spray volume.
5. A spray colorant may be used with Knighthawk to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
6. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension.
7. Do not allow spray suspension to dry in the tank. Thoroughly clean the sprayer after use by flushing the system with water containing a detergent. Refer to the Pesticide Disposal section of this label for waste disposal.

##### Tank Mixing Knighthawk

Knighthawk may be tank mixed with certain other EPA-registered herbicides to provide a broader spectrum of weed control or to control emerged weeds. Refer to the specific directions for use for tank mix partners, and consult the label(s) of the individual tank mix partners(s) for use rate, application timing, weeds controlled, and specific precautions and/or restrictions. Tank mixes are permitted only in states where the tank mix partners(s) are registered for the application site and the turf and ornamental species listed. When using Knighthawk in a tank mixture with other pesticides, observe the most restrictive label limitations and precautions on the labels of the products used.

Before tank mixing pesticides, it is advisable to test compatibility by mixing the products in a small container first. See the Compatibility Test section.

##### Compatibility Test

Before mixing Knighthawk with other pesticides in the spray tank, test the compatibility by mixing all components (carrier and pesticide products) in a small container in proportionate quantities. For example, a 1-qt. Jar would be 1/100 the volume of a 25 gals./A spray rate. At 1 lb./A the Knighthawk rate would be



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proportional to 4.5 g per qt. Add approximately 1.5 teaspoons to a qt. of water. Calculate amounts for the other products based on rate per acre. An approximate volume would be 1.5 teaspoons for each lb./A of a dry formulation and 0.5 teaspoons for each pt./A of a liquid formulation. (See following table.)

Amount of Component to Add to One quart Jar of Spray Carrier (Assuming Carrier Volume of 25 gals./A)

Component Formulations	Rate Per		Level Teaspoons
	Acre	1,000 sq. ft.	
Knighthawk	1.0 lb.	0.4 oz.	1.5
Dry tank mix partners	1.0 lb.	0.4 oz.	1.5
Liquid tank mix partners	1.0 pt.	0.4 oz.	0.5

If components do not ball-up or form flakes, sludge, gels, oily films or layers, then the mixture is compatible. Incompatibility will usually occur within 5 minutes after mixing. If the components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If components are still not compatible, do not tank mix.

#### Mixing Order for Tank Mixtures

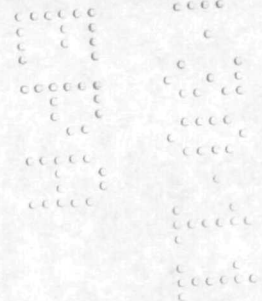
Notes: (1) When mixing Knighthawk with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. This is key when tank mixing with ester formulations. (2) Maintain agitation throughout mixing and application of the mixture.

#### Add the products to the spray tank in the following order:

1. Add products packaged in water-soluble bags first. Agitate the tank mixture. Allow the water-soluble bags to completely dissolve and the product to disperse before adding any other tank mix partner.
2. Then add water-dispersible granules (WDG or WG formulations) and wettable powders (WP formulations). Add wettable powders to the tank as agitation continues. Allow the product to disperse completely before other products are added.
3. Add spray adjuvants and spray markers. Read the adjuvant's label first and use only those adjuvants approved for application to turf and ornamentals.
4. Add flowable liquids (FL) or suspension concentrates (SC).
5. Add emulsifiable concentrates (EC) last.

#### Application

Apply Knighthawk in a minimum of 20 gals/A (0.5 gal./1,000 sq. ft.) of carrier (water and/or fluid fertilizer) using a calibrated, low-pressure sprayer with 50-mesh or coarser screens. A broadcast boom or handheld wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.



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### Weeds Controlled

When used as directed in this label, Knighthawk will control the following weeds:

Barnyardgrass	Goosegrass 5/	Purslane, common
Bluegrass, annual (Poa annua) 1/	Henbit 2/	Pusley, Florida
Carpet weed	Itchgrass	Rescuegrass 4/
Chickweed, common 2/	Johnsongrass (from seed)	Shepherds purse 2/
Chickweed, mouseear (from seed)	Junglerice	Signalgrass, broadleaf
Crabgrass (Large, Smooth) 3/	Knotweed 2/	Speedwell, Persian
Crowfootgrass	Kochia	Sprangletop
Cupgrass, woolly	Lambsquarter, common	Spurge, prostrate
Foxtails, annual	Lovegrass	Witchgrass
Pigweed	Panicum (Texas, Fall, Browntop)	Woodsorrel, yellow (from seed)

<sup>1</sup>In areas where Poa annua is a winter annual, apply Knighthawk in August or September to established, non-overseeded turf before Poa annua seeds germinate. These timings are approximate. Consult State Extension Service for more specific timing for your area. Also see the section of this label Poa Annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only).

<sup>2</sup>To control this weed, apply Knighthawk in late summer, fall, or winter before weed seeds germinate.

<sup>3</sup>Fall applications for spring crabgrass control in cool-season grasses: In those areas where the ground freezes in the winter, Knighthawk can be applied in the fall at rates of 1.0-1.15 lbs./A after the soil temperature falls below 50°F but before the ground freezes. This application will control crabgrass the following spring.

<sup>4</sup>Suppression only.

<sup>5</sup>In any area a single application of 1-2.3 lbs./A of Knighthawk will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, most effective control may be obtained by making an initial application of 1-1.5 lbs./A followed, after 60-90 days, by a second application that does not exceed the maximum rate for that turfgrass species listed in the Maximum Application Rate Table.

Do not exceed a dosage of 1.5 lbs. a.i./Acre, (2.3 lbs./A of this product) per year on any use site.

### ESTABLISHED TURF

Knighthawk is a preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including:

- Golf courses excluding putting greens
- Lawns
- Sod nurseries

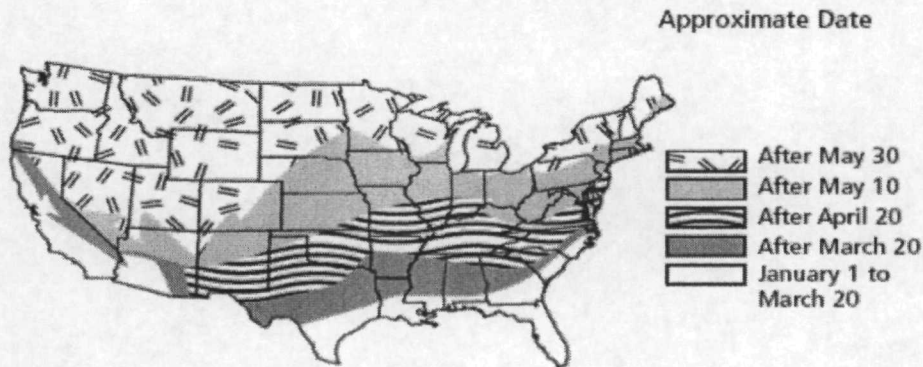
The maximum amount of Knighthawk that may be applied per year is given for each turfgrass species in the Annual Use Rates section of the label.



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For optimum weed control, Knighthawk should be activated by at least 0.5 inch of rainfall or irrigation before weed seeds germinate and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

#### CRABGRASS SEED GERMINATION DATES



#### Use Precautions-Turfgrass

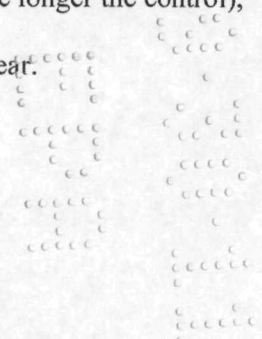
1. Do not apply Knighthawk to areas where dichondra, colonial bentgrass, velvet bentgrass, or annual bluegrass (*Poa annua*) are desirable species.
2. Do not cut (harvest) treated sod before 90 days after application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and exposed edges have filled in.
3. To avoid turfgrass injury, do not apply Knighthawk to turf stressed by conditions such as drought, low fertility, or pest damage.
4. Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.
5. **Do not apply Knighthawk to golf course putting greens.**
6. If the depth of the creeping bentgrass root system becomes shallow and root tips contact Knighthawk-treated soil, new root formation may be inhibited. Mowing height can affect the depth of a plant's root system. To avoid this, do not apply Knighthawk to creeping bentgrass less than 0.5 inch in height.

#### Application Timing and Rate-Turfgrass

Knighthawk may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications should be made before target weeds germinate. Knighthawk will not control weeds that have already emerged.

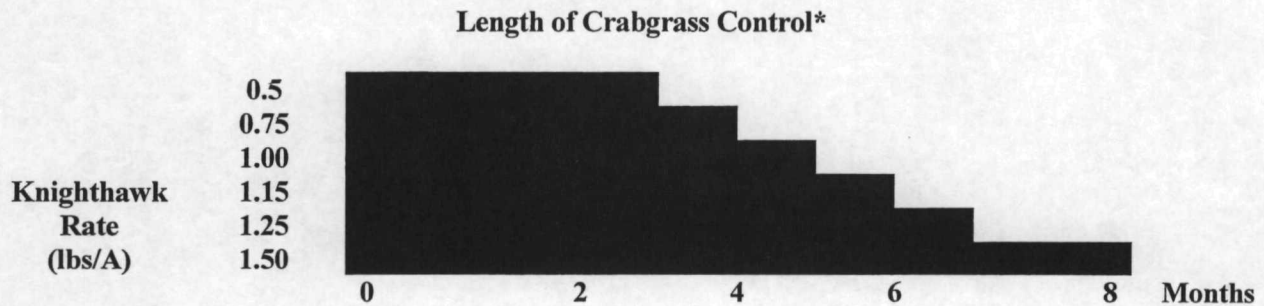
The amount of Knighthawk to apply depends upon:

1. the length of residual weed control desired (the higher the application rate, the longer the control),
2. the turf species, and
3. the maximum amount which can be applied to the turf species per calendar year.





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\*Length of control varies by region. This table is an average for planning purposes.

#### Annual Use Rates-Turfgrass

Knighthawk can be applied to the turfgrass species listed in the following table. Do not apply more than the highest rate listed for each species in a calendar year.

Table 1. Maximum Application Rate of Knighthawk Per Calendar Year by Turfgrass Species <sup>1/</sup>

Turf Species	lbs. Product/Acre	oz. Product/1,000 sq. ft.
Bermuda grass <sup>2/</sup> Bahia grass Centipedegrass Kikuyugrass Seashore Paspalum St. Augustinegrass <sup>3/</sup> Tall Fescue (including turf-type) Zoysiagrass	1.0-2.30 <sup>1/</sup>	0.36-0.83
Buffalograss Kentucky Bluegrass Perennial Ryegrass	0.5-1.50 <sup>1/</sup>	0.185-0.55
Fine Fescue	0.5-1.15 <sup>1/</sup>	0.185-0.42
Creeping Bentgrass (0.5 inches or more in height) <sup>4/</sup>	0.5-1.00 <sup>1/</sup>	0.185-0.37

<sup>1/</sup>Knighthawk may be applied more than once a year as long as the total amount applied is not greater than the maximum application rate for each turf species. All applications must be made before weed seeds germinate.

<sup>2/</sup>May be used on newly-sprigged or plugged Bermudagrass at rates not to exceed 0.80 lb./A (0.30 oz./1,000 sq. ft.). Newly-sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded.

<sup>3/</sup>Use an initial rate of 0.75-1.5 lbs./A per application.

<sup>4</sup>To avoid grass injury, do not apply Knighthawk to creeping bentgrass mowed at less than 0.5 inch in height.

#### When to Apply Knighthawk After Overseeding Turf

Injury to desirable seedlings is likely if Knighthawk is applied before the secondary roots of seedlings are in the second inch of soil (not thatch plus soil). To reduce the potential to injure overseeded turf, wait 60 days after seeding or until after the second mowing, whichever is longer, before applying Knighthawk.

#### When to Overseed After Application-All States\*

Knighthawk will inhibit the development of turfgrass species overseeded too soon after application. Follow rates and intervals in the table below for best overseeding/reseeding results.

\*Note: In AZ, CA, NV, and TX, the overseeding interval can be shorter in established bermudagrass that has been overseeded with perennial ryegrass. See the next section "Poa Annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)".

Amount of Knighthawk lbs. Product/A	Interval (Months) Before Overseeding		
	North	Transition	South
0.75	4	4	4
1.00	5	4	4
1.15	6	5	5
1.25	-	6	6
1.50	-	7	7
1.75	-	-	9
2.00	-	-	10
2.30	-	-	12

#### Poa annua control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)

Use on golf courses (excluding golf course putting greens, lawns, and sod nurseries when overseeding with perennial ryegrass (minimum seeding rate of 350 lbs./A).

#### How Much and When to Apply

Amount to Apply	When to Apply	Expected Control	Use Precautions
0.58-1.0 lb/A	First Application: 6 to 8 weeks before ryegrass overseeding.	1 application for 70% or greater control of Poa Annua.	<ol style="list-style-type: none"> <li>1. Some seedling mortality and temporary reduction in root growth of new seedlings may occur.</li> <li>2. To reduce the potential for seedling mortality, maintain a moist seedbed with light, frequent irrigation.</li> <li>3. Make no more than 2 applications per year for this use, and do not exceed a total of 1.3 lbs./A per year.</li> <li>4. Do not make a second application</li> </ol>
	Second Application: 4 to 8 weeks after overseeding or when perennial ryegrass roots are	Second application may enhance control.	

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	in the second inch of soil.		if any injury to the ryegrass is observed after the first application. 5. Do not make a second application unless the product was first applied before overseeding.
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**ORNAMENTALS (CONTAINER, FIELD, AND LANDSCAPE GROWN, INCLUDING CHRISTMAS TREE FARMS), RIGHTS-OF-WAY, GROUNDS OF UTILITIES, UNGRAZED FENCE ROWS**

Knighthawk may be applied to soil surfaces for preemergence control of many grass and broadleaf weeds:

- Around ornamental shrubs, trees, established perennial vegetation and wildflower plantings;
- On or surrounding managed rights-of-way for transportation systems including roadways, roadsides, railways, and equipment yards;
- On grounds of utilities such as power substations, tank farms, pumping stations, parking and storage areas;
- On ungrazed fence rows.

**Application Timing and Information**

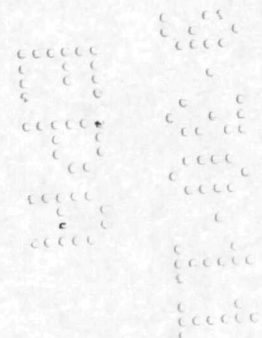
**Knighthawk:**

1. Will not control emerged weeds.
2. May be applied to newly-transplanted and established ornamentals as broadcast or over-the-top-spray.
3. Is most effective when applied to soil free of clods, weeds, and debris such as leaves and mulch.
4. Is most effective when the product is activated in the soil before weed seeds germinate and within 14 days after application.
5. Is activated when the treated area receives at least 0.5 inch of irrigation or rainfall, or shallow (1 to 2 inches) mechanical incorporation.

**Use Precautions**

**To reduce injury potential:**

- a. In the spring when buds are rapidly growing and expanding, over-the-top application of Knighthawk may temporarily injure new growth of desirable plants. To reduce the possibility of injury at this time, wait to apply Knighthawk over-the-top of newly emerged vegetation until it has hardened off, unless your experience indicates that the ornamental plant will not be injured by the over-the-top application.
- b. After application, immediately irrigate the treated area to wash Knighthawk from plant surfaces onto soil (watering plants before application may improve the washing process).





## Ornamentals, Christmas Tree Farms – Application Sites and Instructions

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### How Much and When to Apply

Amount to Apply (Broadcast)*	When to Apply	Comments/Instructions
1.0-2.3 lbs./A or 0.37 – 0.83 oz./1,000 sq. ft.	In fall or spring before weeds germinate or after weeds are removed.	1. Use the higher rate for longer control. 2. Knighthawk may be applied more than once per year as long as the total amount of product applied does not exceed 2.3 lbs./A per year.

\*Note: For band application calculate amount per acre:

$\frac{\text{Band width in inches} \times \text{Broadcast rate}}{\text{Row width in inches}} = \text{amount to apply per acre of field}$

### Equivalent Measurements for Knighthawk

lbs./A	oz./1,000 sq. ft.	Approximate Equivalent – Tablespoons/1,000 sq. ft
1.0	0.37	1.0
1.5	0.55	1.5
2.0	0.74	2.0
2.3	0.83	2.25

### Tank Mixtures For Use On Ornamentals

Knighthawk may be tank mixed with other registered herbicides listed on this label to provide a broader spectrum of weed control or to control emerged weeds. Tank mixes with Knighthawk are for use only in states where the tank mix partner(s), application site, and same use pattern are registered. Follow the label(s) of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before mixing pesticides in the spray tank, test compatibility by mixing the products in a small container first. See the Compatibility Test section of this label.



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### Tank Mix Partners for Knighthawk on Ornamentals

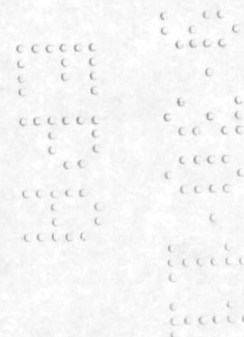
Product	Precautions/Instructions
Goal® (use on conifers only)	Mix with Knighthawk for postemergence control of listed broadleaf weeds including malva and filaree.
Gallery®, Sim-Trol®, Pennant®	See product labels for weed spectrum and tolerant ornamentals.
<del>Roundup</del> Avocet® or other Glyphosate based products <sup>1</sup> , Finale®	These nonselective tank mix herbicides control most emerged annual broadleaves and grasses. Take extreme care to prevent tank mixtures with these products from contacting the foliage and stems of turfgrass, trees, shrubs, or other desirable vegetation because desirable vegetation may be severely injured or killed. Apply these tank mixtures as a directed spray and use a shield to prevent spray from contacting foliage of desirable plants. Follow instructions on the tank mix partner's label, delay irrigation of the treated area to allow time for the herbicide to be absorbed by weed foliage.

<sup>1</sup>~~Roundup~~ Avocet is one brand of a nonselective herbicide containing Glyphosate. Other Glyphosate products may also be used.

### Tolerant Ornamental Species

Knighthawk will not harm most trees, shrubs, vines, and flowers. The species listed below in Table 2 are tolerant to Knighthawk. Knighthawk may be applied over-the-top of the listed species.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to Knighthawk.





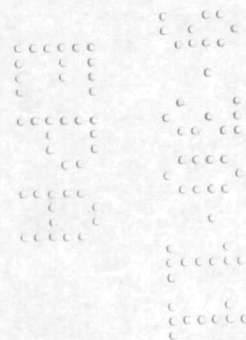
### Table 2. Tolerant Ornamental Species





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Scientific Name	Common Name
<i>Iris</i> spp.	Iris
<i>Jasminum nudiflorum</i>	Winter Jasmine
<i>Juglans</i> spp.	Walnut*
<i>Juniperus chinensis</i>	Chinese Juniper
<i>Juniperus conferta</i>	Shore Juniper
<i>Juniperus davurica</i>	
<i>Juniperus horizontalis</i>	Creeping Juniper
<i>Justicia brandegeana</i>	Shrimp Plant
<i>Lagerstromia indica</i>	Crape Myrtle
<i>Lagerstromia indica</i> and hybrids	Crape Myrtle
<i>Lantana montevidensis</i>	Weeping Lantana
<i>Lavender</i> spp.	Lavender; Munstead
<i>Leontopodium alpinum</i>	Edelweiss
<i>Ligustrum amurense</i>	Amur Privet
<i>Ligustrum japonicum</i>	Japanese Privet
<i>Ligustrum lucidum</i>	Glossy Privet(Wax-Leaf)
<i>Ligustrum sinense</i>	Chinese Privet
<i>Lilium</i> spp.	Lily
<i>Liriope muscari</i>	Liriope
<i>Liriope spicata</i>	Liriope, Creeping
<i>Lobelia cardinalis</i>	Cardinal Flower, Indian Pink
<i>Lonicera japonica</i>	Japanese Honeysuckle
<i>Lonicera tatarica</i>	Tatarian Honeysuckle
<i>Loropetalum chinense</i>	Loropetalum
<i>Lythrum</i> spp.	Loosestrife
<i>Magnolia</i> spp. **	Magnolia **
<i>Maleophora luteola</i>	Ice Plant
<i>Malus</i> spp.*	Crabapple*
<i>Miscanthus sinensis</i>	Yaku Jima**, Silberfeder**
<i>Nandina domestica</i>	Heavenly Bamboo
<i>Narcissus</i> spp. **	Narcissus, Daffodil
<i>Nerium</i> spp.	Oleander
<i>Oenothera missouriensis</i>	Evening Primrose
<i>Olea europaea</i>	Olive*
<i>Ophiopogon japonicus</i>	Mondo Grass**
<i>Osmanthus heterophyllus</i>	Osmanthus (False Holly)
<i>Osteospermum fruticosum</i>	Trailing African Daisy
<i>Oxydendrum luteum</i>	Sourwood
<i>Paeonia suffruticosa</i>	Tree Peony
<i>Pennisetum setaceum</i>	Fountain Grass**
<i>Perovskia atriplicifolia</i>	
<i>Persea americana</i>	Avocado*
<i>Photinia fraseri</i>	Photinia (Redtip)
<i>Physostegia virginiana</i>	Dragonhead, False
<i>Picea</i> spp.	Spruces**(Colorado Blue, Norway, etc.)
<i>Pieris japonica</i>	Japanese Andromeda; Lily-of-the-Valley Shrub







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<i>Scientific Name</i>	<i>Common Name</i>
<i>Veronica spp.</i>	Veronica, Speedwell
<i>Viburnum japonicum</i>	Japanese Viburnum
<i>Viburnum odoratissimum</i>	Sweet Viburnum
<i>Viburnum plicatum</i>	Japanese Snowball
<i>Viburnum rigidum</i>	Canary Island Viburnum
<i>Viburnum suspensum</i>	Arrowood Viburnum
<i>Viburnum tinus</i>	Laurustinus
<i>Viburnum trilobium</i>	Cranberry Bush
<i>Viburnum wrightii</i>	Leatherleaf Viburnum
<i>Vinca major</i>	Vinca
<i>Vinca minor</i>	Dwarf Periwinkle
<i>Vitis spp.</i>	Grape*
<i>Weigela florida</i>	Old Fashioned Weigela
<i>Yucca aloifolia</i>	Spanish Bayonet
<i>Yucca filamentosa</i>	Yucca, Adam's Needle

\*Do not use on food producing trees, vines, or plants.

\*\*Not for use on container grown plants.

#### NEW PLANTINGS, REPLANTING, AND ROTATIONAL PLANTINGS

Nursery, landscape, or non-cropland areas treated with Knighthawk should be rotated only to ornamental species listed on this label for 1 year following application unless the following test has shown species safety:

Before planting a species not listed on this label, it is recommended that several test strips of an indicator plant such as wheat, sorghum, or corn be sown into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control.

#### CHEMIGATION INSTRUCTIONS

##### OVERHEAD SPRINKLER IRRIGATION APPLICATION

- Apply this product only through an overhead sprinkler irrigation system. Do not apply this product through any other type of irrigation system.
- Crop injury and 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, contact State Extension Service specialists, equipment manufacturers, or other experts.
- To avoid injury to foliage, make sure foliage is sufficiently wet before application or adequate irrigation is applied after application.
- If sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result.
- If sprinkler distribution patterns overlap excessively, injury to leatherleaf ferns and other ornamentals may result.
- Do not connect an irrigation system (including greenhouse systems) used for pesticide application to public water systems unless pesticide label-prescribed safety devices for public water systems are in place.

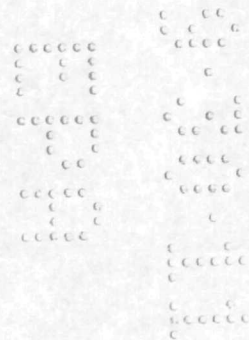


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- If necessary, a person knowledgeable of the chemigation system and responsible for its operation, or someone under the supervision of the responsible person, shall shut the system down and make necessary adjustments.

#### Operation Instructions

1. 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.
2. The pesticide injection pipeline must contain a functional automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. 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.
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.
8. Prepare a mixture with a minimum of 20 parts of water to 1 part Knighthawk and inject this herbicide suspension mixture into the overhead system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Before injecting Knighthawk into the system, run the irrigation system long enough to wet the foliage, then inject Knighthawk suspension mixture in the pesticide supply tank (see number 8 above) in 1 inch of irrigation water. After the application is complete, continue the irrigation until all residues are washed off the foliage.





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### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. ~~Open dumping is prohibited.~~

**PESTICIDE STORAGE:** Store in original container away from feed or foodstuffs and separated from other pesticides.

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

#### **CONTAINER DISPOSAL: HANDLING:**

~~Paper and plastic film bags— Completely empty container into application equipment. Then dispose of empty bag in a sanitary landfill or incinerate; or, if allowed by state and local authorities, burn locally. Stay out of smoke from burning container.~~ **Nonrefillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.**

Triple rinse or pressure rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call toll free 1-888-875-1724 day or night.

