81943-19 04/29/2008

1/10

**U.S. ENVIRONMENTAL PROTECTION AGENCY**
**Office of Pesticide Programs**
**Registration Division (7505P)**
**Ariel Rios Building**
**1200 Pennsylvania Ave., NW**
**Washington, D.C. 20460**

| EPA Reg. Number: | Date of Issuance: |
|---|---|
| 81943-19 | 29 APR 2008 |

NOTICE OF PESTICIDE:
_x_ Registration
__ Reregistration
(under FIFRA, as amended)

Term of Issuance: Conditional

Name of Pesticide Product:
KnightHawk

Name and Address of Registrant (include ZIP Code):
Phoenix Environmental Care, LLC
PO Box 370
Valdosta, GA 31603-0370

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. Submit and/or cite all data required for the registration/reregistration review of this product when the Agency requires all registrants of similar products to submit data.

2. Submit the data listed below:

Submit the following data required for the registration of this pesticide product within 1 year form the date of this Notice of Registration:

| EPA Guideline Data Number | Guideline Descriptor |
|---|---|
| 830.6317 | Storage Stability Study |
| 830.6320 | Corrosion Characteristics |

Observations must be made at 0, 3, 6, 10 &12 month intervals and submit the results electronically along with the hard copy.

COMMENTS CONTINUED ON PAGE 2 OF THIS NOTICE OF REGISTRATION.

Signature of Approving Official:

Joanne I. Miller
Product Manager 23
Herbicide Branch
Registration Division (7505P)

Joanne I. Miller

Date: 29 APR 2008

EPA Form 8570-6

3. Make the following label changes:

   A. Add the phrase "EPA Registration No. 81943-19" to the label before you release the product for shipment.

   B. Add an EPA establishment number to the label.

4. Submit one (1) copy of the final printed labeling before you release this product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product under the enclosed stamped copy of the label constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Enclosure

3/10

Phoenix
ENVIRONMENTAL CARE

ACCEPTED with COMMENTS In EPA Letter Dated: 29 APR 2008
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 81943-19

# Knighthawk™

**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** | • Call a poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told by the poison control center or doctor.<br>• Do not give anything by mouth to an unconscious person. |
| **IF ON SKIN OR CLOTHING** | • Take off contaminated clothing.<br>• Rinse skin immediately with plenty of water for 15-20 minutes.<br>• Call a poison control center or doctor for treatment advice. |
| **IF IN EYES** | • Hold eye open and rinse slowly and gently with water 15-20 minutes.<br>• Remove contact lenses, if present, after the first 5 minutes, then continuing rinsing eye.<br>• Call a poison control center or doctor for treatment advice. |
| **IF INHALED** | • Move person to fresh air.<br>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.<br>• Call a poison control center or doctor for further treatment advice. |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment.<br>**For medical emergencies involving this product, call toll free 1-888-875-1724.** | |

Net Contents: 10 Pounds

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

EPA Reg. No. 81943-RO
EPA Est. No.: _____

4/10

# 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 >l4 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:**
- 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.
- After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly and change into clean clothing.

## 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

## 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.

**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.

5/10

## 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 ¼ 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 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 | | |
|---|---|---|---|
| | Acre | 1,000 sq. ft. | Level Teaspoons |
| 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.

### 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) |

[1]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).**

6/10

[2]To control this weed, apply Knighthawk in late summer, fall, or winter before weed seeds germinate.

[3]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.

[4]Suppression only.

[5]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.

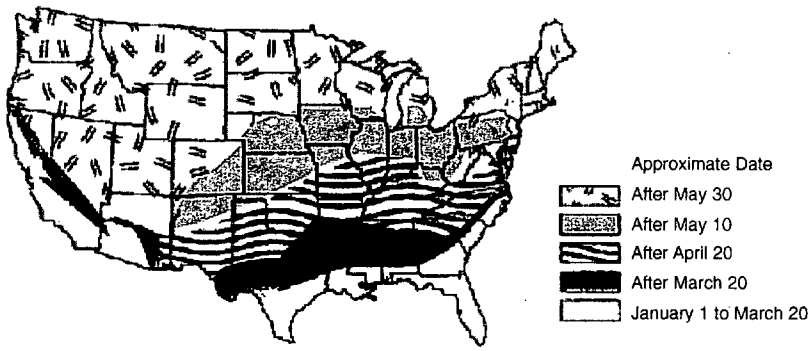
**ESTABLISHED TURF**

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.
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 seen germination dates.

**CRABGRASS SEED GERMINATION DATES**




**Use Precautions-Turfgrass**

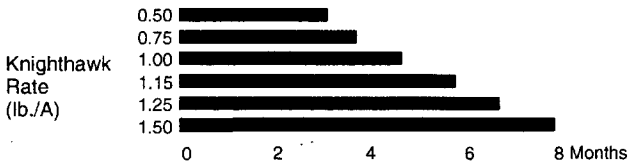
1. Do not apply Knighthawk to areas where dichondra, colonial bentgrass, velvet bentgrass, or annual bluegrass (*Poa annua*) are desirable species.
2. Do not cut (harvest) treated sod before 90 days after application. To avoid turfgrass injury, do not apply to newly set sod until the sod has rooted and 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.

Length of Crabgrass Control*




***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.

7/10

**Table 1. Maximum Application Rate of Knighthawk Per Calendar Year by Turfgrass Species [1]**

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

[1]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.

[2]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.

[3]Use an initial rate of 0.75-1.5 lbs./A per application.

[4]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 | Interval (Months) Before Overseeding | | |
|---|---|---|---|
| Lbs. Product/A | North | Transition | South |
| .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<br><br>**Second application:** 4 to 8 weeks **after** overseeding or when perennial ryegrass roots are in the second inch of soil | 1 application for 70% or greater control of *Poa annua*<br><br>Second application may enhance control | 1. Some seedling mortality and temporary reduction in root growth of new seedlings may occur.<br>2. To reduce the potential for seedling mortality, maintain a moist seedbed with light, frequent irrigation.<br>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.<br>4. Do not make a second application if any injury to the ryegrass is observed after the first application.<br>5. Do not make a second application unless the product was first applied before overseeding. |

**ORNAMENTALS (CONTAINER, FIELD, AND LANDSCAPE GROWN, INCLUDING CHRISMAS 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.

8/10

**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 other-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**

| Site | Application Instructions |
|---|---|
| Newly-Transplanted container or Field Nursery Stock | 1. Delay application until soil has settled around transplants.<br>2. Water transplants thoroughly before application.<br>3. Apply after cuttings form roots and are established.<br>4. To avoid inhibition of the tissue union, apply before budding/grafting or after buds/grafts have taken. |
| Established Container, Field Nursery Stock, or Landscape Plants | Apply at any time as a broadcast, over-the-top, or directed spray. |
| Landscape (or Ornamental) Plantings | 1. Apply as a broadcast, over-the-top, or as a directed spray.<br>2. Delay application to newly-transplanted ornamentals until soil has settled around transplants. |
| Bare Ground Application for Container Placement | 1. Apply to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed.<br>2. After Knighthawk is applied, perform shallow cultivation or hand weeding only, or avoid disturbing the herbicide barrier. |
| In Shade Houses and Uncovered Polyhouses | After Knighthawk is applied, uncovered polyhouses must remain open for at least 7 days and ornamentals must receive 2 irrigations totaling at least ½ inch of water. |
| Ornamental Bulbs and Perennial Wildflower Plantings | 1. Knighthawk may be applied to bulbs or perennial wildflower species listed in the section **Tolerant Ornamental Species.**<br>2. Apply before or after bulbs emerge but before bulbs bloom and weeds emerge. In wildflowers, a postemergence herbicide labeled for wildflowers may be needed to control weeds that have already emerged. |

**How Much and When to Apply**

| Amount to Apply (Broadcast)* | When to Apply | Comments/Instructions |
|---|---|---|
| 1.0-2.3 lbs./A<br>or<br>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.<br>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:

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

**Equivalent Measurements for Knighthawk**

| Lbs./A | Oz./1,000 sq. ft. | Approximate Equivalent-Tablespoons/1,000 sq. ft. |
|---|---|---|
| 1.0 | 0.37 | 1 |
| 1.5 | 0.55 | 1.5 |
| 2.0 | 0.74 | 2 |
| 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.

**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. |
| Roundup® or other glyphosate-based products[1], Finale® | These nonselective tank mix herbicides control most emerged annual broadleaves and grasses.<br>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.<br>Following 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. |

[1]Roundup 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**

| Scientific name | Common name |
|---|---|
| *Abelia grandiflora* | Abelia |
| *Abies spp.* | Fir species (Balsam, Fraser, Noble, etc.) |
| *Acer palmatum* | Japanese maple |
| *Acer platanoides* | Norway maple |
| *Achillea spp.* | Yarrow |
| *Actinidia chinensis* | Kiwi* |
| *Agapanthus orientalis* | Lily of the Nile; African lily |
| *Akebia quintata* | Five-Leaf or Chocolate Vine |
| *Allium cernuum* | Lady's Leek; Nodding Onion |
| *Anemone hybrida* | Japanese Anemone |
| *Aquilegia spp.* | Columbine |
| *Arctostaphylos densiflora* | Vine hill manzanita |
| *Arctotheca calendula* | Cape weed |
| *Aucuba japonica* | Japanese Aucuba |
| *Artemisia spp.* | Wormwood; Silver Mound; Castle |
| *Aster spp.* | Aster |
| *Athyrium filix-femina* | Lady Fern |
| *Begonia spp.* | Fibrous Begonia |
| *Berberis gladwynesis* | Barberry |
| *Berberis julianae* | Wintergreen barberry |
| *Berberis mentorensis* | Mentor barberry |
| *Berberis thunbergii* | Japanese barberry |
| *Berberis verriculosa* | Warty barberry |
| *Bergenia cordifolia* | |
| *Boltonia asteroides* | Snowbank |
| *Bougainvillea spp.* | Bougainvillea |
| *Buddleia davidii* | Butterfly-bush |
| *Buxus microphylla* | Japanese boxwood |
| *Callistemon citrinus* | Crimson bottlebrush |
| *Callistemon viminalis* | Weeping bottlebrush |
| *Calluna vulgaris* | Scotch heather |
| *Campanula carpatica* | Tussock bellflower |
| *Campsis X tagliabuana* | Trumpet creeper, Trumpet flower |
| *Carpobrotus edulis* | Hottentot fig; Ice plant |
| *Cassia artemisoides* | Feathery Cassia |
| *Ceanothus rigidus* | Wild lilac |
| *Ceratostigma plumbaginoides* | |
| *Chamaecyparis pisifera* | False cypress |
| *Chrysanthemum nipponicum* | |
| *Cleyera japonica* | Cleyera |
| *Citrus spp.** | Ornamental orange, lemon, lime, etc.* |
| *Coreopsis spp.* | Coreopsis (Calliopsis): Early Sunrise, |
| *Moonbeam* | |
| *Cornus stolonifera* | American dogwood |
| *Cortaderia selloana* | Pampas grass |
| *Cotoneaster apiculatus* | Cranberry Cotoneaster |
| *Cotoneaster buxifolius* | Cotoneaster |
| *Cotoneaster dammeri* | Bearberry Coteneaster |
| *Cotoneaster microphyllus* | Rockspray Cotoneaster |
| *Crataegus spp.* | Hawthorn |
| *Cupressus sempervirens* | Italian cypress |
| *Crocosmia spp.* | Lucifer |
| *Delosperma spp.* | Ice plant |
| *Delphinium spp.* | Larkspur |
| *Dianthus deltoidia* | Dianthus; Maiden pinks |
| *Dianthus gratianopolitanus* | Cheddar pink |
| *Dodonea viscosa* | Hop bush |
| *Echinacea purpurea* | Coneflower |
| *Elaeagnus pungens* | Silverberry |
| *Euonymus fortunei* | Wintercreeper |
| *Euonymus japonica* | Japanese spindle tree; Evergreen Euonymus |
| *Euonymus kiautschovica* | Spreading Euonymus |
| *Fatsia japonica* | Japanese aralia |
| *Forsythia intermedia* | Border Forsythia |
| *Forsythia suspense* | Weeping Forsythia |
| *Forsythia viridissima* | Greenstem Forsythia |
| *Gaillardia spp.* | Gaillardia; Blanket flower |
| *Gardenia jasminoides* | Gardenia; Cape-jasmine |
| *Gaura spp.* | Gaura |
| *Gentiana dahurica* | Gentian |
| *Geranium cinereum* | Cranesbill |
| *Gladiolus spp.*** | Gladiolus species** |
| *Gypsophila repens* | Baby's breath |
| *Hedera helix* | English ivy |
| *Helianthemum spp.* | Sunrose |
| *Hemerocallis spp.* | Daylily |
| *Heucherella spp.* | Coral bells |
| *Hibiscus rosa-sinensis*** | Chinese Hibiscus** |
| *Hibiscus spp.* | Mallow; Rose of Sharon** |
| *Hosta plantaginea* | Hosta; Plantain lily |
| *Hosta sieboldiana* | Hosta |
| *Houttuynia cordata var. variegata* | |
| *Hydrangea macrophylla* | Bigleaf Hydrangea |
| *Ilex cornuta*** | Chinese holly** |
| *Ilex crenata* | Japanese holly |
| *Ilex opaca* | American holly |
| *Ilex pernyi* | Holly |
| *Ilex vomitoria* | Yaupon holly |
| *Inula ensifolia* | |
| *Iris spp.* | Iris |
| *Jasminium nudiflorum* | Winter jasmine |
| *Juglans spp.** | Walnut* |
| *Juniperus chinensis* | Chinese juniper |
| *Juniperus conferta* | Shore juniper |
| *Juniperus davurica* | |
| *Juniperus horizontalis* | Creeping juniper |
| *Justicia brandegeana* | Shrimp plant |
| *Lagerstroemia indica* | Crape myrtle |
| *Lagerstroemia indica and hybrids* | Crape myrtle |

| Scientific name | Common name |
|---|---|
| *Lantana montevidensis* | Weeping Lantana |
| *Lavender spp.* | Lavender; Munstead |
| *Leontopodium alpinum* | Edelweiss |
| *Ligustrum amurense* | Amur privet |
| *Ligustrum japonicum* | Japanese privet |
| *Ligustrum lucidum* | Glossy privet; Wax-leaf |
| *Ligustrum sinense* | Chinese privet |
| *Lilium spp.* | Lily |
| *Liriope muscari* | Liriope |
| *Liriope spicata* | Liriope, creeping |
| *Lobelia cardinalis* | Cardinal flower; Indian pink |
| *Lonicera japonica* | Japanese honeysuckle |
| *Lonicera tatarica* | Tatarian honeysuckle |
| *Loropetalum chinense* | Loropetalum |
| *Lythrum spp.* | Loosestrife |
| *Magnolia spp.*** | Magnolia |
| *Maleophora luteola* | Ice plant |
| *Malus spp.** | Crabapple* |
| *Miscanthus sinesis*** | Yaku Jima**, Silberfeder** |
| *Nandina domestica* | Heavenly bamboo |
| *Narcissus spp.*** | Narcissus, Daffodil |
| *Nerium spp.* | Oleander |
| *Oenothera missouriensis* | Evening primrose |
| *Olea europaea** | Olive* |
| *Ophiopogon japonicus*** | Mondo grass** |
| *Osmanthus heterophyllus* | Osmanthus; False holly |
| *Osteospermum fruticosum* | Trailing African daisy |
| *Oxydendron luteum* | Sourwood |
| *Paeonia suffruticosa* | Tree peony |
| *Pennisetum setaceum*** | Fountain grass** |
| *Perovskia atriplicifolia* | |
| *Persea americana** | Avocado* |
| *Photinia fraseri* | Photinia; Redtip |
| *Physostegia virginiana* | False dragonhead |
| *Picea spp.*** | Spruces (Colorado Blue, Norway, etc.) |
| *Pieris japonica* | Japanese andromeda; Lily-of-the-valley shrub |
| *Pinus brutia* | Calabrian pine |
| *Pinus canariensis* | Canary island pine |
| *Pinus elliottii* | Slash pine |
| *Pinus halepensis* | Aleppo pine |
| *Pinus nigra* | Austrian black pine |
| *Pinus palustris* | Longleaf pine |
| *Pinus radiata* | Monterey pine |
| *Pinus strobus* | Eastern white pine |
| *Pinus sylvestris* | Scotch pine |
| *Pinus taeda* | Loblolly pine |
| *Pinus thunbergiana* | Japanese black pine |
| *Pinus virginiana* | Virginia pine |
| *Pistacia spp.** | Pistachio* |
| *Pittosporum rhombifolium* | Queensland Pittosporum |
| *Pittosporum tobira* | Japanese Pittosporum |
| *Podocarpus macrophyllus* | Japanese yew |
| *Prunus laurocerasus* | English laurel |
| *Prunus spp.** | Almond, Apricot, Nectarine, Peach, Plum, and |
| *Prune** | |
| *Pseudotsuga menziesii*** | Douglas fir** |
| *Pyracantha coccinea* | Firethorn, scarlet |
| *Pyracantha fortuneana* | Firethorn |
| *Pyracantha koidzumii* | Firethorn |
| *Pyrus spp.* | Pear spp., including 'Bradford' |
| *Quercus rubra* | Red oak |
| *Quercus shumardii* | Shumard oak |
| *Raphiolepsis indica* | Indian hawthorne |
| *Raphiolepsis umbellata* | Yedda hawthorne |
| *Rhododendron spp.* | Rhododendrons, Azaleas |
| *Rosa banksiae* | Lady Banks rose |
| *Rudbeckia spp.* | Black-eyed Susan |
| *Rumohra adiantiformis* | Leatherleaf Fern |
| *Santolina virens* | |
| *Saxifraga spp.* | Saxifrage; Purple dome |
| *Scabiosa spp.* | Pincushion flower |
| *Sedum spp.* | Stonecrop |
| *Spiraea bumalda* | Spirea |
| *Syzygium paniculatum* | Australian brushcherry; Japanese boxcherry |
| *Taxus cuspidata* | Japanese yew |
| *Taxus spp.* | Yew |
| *Teucrium spp.* | Germander |
| *Thalictrum dipterocarpum* | Meadow rue |
| *Thuja occidentalis* | American arborvitae |
| *Trachelospermum asiatum* | Star jasmine |
| *Tsuga canadensis* | Canada hemlock |
| *Tulipa spp.* | Tulip |
| *Veronica spp.* | Veronica; Speedwell |
| *Viburnum japonicum* | Japanese viburnum |
| *Viburnum odoratissimum* | Sweet viburnum |
| *Viburnum plicatum* | Japanese snowball |
| *Viburnum rigidum* | Canary island viburnum |
| *Viburnum japonicum* | Japanese viburnum |
| *Viburnum suspensum* | Arrowood viburnum |
| *Viburnum tinus* | Laurustinus |
| *Viburnum trilobium* | Cranberry bush |
| *Viburnum wrightii* | Leatherleaf viburnum |
| *Vinca major* | Vinca |
| *Vinca minor* | Periwinkle |
| *Vitis spp.** | Grape* |
| *Weigela florida* | Old fashioned Weigela |
| *Yucca aloifolia* | Spanish bayonet |
| *Yucca filamentosa* | Yucca; Adam's needle |

* Do not use on food producing trees, vines, or plants.
** Not for use on container grown plants.

10/10

**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.
- 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 arid 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 in to 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.

## 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:**

**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.

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.

## IMPORTANT INFORMATION
## READ BEFORE USING PRODUCT
## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product must be followed carefully. The Directions for Use of this product reflect the opinion of experts based on field use and tests; it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, that are beyond the control of Phoenix Environmental Care, LLC or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of Phoenix Environmental Care, LLC and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold Phoenix Environmental Care, LLC and Seller harmless for any claims relating to such factors.

Phoenix Environmental Care, LLC warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or Phoenix Environmental Care, LLC, and Buyer and User assume the risk of any such use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, PHOENIX ENVIRONMENTAL CARE, LLC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

To the extent consistent with applicable law, Phoenix Environmental Care, LLC or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC, AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF PHOENIX ENVIRONMENTAL CARE, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

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