

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

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

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

FEB 2 3 2011

Subject:

Label Notification; Per PR-Notice 98-10

Knighthawk 4F

EPA Reg. No. 81943-39

Date Submitted: December 23,2010

Dear Ms. Hutchenson:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated December 23,2010 for the product referenced above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions regarding this letter, please contact Jasmine Branch at (703) 347-0351 or <a href="mailto:branch.jasmine@epa.gov">branch.jasmine@epa.gov</a>.

Sincerely,

Kathryn Montague

Product Manager 23

Herbicide Branch

Registration Division (7505P)

form.

Please read instructions on	reverse before complé
expires 05-31-98	

0 =54	U	nited States		□ Re	egistration	OPP Identifier Number
EPA En	vironment	tal Protection	Agency		mendment	
		ngton, DC 2046	-		ther: Alternate B	rand
		Application				and .
1. Company/Product Number		-	2. EPA P	roduct Manag	jer	3. Proposed Classification
8194339	-		Kathryn	Montague		
Company/Product (Name)			PM#		•	None Restricted
Knighthawk 4F  5. Name and Address of Applicant	(Include 7ID C	Code)	23	dited Devi	In accordance	a with EIEDA Continu 2(a)(2)
Phoenix Environmental Car		oue)				e with FIFRA Section 3(c)(3) al in composition and labeling
PO Box 370			(b)(i), iii   to:	y product is	s similar or identic	,
Valdosta, GA 31603-0370				g. No.		NOTIFICATION
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Resubmission in response to	Agency letter	dated		_	" Application	2 to 1 golfoy follor dated
Notification - Explain below.					Explain below	
Explanation: Use additiona	al page(s) if	necessary. (	For Section			
Notification of the alternate						thawk 4L.
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Material This Product Will Be P	ackaged In:					
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Section - IV						
Contact Point (Complete items of the contac	directly below		of individual t	o be contacte	ed, if necessary, to prod	
Name Shorn, P. Hutcheson		Title	iroeter Pe	aulaton, Af	faire	Telephone No. (Include Area
Sherry B. Hutcheson			irector, Re	gulatory Af	ilaii 5	229-245-6856 <sup>c c</sup>
		Certification				6. Date Application
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I Received						
acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.						
2. Signature 3. Title						
Director, Regulatory Affairs			ffairs	n enterior		
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4. Typed Name			Date			
Sherry B. Hutcheson		12	2/23/2010			
I						

Phoenix Environmental Care LLC PO Box 370

Valdosta, GA 31603-0370 Phone: 229-245-8856 Fax: 229-241-9699

December 23, 2010

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

Subject: Notification of alternate brand name for Knighthawk 4F (EPA Reg. No. 81943-39)

Phoenix Environmental Care, LLC is submitting a notification of the alternate brand name of Knighthawk 4F (EPA Reg. No. 81943-39) to Knighthawk 4L. No changes to the precautionary statements, use classification or packaging of the product has been changed.

In addition to this transmittal letter, we are supplying:

- EPA form 8570-1, application form
- A clearly marked copy of the product label noting the alternate name brand
- One unmarked copy of the product label for Knighthawk 4L
- Two final printed copies of the Knighthawk 4L label.

There are no changes to the Confidential Statement of Formula. If you have any questions, please do not hesitate to contact me at <a href="mailto:sherry.hutcheson@phoenixenvcare.com">sherry.hutcheson@phoenixenvcare.com</a> or 229-245-8856.

Best regards,

Sherry B. Hutcheson

Director, Regulatory Affairs

Phoenix Environmental Care, LLC

Enclosures

# KnightHawk 4F 4L Herbicide

A selective preemergence control of grass and broadleaf weeds in:

Established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries

NOTIFICATION

Container, fieldgrown, and landscape ornamentals

FEB 2 3 2011

Hardwood seedling nurseries; established perennial and wildflower plantings

Christmas tree farms

Active Ingredient: Total:......100.00% \*KnightHawk 4F4E contains 4 pounds active ingredient per gallon.

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

	FIRST AID	
If Swallowed	Call poison control center or doctor immediately for treatment advice.	
	Have person sip a glass of water if able to swallow.	
	• Do not induce vomiting unless told to do so by the poison control center or doctor.	
	• Do not give anything by mouth to an unconscious person.	
If In Eyes	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.	
	• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.	
	Call a poison control center or doctor for treatment advice.	
If Inhaled	Move person to fresh air.	
	• If person is not breathing, call 911 or an ambulance, then give artificial respiration,	
	preferably mouth-to-mouth, if possible.	
	Call a poison control center or doctor for treatment advice.	
If on Skin or	Take off contaminated clothing.	
Clothing	• Rinse skin immediately with plenty of water for 15-20 minutes.	
	Call a poison control center or doctor for treatment advice.	
-	HOT LINE NUMBER	
Have the product	container or label with you when calling a poison control center or doctor, or going for	

treatment. You may also contact 1-888-875-1724 for emergency medical treatment information.

Net Content Gallons

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

EPA Reg. No. 81943-39 EPA Est. No.

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

May be harmful if swallowed, absorbed through skin, or inhaled. Avoid breathing vapor. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

# Personal Protective Equipment (PPE)

## **WPS Uses:**

Applicators, mixers, loaders, and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) must wear:

- Long-sleeved shirt
- Long pants
- Shoes plus socks

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.

**Important:** When reduced PPE is worn because a closed system is being used, handlers must be provided with all of the PPE specified above for applicators and other handlers, and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

# **USER SAFETY REQUIREMENTS**

#### 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 remove PPE, 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. RÉAD ENTIRE LABEL BEFORE USING THIS PRODUCT. USE STRICTLY IN ACCORDANCE WITH LABEL PRECAUTIONARY STATEMENTS AND DIRECTIONS.

Do not apply this product in a way that will contact workers or other persons, either directly or

Page 2 of 18

through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 WPS.

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 WPS, 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 WPS and that involves contact with anything that has been treated, such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves such as butyl rubber >14 mils or natural rubber >14 mils or neoprene rubber >14 mils or nitrile rubber >14 mils
- Shoes plus socks

#### NON-AGRICULTURAL USE REQUIREMENTS

The requirements of 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 or nurseries. Applicators and handlers should wear long-sleeved shirt, long pants, chemical resistant gloves, shoes with socks, and protective eyewear. Thoroughly wash face and hands with soap and water after exposure and before eating or smoking. Launder exposed clothing before reuse. Do not allow reentry to treated areas until dust have settled and the turf grass or soil is dry.

#### INFORMATION

#### WHERE TO USE:

Knighthawk 4F 41 is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- Established turfgrasses (excluding golf course putting greens), lawns, and sod nurseries
- Container, field-grown, and landscape ornamentals
- Hardwood seedling nurseries
- Established perennial and wildflower plantings
- Christmas tree farms

#### **HOW KNIGHTHAWK 4F WORKS**

KnightHawk 4F 41 controls susceptible weeds by preventing growth and development of newly germinated weeds. Weed control is most effective when KnightHawk 4F 41 is activated by at least 0.5 inch of rainfall or irrigation or shallow incorporation (1-2 inches) before weed seeds germinate

and within 14 days following application.

#### **USE RESTRICTIONS**

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

#### MIXING AND APPLICATION PROCEDURES

#### MIXING KNIGHTHAWK 4F 4L ALONE

KnightHawk 4F 41 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 only.
- 2. Start agitation and check to ensure it is working properly.
- 3. For tank mixing instructions, refer to the section Mixing Order for Tank Mixtures.
- 4. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well-mixed spray suspension. If KnightHawk 4F 41 was mixed with fertilizer in the spray tank, the fertilizer may aid resuspension of KnightHawk 4F 41 if agitation is disrupted. However, it is recommended that the entire tank be used before stopping agitation.
- 5. A spray colorant may be used with KnightHawk 4F 41 to mark areas as they are treated. This will improve application accuracy by minimizing swath skips and overlaps.
- **6.** Thoroughly clean the sprayer after use by flushing the system with water containing a detergent.
- 7. Refer to the **Pesticide Disposal** section of this label for waste disposal. Do not allow spray suspension to dry in the tank.

#### TANK MIXING KNIGHTHAWK 4F 4L

KnightHawk 4F 4D 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 refer to the label(s) of the individual tank mix partner(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 partner(s) are registered for the application site and the turf and ornamental species list. When using KnightHawk 4F 4D in a tank mixture with other pesticides, follow restrictions and precautions on the labels of the products used.

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

#### **COMPATIBILITY TEST**

Before mixing KnightHawk 4F 41 with other pesticides in the spray tank, test for compatibility by mixing all components (carrier and pesticide products) in an appropriate container in proportionate quantities. For example, 1 quart would be the 1/100 the volume of a 25 gallons/Acre spray rate. At 1.0 lb/Acre, the rate would be proportional to 6 mL per quart. Add approximately 1 teaspoon to a quart of water. (See following table.)

AMOUNT OF COMPONENT TO ADD TO ONE QUART OF SPRAY CARRIER (ASSUMING CARRIER VOLUME TO 25 GAL/A)

Component Formulations	Ra	te Per	Lovel Tecomoone
Component Formulations	Acre	1,000 sq ft.	Level Teaspoons
KnightHawk 4F 4L	21.0 oz.	0.5 oz.	1.0
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. Let the mixture stand for 15 minutes. Incompatibility will usually occur within 5 minutes after mixing. If components are not compatible, use a compatibility agent and rerun the test to determine if the mixture is suitable. If the components are still not compatible, do not tank mix.

#### MIXING ORDER FOR TANK MIXTURES

Notes: When mixing KnightHawk 4F—41 with other components (carrier and partner pesticide products), allow products to completely dissolve between steps. 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 products to disperse before adding any other tank-mix partners.
- 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 KnightHawk 4F 4L, other flowable liquids (FL) or suspension (SC).
- 5. Add emulsifiable concentrates (EC) last.

#### **APPLICATION**

Apply KnightHawk 4F 41 in a minimum of 20 gals/A (0.5 gals/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.

#### SPECIFIC USE DIRECTIONS

#### **ESTABLISHED TURF**

KnightHawk 4F 4L is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turfgrasses including:

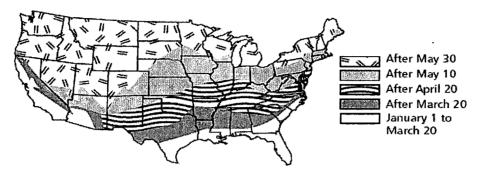
- Golf course excluding putting greens
- Lawns
- Sod nurseries

The maximum amount of KnightHawk 4F 41 that may be applied per year is given for each turfgrass species in the **Annual Use Rates** section of this label.

For optimum weed control, KnightHawk 4F 41 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.

# **Crabgrasss Seed Germination Dates**

#### **Approximate Date**



## Use Restrictions - Turfgrass: Golf Courses, Lawns, and Sod Nurseries

- 1. Do not apply KnightHawk 4F 41 to areas where dichondra, colonial bentgrass, velvet bentgrass, or annual bentgrass (*Poa annua*) are desireable 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 4F 4L 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 4F 41 to golf course putting greens.
- 6. If you consistently mow creeping bentgrass at a height of less than 0.5 inch, do not apply KnightHawk 4F 4L.

# Application Timing and Rate - Turfgrass

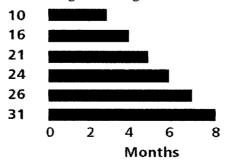
KnightHawk 4F 4E may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications must be made before target weeds germinate because KnightHawk 4F 4E will not control weeds that have already emerged.

The amount of KnightHawk 4F 41 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,
- 3. the maximum amount which can be applied to the turf species per calendar year.

(See the next 2 tables.)

# KNIGHTHAWK 4F 4L HERBICIDE Length of Crabgrass Control\*



<sup>\*</sup>Length of control varies by region. This table is an average.

# **Annual Use Rates - Turfgrass**

KnightHawk 4F 4E can be applied to the turfgrass species listed in the following table. Note: Do not apply more than the highest rate listed for each species in a calendar year.

Maximum Application rate of KnightHawk 4F 4L per Calendar Year by Turf Species				
Turf Species	Oz. Product/Acre	Oz. Product/1,000 sq. ft.		
Bermudagrass <sup>2</sup>	21-481	0.5-1.1		
Bahiagrass				
Centipedegrass				
Kikuyugrass				
Seashore Paspalum				
St. Augustinegrass <sup>3</sup>				
Tall Fescue (including turf-type)	'			
Zoysiagrass				
Buffalograss	10-30 <sup>1</sup>	0.23-0.70		
Kentucky Bentgrass				
Perennial Ryegrass				
Fine Fescue	10-24	0.23-0.55		
Creeping Bentgrass (0.5 inch or more in height <sup>4</sup> )	10-21 <sup>1</sup>	0.23-0.48		

KnightHawk 4F 4E 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.

## **Weeds Controlled**

When used as directed in this label, KnightHawk 4F 4L will control the following weeds:

Barnyardgrass	Kochia
Bluegrass, Annual (Poa annua) <sup>1</sup>	Lambsquarters, Common
Carpetweed	Lovegrass
Chickweed, Common <sup>2</sup>	Panicum, (Texas, Fall, Browntop)
Chickweed, Mouseear (from seed)	Pigweed
Crabgrass (Large, Smooth) <sup>3</sup>	Purslane, Common
Crowfootgrass	Pusley, Florida
Cupgrass, Woolly	Rescuegrass <sup>4</sup>
Foxtails, Annual	Shepherdspurse <sup>2</sup>
Goosegrass <sup>5</sup>	Signalgrass, Broadleaf
Henbit <sup>2</sup>	Speedwell, Persian
Itchgrass	Sprangletop
Johnsongrass (from seed)	Spurge, Prostrate
Junglerice	Witchgrass
Knotweed <sup>2</sup>	Woodsorrel, Yellow (from seed)

<sup>&</sup>lt;sup>1</sup>In those areas where *Poa annua* is a winter annual, apply KnightHawk 4F 4D (see rate table) in

<sup>&</sup>lt;sup>2</sup>May be used on newly sprigged or plugged bermudagrass at rates not to exceed 17 oz./A (0.39 oz./1,000 sq. ft.). Newly sprigged or plugged bermudagrass stolon rooting may be temporarily inhibited.

<sup>&</sup>lt;sup>3</sup>Use an initial rate of 16-32 oz./A per application.

<sup>&</sup>lt;sup>4</sup>To avoid grass injury, do no apply KnightHawk 4F 4L to creeping bentgrass moved at less than 0.5 inch in height.

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 4F 4L in late summer, fall or winter before weeds 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 4F 4L can be applied in the fall at rate of 21 -24 oz./A after soil temperatures fall 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 many areas a single application of 21-48 oz./A of KnightHawk 4F 4Ewill control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, weed control will be most effective by making an initial application of 21 -26 oz./A followed by a second application 60-90 days later. NOTE: Do not exceed the maximum rate for the turf species listed in the Maximum Application Rates Table.

#### WHEN TO APPLY KNIGHTHAWK 4F 4L AFTER OVERSEEDING TURF

Injury to desirable seedlings is likely if KnightHawk 4F 4L 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 seedling or until after the second mowing, whichever is longer, before applying KnightHawk 4F 4L.

#### WHEN TO OVERSEED AFTER APPLICATION - ALL STATES

KnightHawk 4F 4L 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 4F-4L	Interval (Months Before Overseeding)		
Oz. Product/A	North	Transition	South
16	4	4	4
21	5	4	4
24	6	5	5
26		6	6
31		7	7
36			9
42			10
48			12

Poa Annua Control in Established Bermudagrass Overseeded with Perennial Ryegrass (AZ, CA, NV, and TX only)

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

# HOW MUCH KNIGHTHAWK 4F 4L TO APPLY AND WHEN TO APPLY

Amount to Apply	When to Apply	Expected Control	Use Precautions
12-21 oz./A	6-8 weeks before ryegrass overseeding	1 application for 70% or greater control of <i>Poa</i>	Some seedling mortality and temporary reduction in root growth of new seedlings may occur.  To reduce the potential for seedling mortality maintain
	Second Application: 4-8 weeks after overseeding or when perennial ryegrass roots are in the second inch of soil	Application may enhance control.	a moist seedbed with light, frequent irrigation.  Make no more than 2 applications per year for this use, and do not exceed a total of 27 oz./A per year.  Do not make a second application if any injury to the ryegrass is observed after the first application.  Do not make a second application unless KnightHawk  4F AL was first applied before overseeding.

<sup>\*</sup>The amount of KnightHawk 4F 41 to apply depends upon: the length of residual control desired (the higher the application rate, the longer the control.) NOTE: The higher the rate, the greater the potential for seedling mortality.

# CONTAINER, FIELD-GROWN, AND LANDSCAPE ORNAMENTAL PLANTINGS (INCLUDING CHRISTMAS TREE FARMS)

# Application, Timing and Information

KnightHawk 4F 4L:

- 1. Will not control emerged weeds.
- 2. May be applied to newly-transplanted and established ornamentals as a broadcast or over-the-top spray.
- 3. Is most effective when applied to soil free clods, weeds, and debris such as leaves and mulch.
- 4. Is most effective when KnightHawk 4F 41 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:

- 1. Direct application of KnightHawk 4F 4L to rapidly growing tissue or buds may injure desirable plants. In the spring when buds are rapidly growing and expanding, over-the-top application of KnightHawk 4F 4L may injure new growth of desirable plants, however, these effects are temporary. To reduce the possibility of injury at this time, wait to apply KnightHawk 4F 4L 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.
- 2. After application, immediately apply overhead irrigation to the foliage to wash KnightHawk 4F 4E from plant surfaces onto soil (watering the foliage of plants before application may improve the washing process).

# ORNAMENTAL AND CHRISTMAS TREE FARMS - APPLICATION SITES AND INSTRUCTIONS

INSTRUCTIONS
APPLICATION INSTRUCTIONS
Delay applications until soil has settled around transplants. Water
transplants thoroughly before application. Apply after cuttings form roots
and are established. To avoid inhibition of the tissue union, apply before
budding/grafting or after buds/grafts have taken.
Apply at any time as a broadcast, over-the-top, or directed spray.
Apply as a broadcast, over-the-top, or as a directed spray. After
KnightHawk 4F 4L is applied, perform shallow cultivation or hand
weeding only, to avoid disturbing the herbicide barrier.
Apply to soil (including mulch, gravel, wood ships, or other permeable
base), upon which containerized ornamentals are placed. After
KnightHawk 4F 4L is applied, perform shallows cultivation or hand
weeding only, to avoid disturbing the herbicide barrier.
After KnightHawk 4F- 4L 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 before covering.
KnightHawk 4F 4L may be applied to bulbs or perennial wildflower
species listed in the section. 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 OF KNIGHTHAWK 4F 4L AND WHEN TO APPLY - ORNAMENTALS

AMOUNT TO APPLY(BROADCAST)*	WHEN TO APPLY	COMMENTS/INSTRUCTIONS
21-48 oz/A		Use the higher rate for longer control. KnightHawk
	before weeds	4F 4L may be applied more than once per year as
or	germinate or	long as the total amount of KnightHawk 4F 4E
	after weeds are	applied does not exceed 48 oz/A per year.
0.5-1.1 oz/1,000 sq. ft.	removed.	

\*NOTE: For band application, calculate amount per are:

<u>Band width in inches</u> X broadcast rate = amount to apply/acre of field Row width in inches

# **EQUIVALENT MEASUREMENTS FOR KNIGHTHAWK 4F 4L**

Oz/A	oz/1,000 sq. ft.	approximately equivalent-tablespoons/1,000 sq. ft.
21	0.5	1.0
31	0.7	1.5
42	1.0	2.0
48	1.1	2.25

#### TANK MIXTURES FOR USE ON ORNAMENTALS

KnightHawk 4F 41 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. Tanks mixes with KnightHawk 4F are for use only in states where the tank mix partner(s), application site, and intended use pattern are registered.

Follow the label directions of the tank mix partner(s) for application rates, timing, weeds controlled, tolerant ornamentals, and specific use precautions and/or restrictions. Before combining a tank mix partner in the spray tank, test for compatibility as described on this label.

# TANK MIX PARNTERS FOR KNIGHTHAWK 4F 4L ON ORNAMENTALS

PRODUCT	PRECAUTIONS/INSTRUCTIONS
Goal® (use on conifers only)	Mix with KnightHawk 4F 415 for postemergence control of certain broadleaf weeds including malva and filaree.
Gallery®, Princep®, Pennant Magnum®	See product labels for weed spectrum and tolerant ornamentals.
Avocet or other glyphosate-based products	These nonselective tank mix herbicides control many emerged annual broadleaves and grasses. Take extreme care to prevent tank mixtures with these partner products from contacting the foliage and stems of turfgrasses, 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.  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.

#### TOLERANT ORNAMENTAL SPECIES

The species listed below in Table 1 are tolerant to KnightHawk 4F 4L. KnightHawk 4F 4L may be used for applications, except in CA, to the species in Table 2. KnightHawk 4F 4L may be applied over-the-top of the listed species. The species that are not tolerant to KnightHawk 4F 4L when grown in containers are indicated.

When plants are under stress (such as heat, drought, or frost damage), some cultivars of listed plants may be sensitive to KnightHawk 4F 4E.

**Table 1. Tolerant Ornamental Species -All States** 

Table 1. Tolerant Orname	
Scientific Name	Common Name
Abies spp.	Fir species**
	(Balsam, Fraser, Noble, etc.)
Acer palmatum	Japanese Maple
Acer plantanoides	Norway Maple .
Actinidia chinensis	Kiwi*
Agapanthus africanus	Lily-of-the-Nile(African Lily)
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aucuba japonica	Japanese Aucuba
Berberis gladwynensis	Barberry
Berberis julianae	Wintergreen Barberry
Berberis mentorensis	Mentor Barberry
Berberis thunbergii	Japanese Barberry
Berberis verruculosa	Warty Barberry
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisioides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Citrus spp.	Citrus species*
Cornus florida	Flowering Dogwood
Cornus stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
Cotoneaster buxifolius	Cotoneaster
Cotoneaster dammeri	Bearberry Cotoneaster
Contoneaster microphyllus	Rockspray Cotoneaster
Crataegus spp.	Hawthorne
r	Italian Crypress
Cupressus sempervirens	White Trailing Ice Plant
Delosperma alba Dodonea viscosa	
	Hop Bush
Elaeagnus pungens	Silverberry Wintercreeper
Euonymus jonomica	
Euonymus japonica	Japanese Spindle Tree
Escaramento bicasta abassial-	(Evergreen Euonymus)
Euonymus kiautschovicka	Spreading Euonymus
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
Forsythia viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine
Gladiolus spp.	Gladiolus species**
Hedera helix	English Ivy
Hibiscus	Rose of Sharon**
Hibiscus rosa-sinensis	Chinese Hibiscus**

Scientific Name	Common Name
Ilex cornuta	Chinese Holly**
Ilex crenata	Japanese Holly
Ilex opaca	American Holly
Ilex pernyi	Holly
Ilex vomitoria	Yaupon Holly
Iris spp.	Iris spcies**
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper
Juniperus conferta	Shore Juniper  Shore Juniper
Juniperus horizontalis	Creeping Juniper
<u> </u>	Walnut*
Juglans spp.	
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crape Myrtle
Ligustrum amurense	Amur Privet
Ligustrum japonicum	Japanese Privet
Ligustrum lucidum	Glossy Privet(Wax-Leaf)
Liriope muscari	Big Blue Lillyturf
Lonicera japonica	Japanese Honeysuckle
Lonicera tatarica	Tatarian Honeysuckle
Magnolia spp.	Magnolia Species**
Maleophora luteola	Ice Plant
Malus spp.	Crabapple*
Nandina domestica	Heavenly Bamboo
Narcissus spp.	Narcissus Species**
Nerium spp.	Oleander
Olea europaea	Olive*
Ophiopogon japonicus	Mondo Grass**
Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood
Persea americana	Avocado*
Photinia fraseri	Frasier's Photinia (Redtip)
Picea spp.	Spruce Species**(Colorado Blue, Norway, etc.)
Pieris japonica	Lily-of-the-Valley Shrub
Pinus brutia	Calabrian Pine
Pinus canariensis	Canary Island Pine
Pinus elliottii	Slash Pine
Pinus halepensis	Aleppo Pine
Pinus nigra	Austrain Black Pine
Pinus palustrus	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	Virgina Pine
Pistacia spp.	Pistachio*
Pittosporum rhombifolium	Queensland Pittosporum
Pittosporum tobira	Japanese Pittosporum

Scientific Name	Common Name
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.	Bradford Pear spp.
Quercus rubra	Oak Species
Raphiolepsis indica	Indian Hawthorne
Rhododendron	'Coral Bells'
(including Azalea)	'Formosa'
	Hino-crimson'
	'PJM',
	'Roseum Elegans'
Rosa banksiae	Lady Bank's Rose
Rosmarinus officinalis	Rosemary*
Rumohra adiantiformis	Leatherleaf Fern
Santolina virens	
Sedum album	Stonecrop
Syzygium paniculatum	Japanese Boxcherry
Taxus cuspidate	Japanese Yew
Taxus media	Yew
Thuja occidentalis	American Arborvitae
Trachelospermum asiatum	Star Jasmine
Tsuga canadensis	Canada Hemlock
Tulipa spp.	Tulip Species
Viburnum japonicum	Japanese Viburnum
Viburnum odoratissimum	Sweet Viburnum
Viburnum plicatum	Japanese Snowball
Viburnum rigidum	Canary Island Viburnum
Viburnum tinus	Laurustinus
Viburnum trilobium	Cranberry Bush
Viburnum wrightii	Leatherleaf Viburnum
Vinca major	Vinca
Vinca minor	Dwarf Periwinkle
Vitis spp.	Grape*
Weigela florida	Old Fashioned Weigela
Yucca aloifolia	Spanish Bayonet
Yucca filamentosa	Yucca, Adam's Needle

<sup>\*</sup>Do not use on food producing trees, vines, or plants
\*\*Not for use on container grown plants.

Table 2. Tolerant Ornamental Species/Varieties - All States Except CA

Abelia: Sherwood Achillea spp. Asteriood Achillea spp. Yarrow: King Edward Acquanthus orientalis Akebia quintata Alliam cernuam Lady's Leek, Nodding Onion Anemone lybrida Japanese Anemone Aquilegia spp. Aquilegia: Red and Gold Artemisia spp. Wormwood; Silver Mound; Castle Aster Spp. Aster: Bonny Blue, Purple Dome Aster Xfrikartii Albratin filix-femina Lady Fern, Fern Lady Begonia spp. Firbous Begonia: Hardy Grandis Bergenia cordifolia Bottonia asteroides Bougainvillea spp. Bougainvillea Buddiela davidii Butterfly-Bush (Dwarf-Blue); Royal Red Callistermon citrinus Campamila carpatica Campis X tagliabuana Ceratostigma plumbaginoides Chrysanthemum nipponicum Coreopsis spp. Coreopsis (Calliopsis): Early Sunrise, Moonbeam Crocosmia spp. Larkspu; Blue Elf Dianthus deltoides Dianthus gratlanopolitamus Echinacea purpurea Coneflower, Purple; Magnus Forsythia suspensa Geniland dahurica Gentian Geranium cinereum Cranesbill Gypsophila repens Helianthemum spp. Helianthemum spp. Gentiana Heucherella spp. Baldov; Disco Belle White Hosta plamaginea Soword-Leaved Iris, Jodlesong	Scientific Name	Species/Varieties - All States Except CA  Common Name
Achillea spp. Yarrow: King Edward Agapanthus orientalis Akebia quintata Five-Leaf or Chocolate Vine Allian cernuum Lady's Leek, Nodding Onion Anemone hybrida Japanese Anemone Aquilegia spp. Aquilegia: Red and Gold Artemisia spp. Wormwood; Silver Mound; Castle Aster spp. Aster Sep. Wormwood; Silver Mound; Castle Aster spp. Aster Sep. Pupple Dome Aster Afrikartii Alhyruin filits-femina Lady Fern; Fern Lady Begonia spp. Firbous Begonia: Hardy Grandis Begonia spp. Firbous Begonia: Hardy Grandis Belonia asteroides Snowbank Bougainvillea Spp. Bougainvillea Butterfly-Bush (Dwarf-Blue); Royal Red Callistermon citrims Crimos Ostiebrush Campanula carpatica Campanula carpatica Campanula carpatica Cranostigma plumbaginoides Chrysanthemum nippomicum Coreopsis spp. Coreopsis (Calliopsis): Early Sunrise, Moonbeam Coreopsis spp. Lucifer Delosperma spp. Locifer Delosperma spp. Locoperi Pink Delphinium spp. Larkspur, Blue Elf Dianthus deloides Dianthus, Maiden Pinks 'Zing' Dianthus gratianopolitanus Echinacea purpurea Coneflower, Purple; Magnus Gaillardia spp. Gaillardia, Blanket Flower: 'Goblin' Gaura spp. Gaura spp. Gaillardia, Blanket Flower: 'Goblin' Geranium chereum Cranesbill Gerysophila repens Hellanthemum spp. Baby's Breath Hellanthemum spp. Baby's Breath Hellanthemum spp. Mallow; Disco Belle White Hosta plantaginea Hosta, 'Farata Bigleaf Hydrangea Hosta sieboldiam Hosta sieboldiam Houttuynia cordata var. variegate Hydrangea macrophylla Inula ensifolia Spw. Sword-Leaved Iris; Jodlesong		
Agapanthus orientalis Akebia quintata Allium cernum Lady's Leek, Nodding Onion Anemone hybrida Aquilegia spp. Aquilegia: Red and Gold Artemisia spp. Aster spp. Aster spp. Aster spp. Aster Spp. Aster Bonny Blue, Purple Dome Aster X frikartii Alhyruim filis-femina Begonia spp. Firbous Begonia: Hardy Grandis Betolinia asteroides Boltonia asteroides Boltonia asteroides Boltonia asteroides Boltonia tasteroides Bougainvillea spp. Buddleia davidii Campis X tagliabuana Ceratostigma phumbaginoides Chrysanthemum nipponicum Coreopsis spp. Coreopsis (Calliopsis): Early Sunrise, Moonbeam Coreopsis spp. Delosperma spp. Delosperma spp. Delophinium spp. Dianthus deloides Dianthus gratianopolitanus Echinacca prapurea Condiava; Maiden Pinks 'Zing' Cheddar Pink Echinacca prapurea Condiava spp. Gaillardia spp. Gaillardia, spp. Gaillardia, spp. Gaillardia spp. Gaillardia spp. Gaillardia spp. Gaillardia pp. Gaillardia spp. Gaillardia pp. Gailla	<u> </u>	
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Aquilegia spp.         Aquilegia: Red and Gold           Artemista spp.         Aster: Bonny Blue, Purple Dome           Aster X frikartii         Aster: Bonny Blue, Purple Dome           Aster X frikartii         Lady Ferri; Fern Lady           Allyruim filix-femina         Lady Ferri; Fern Lady           Be geonia spp.         Firbous Begonia: Hardy Grandis           Bergenia cordifolia         Bougainvillea           Boudalei advaidii         Butterfly-Bush (Dwarf-Blue); Royal Red           Callistermon citrinus         Crimson Bottlebrush           Campia X tagliabuana         Tussock Bellflower; (White Clips)           Campia X tagliabuana         Trumpet Creeper, Trumpet Flower; Madame Galen           Ceratostigma plumbaginoides         Chrysanthemum nipponicum           Coreopsis spp.         Coreopsis (Calliopsis): Early Sunrise, Moonbeam           Coreosmia spp.         Lucifer           Delosperma spp.         Cooperi Pink           Delphinium spp.         Larkspur; Blue Elf           Dianthus gratianopolitamus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Geelian           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Garra spp.         Gentian           Ger		
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Begonia spp.         Firbous Begonia: Hardy Grandis           Bergenia cordifolia         Boltonia asteroides           Boltonia asteroides         Snowbank           Bougainvillea spp.         Bougainvillea           Buddleia davidii         Butterfly-Bush (Dwarf-Blue); Royal Red           Callistermon citrimus         Crimson Bottlebrush           Campanula carpatica         Tussock Bellflower; (White Clips)           Campis X tagliabuana         Trumpet Creeper, Trumpet Flower; Madame Galen           Ceratostigma plumbaginoides         Chrysanthemun nipponicum           Coreopsis spp.         Coreopsis (Calliopsis): Early Sunrise, Moonbeam           Crocosmia spp.         Lucifer           Delophinium spp.         Lurispur, Blue Elf           Dianthus gratianopolitanus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Weeping Forsythia           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Gaura spp.         Gentian           Geranium cinereum         Cranesbill           Gypsophila repens         Baby's Breath           Helianthemum spp.         Baby's Breath           Helianthemum spp.         Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom		Lady Form: Form Lady
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Boltonia asteroides         Snowbank           Bougainvillea spp.         Bougainvillea           Buddleia davidii         Butterfly-Bush (Dwarf-Blue); Royal Red           Callistermon citrimus         Crimson Bottlebrush           Campanula carpatica         Tussock Bellflower; (White Clips)           Campis X tagliabuana         Trumpet Creeper, Trumpet Flower; Madame Galen           Ceratostigma plumbaginoides         Chrysanthemum nipponicum           Coreopsis spp.         Coreopsis (Calliopsis): Early Sunrise, Moonbeam           Crocosmia spp.         Lucifer           Delosperma spp.         Cooperi Pink           Delphinium spp.         Larkspur; Blue Elf           Dianthus deltoides         Dianthus, Maiden Pinks 'Zing'           Dianthus gratianopolitamus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Weeping Forsythia           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Garra spp.         Gentian           Geranium cinereum         Cranesbill           Gypsophila repens         Baby's Breath           Helianthemum spp.         Baby'lly: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom           Hosta sieboldiana         Hosta, 'Searsucker'		Fillous begonia. Raidy Giandis
Bougainvillea spp.         Bougainvillea           Buddleia davidii         Butterfly-Bush (Dwarf-Blue); Royal Red           Callistermon citrinus         Crimson Bottlebrush           Campanula carpatica         Tussock Bellflower; (White Clips)           Campis X tagliabuana         Trumpet Creeper, Trumpet Flower; Madame Galen           Ceratostigma plumbaginoides         Coreopsis spp.           Chysanthemum nipponicum         Coreopsis (Calliopsis): Early Sunrise, Moonbeam           Crocosmia spp.         Lucifer           Delosperma spp.         Cooperi Pink           Delphinium spp.         Larkspur; Blue Elf           Dianthus deltoides         Dianthus, Maiden Pinks 'Zing'           Dianthus gratianopolitanus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Weeping Forsythia           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Gentiana dahurica         Gentian           Geranium cinereum         Crancsbill           Gypsophila repens         Baby's Breath           Helianthemum spp.         Baby's Broath           Hemerocallis spp.         Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom           Hibiscus spp.         Mallow; Disco Belle White		Chambanle
Buddleia davidii         Butterfly-Bush (Dwarf-Blue); Royal Red           Callistermon citrinus         Crimson Bottlebrush           Campis X tagliabuana         Trussock Bellflower; (White Clips)           Campis X tagliabuana         Trumpet Creeper, Trumpet Flower; Madame Galen           Ceratostigma plumbaginoides         Chrysanthemum nipponicum           Coreopsis spp.         Coreopsis (Calliopsis): Early Sunrise, Moonbeam           Crocosmia spp.         Lucifer           Delosperma spp.         Cooperi Pink           Delphinium spp.         Larkspur; Blue Elf           Dianthus deltoides         Dianthus, Maiden Pinks 'Zing'           Dianthus gratianopolitanus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Weeping Forsythia           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Gaura spp.         Gaillardia, Blanket Flower: 'Goblin'           Gernaium cinereum         Cranesbill           Geysophila repens         Baby's Breath           Helianthemum spp.         Sunrose           Hemerocallis spp.         Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom           Hibiscus spp.         Mallow; Disco Belle White           Hosta plantaginea         Hosta, 'Sea		
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Coreopsis spp.       Coreopsis (Calliopsis): Early Sunrise, Moonbeam         Crocosmia spp.       Lucifer         Delphinium spp.       Larkspur, Blue Elf         Dianthus deltoides       Dianthus, Maiden Pinks 'Zing'         Dianthus gratianopolitanus       Cheddar Pink         Echinacea purpurea       Coneflower, Purple; Magnus         Forsythia suspensa       Weeping Forsythia         Gaillardia spp.       Gaillardia, Blanket Flower: 'Goblin'         Gaura spp.       Gentian         Geranium cinereum       Cranesbill         Gypsophila repens       Baby's Breath         Helianthemum spp.       Sunrose         Hemerocallis spp.       Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom         Heucherella spp.       Coral Bell; Bridget Bloom         Hibiscus spp.       Mallow; Disco Belle White         Hosta plantaginea       Hosta, Plantain Lily (Fragrant)         Hosta sieboldiana       Hosta, 'Searsucker'         Houtuynia cordata var.       Variegate         Hydrangea macrophylla       Bigleaf Hydrangea         Inula ensifolia       Sword-Leaved Iris; Jodlesong		
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Delphinium spp.         Larkspur; Blue Elf           Dianthus deltoides         Dianthus, Maiden Pinks 'Zing'           Dianthus gratianopolitanus         Cheddar Pink           Echinacea purpurea         Coneflower, Purple; Magnus           Forsythia suspensa         Weeping Forsythia           Gaillardia spp.         Gaillardia, Blanket Flower: 'Goblin'           Gaura spp.         Gentian           Gentian dahurica         Gentian           Geranium cinereum         Cranesbill           Gypsophila repens         Baby's Breath           Helianthemum spp.         Sunrose           Hemerocallis spp.         Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom           Heucherella spp.         Coral Bell; Bridget Bloom           Hibiscus spp.         Mallow; Disco Belle White           Hosta plantaginea         Hosta, Plantain Lily (Fragrant)           Hosta plantaginea         Hosta, 'Searsucker'           Houttuynia cordata var.         Variegate           Hydrangea macrophylla         Bigleaf Hydrangea           Inula ensifolia         First ensata         Sword-Leaved Iris; Jodlesong		
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Echinacea purpurea  Forsythia suspensa  Gaillardia, Blanket Flower: 'Goblin'  Gaura spp.  Gentiana dahurica  Geranium cinereum  Granesbill  Gypsophila repens  Helianthemum spp.  Baby's Breath  Helianthemum spp.  Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget Bloom  Heucherella spp.  Coral Bell; Bridget Bloom  Hibiscus spp.  Mallow; Disco Belle White  Hosta plantaginea  Hosta, Plantain Lily (Fragrant)  Hosta sieboldiana  Hosta, 'Searsucker'  Hydrangea macrophylla  Inula ensifolia  Iris ensata  Sword-Leaved Iris; Jodlesong		
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Hemerocallis spp.Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget BloomHeucherella spp.Coral Bell; Bridget BloomHibiscus spp.Mallow; Disco Belle WhiteHosta plantagineaHosta, Plantain Lily (Fragrant)Hosta sieboldianaHosta, 'Searsucker'Houttuynia cordata var. variegateVariegateHydrangea macrophyllaBigleaf HydrangeaInula ensifoliaSword-Leaved Iris; Jodlesong	Gypsophila repens	Baby's Breath
Bloom  Heucherella spp. Coral Bell; Bridget Bloom  Hibiscus spp. Mallow; Disco Belle White  Hosta plantaginea Hosta, Plantain Lily (Fragrant)  Hosta sieboldiana Hosta, 'Searsucker'  Houttuynia cordata var.  variegate  Hydrangea macrophylla Bigleaf Hydrangea  Inula ensifolia  Iris ensata Sword-Leaved Iris; Jodlesong	Helianthemum spp.	Sunrose
Heucherella spp. Coral Bell; Bridget Bloom Hibiscus spp. Mallow; Disco Belle White Hosta plantaginea Hosta, Plantain Lily (Fragrant) Hosta sieboldiana Hosta, Searsucker' Houttuynia cordata var. variegate Hydrangea macrophylla Bigleaf Hydrangea Inula ensifolia Iris ensata Sword-Leaved Iris; Jodlesong	Hemerocallis spp.	Daylily: Aztect Gold, Stella De Oro, Tender Love Coral Bell; Bridget
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Hosta sieboldiana Hosta, 'Searsucker'  Houttuynia cordata var. variegate Hydrangea macrophylla Bigleaf Hydrangea Inula ensifolia Iris ensata Sword-Leaved Iris; Jodlesong	Hibiscus spp.	Mallow; Disco Belle White
Hosta sieboldiana Hosta, 'Searsucker'  Houttuynia cordata var. variegate Hydrangea macrophylla Bigleaf Hydrangea Inula ensifolia Iris ensata Sword-Leaved Iris; Jodlesong	Hosta plantaginea	Hosta, Plantain Lily (Fragrant)
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variegateHydrangea macrophyllaBigleaf HydrangeaInula ensifoliaIris ensataSword-Leaved Iris; Jodlesong	Houttuynia cordata var.	
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Inula ensifolia       Iris ensata     Sword-Leaved Iris; Jodlesong		Bigleaf Hydrangea
Iris ensata Sword-Leaved Iris; Jodlesong		
		Sword-Leaved Iris; Jodlesong
	Iris siberica	

	12/23/2010
Scientific Name	Common Name
Juniperus davurica	Parsoni
Lagerstromia indica x fauriei	Crape Myrtle, Tuscarora
Lantana montevidensis	Weeping Lantana
Lavender spp.	Lavender; Munstead
Leontopodium alpinum	Edelweiss
Ligustrum sinense	Chinsese Privet; Variegata
Lilium spp.	Lily: Jazz
Liriope muscari var. variegata	Liriope, Variegated
Liriope spicata	Liriope, Creeping
Lobelia cardinalis	Cardinal Flower, Indian Pink
Loropetalum chinense	Burgundy
Lythrum spp.	Loosestrife; Modern Pink
Miscanthus sinensis	Yaku Jima**, Silberfeder
Oenothera missourensis	Evening Primrose
Osmanthus heterophyllus	Osmanthus (False Holly): Gulf Tide
Paeonia suffruticosa	Tree Peony
Pennisetum setaceum	Fountain Grass (Dwarf)**
Perovskia atriplioifolia	
Physostegia virginiana	Dragonhead, False; Vivid
Quercus shumardii	Oak, Shumard's Red
Raphiolepsis umbellata	Yedda Hawthorne
Rhododendron(including Azalea)	'Deleware Valley White'
14.00.00.00.00.00.00.00.00.00.00.00.00.00	'Flame Creeper'
	'Girard Crimson'
	'George L. Tabor'
	'Wakeiebisu'
	'White Gumpo'
Rudbeckia spp.	Black-Eyed Susan: Goldstrum
Saxifraga spp.	Saxifrage; Purple Dome
Scabiosa spp.	Pincushion Flower
Sedum cauticola	Stonecrop; Lidakense
Sedum dasyphyllum	Stonecrop
Sedum spurium	Stonecrop; Dragon's Blood
Spiraea bumalda	Spirea: Anthoney Waterer
Syzygium paniculatum	Australian Brushcherry
Teucrium spp.	Germander
Thalictrum dipterocarpum	Meadow Rue
Veronica spp.	Veronica, Speedwell; Sunny Border
Viburnum suspensum	Arrowood Viburnum

<sup>\*\*</sup>Not for use on container grown plants.

#### NEW PLANTING, REPLANTING, AND ROTATIONAL PLANTING

Nursery, landscape, or non-cropped land areas treated with KnightHawk 4F 4E 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 to 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, but do not apply more than 48 oz/A per year.

#### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE**: Store pesticide in original container. If container is broken or contents have spilled, follow all precautions as outlined above and clean up immediately. Before starting clean up, put on the appropriate protective clothing such as long pants or coveralls, long-sleeved shirt, appropriate footwear and gloves, and face shield or goggles if needed. Soak up spilled product with an appropriate media such as sand, earth, or clay cat litter and dispose of waste at an approved waste disposal facility.

**PESTICIDE DISPOSAL**: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental control Agency, or the Hazardous Waste representative at the nearest EPA Regional office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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. 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.

#### Chemigation

Do not apply KnightHawk 4F 41 through any type of irrigation system unless instructed otherwise in this label.

#### CONDITIONS OF SALE AND WARRANTY

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

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