

228-408

06/04/2009

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Mr. Mathew Granahan  
Product Registration  
Nufarm Americas, Inc.,  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527

JUN 4 2009

SUBJECT: Application for Pesticide Notification (PRN 98-10)  
Request Alternate Brand Name "Riverdale Spyder Herbicide"  
EPA Reg. No. 228-408  
Application Dated May 20, 2009

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 05/20/09 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

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

<b>1. Company/Product Number</b> 228-408	<b>2. EPA Product Manager</b> Jim Tompkins	<b>3. Proposed Classification</b> <input type="checkbox"/> None <input type="checkbox"/> Restricted
<b>4. Company/Product (Name)</b> Riverdale Spyder Herbicide	<b>PM#</b> 25	
<b>5. Name and Address of Applicant (Include ZIP Code)</b> Nufarm Americas, Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527 <input type="checkbox"/> Check if this is a new address	<b>6. Expedited Review.</b> In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ <b>NOTIFICATION</b> Product Name _____ <b>JUN 04 2009</b>	

**Section - II**

<input type="checkbox"/> Amendment - Explain below. <input type="checkbox"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input type="checkbox"/> Other - Explain below.
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**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Label Notification per PR Notice 98-10, see cover letter for detailed explanation. This notification is consistent with the provisions of PR notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. sec 1001 to willfully make any false statement to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under section 12 and 14 of FIFRA.

**Section - III**

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

**Section - IV**

<b>1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)</b>		
<b>Name</b> Matthew Granahan matthew.granahan@us.nufarm.com	<b>Title</b> Registration Manager	<b>Telephone No. (Include Area Code)</b> 630.455.2048
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		<b>6. Date Application Received (Stamped)</b>
<b>2. Signature</b> 	<b>3. Title</b> Registration Manager	
<b>4. Typed Name</b> Matthew Granahan	<b>5. Date</b> 05/20/09	



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**Nufarm Americas Inc.**  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527  
Telephone: (630) 455.2000 Facsimile: (630) 455.2001  
www.us.nufarm.com

May 20, 2009

Via Overnight Courier

U. S. Environmental Protection Agency (7504P)  
Document Processing Desk (NOTIF)  
Room S4900, One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

**Subject: Spyder Selective Herbicide  
EPA REG. No. 228-408  
Alternate Brand Name  
Riverdale Spyder Herbicide**

Dear Ms. Hobgood:

Nufarm Americas Inc. would like to add an Alternate Brand Name for the subject registration. We would like the Alternate Brand Name for subject registration to be: Riverdale Spyder Herbicide. We feel that this label change is permitted and consistent with PR Notice 98-10 section II (Labeling notifications) part A (Changing primary brand name). The new primary brand name is not false and misleading.

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA form 8570-1
- Final print labeling with new primary brand name (1 copy)

If you should have any questions regarding this matter, please feel free to contact me at (630) 455-2048 or [matthew.granahan@us.nufarm.com](mailto:matthew.granahan@us.nufarm.com).

Sincerely,

Matthew Granahan  
Registration Manager  
Nufarm Americas, Inc.

Faded text, likely a routing slip or internal tracking information.

Handwritten checkmark

4/20

# Riverdale Spyder Herbicide

Dispersible Granules For Both Preemergence And Postemergence Control Of Many Annual And Perennial Grasses And Broadleaf Weeds; Conifer And Hardwood Site Preparation And Release; General Weed Control In Noncrop Industrial Sites; And Can Be Tank Mixed With Other Herbicides For Use In Forestry And Noncrop Sites.

**ACTIVE INGREDIENT:**

Sulfometuron methyl (Methyl 2-[[[(4,6-dimethyl-2-pyrimidinyl)amino] - Carbonyl]amino]sulfonyl]benzoate .....	75.00%
INERT INGREDIENTS.....	25.00%
	TOTAL ...100.00%

Riverdale is a Registered Trademark and Spyder is a Trademark of Nufarm Americas, Inc.

**NOTIFICATION**

JUN 04 2009

<p><b>KEEP OUT OF REACH OF CHILDREN</b></p> <p><b>CAUTION</b></p> <p>SEE BACK PANEL FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS</p>
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EPA REG. NO. 228-408

NET WEIGHTLBS.

EPA EST. NO. 228-IL-1

MANUFACTURED FOR NUFARM AMERICAS INC., BURR RIDGE, ILLINOIS 60527-0866

000228-000408.052009.EPA.ABN.Not

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Causes (moderate) eye injury (irritation). Avoid contact with eyes or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear: Long-sleeved shirt, long pants and 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.

**USER SAFETY RECOMMENDATIONS**

**USERS SHOULD:** Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

**FIRST AID STATEMENT**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

**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.

**ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of equipment washwaters.

**GENERAL INFORMATION**

This product is a dispersible granule that is mixed in water and applied as a spray. This product controls many annual and perennial grasses and broadleaf weeds in forestry and noncrop sites.

This product may be used for general weed control on industrial noncrop sites and for selective weed control in certain types of unimproved turf grasses on industrial sites. It can also be used for selective weed control in forest site preparation and in the release of several types of pines and certain hardwoods.

This product controls weeds by both preemergence and postemergence activity. Preemergence treatments control or suppress weeds through root uptake while postemergence control works through root and foliar uptake. The best results are obtained when the application is made before or during the early stages of weed growth before weeds develop an established root system. Moisture is required to move this product into the root zone of weeds for preemergence control. When rainfall is low, this product may not provide satisfactory

control.

This product may be applied on forestry and noncrop sites that contain areas of temporary surface water caused by collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittent drainage, intermittently flooded low lying sites, seasonal dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded, as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

It is noncorrosive, nonflammable, nonvolatile, and does not freeze. For best postemergence results, apply this product to young, actively growing weeds. The use rate depends upon the weed species, weed size at application, and soil texture. The degree and duration of control may depend on the following: weed spectrum and infestation intensity; weed size at application; environmental conditions at and following treatment; and soil pH, soil moisture, and soil organic matter.

Use a high rate on established plants and on fine-textured soils and a lower rate on smaller weeds and coarse-textured soils.

**ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY**

This product is absorbed by both the roots and foliage of plants, rapidly inhibiting the growth of susceptible weeds. Two to 3 weeks after application to weeds, leaf growth slows, and the growing points turn reddish-purple. Within 4 to 6 weeks of application, leaf veins and leaves become discolored, and the growing points subsequently die.

Warm, moist conditions following application accelerate the herbicidal activity of this product; cold, dry conditions delay the herbicidal activity. In addition, weeds hardened-off by drought stress are less susceptible to this product.

Rainfall is needed to move this product into the soil for preemergence weed control, but postemergence weed control may be reduced if rainfall occurs too soon after application.

**RESISTANCE**

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

**DIRECTIONS FOR USE**

It is a violation of federal law to use this product in a manner inconsistent with its labeling.

This product should be used only in accordance with recommendations on this label or in separately published Riverdale recommendations. Do not apply more than 8 oz. per acre per year.

Nufarm will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Riverdale. User assumes all risks associated with such non-recommended use.

Do not use on food or feed crops. 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 in your State responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is coveralls, shoes plus socks, and chemical resistant gloves made of any, waterproof material.

**FORESTRY**

**Application Information**

This product is recommended to **control many** broadleaf weeds and grasses in forestry sites. Apply by ground equipment or **by air** (helicopter only).

**Application Timing**

Apply this product before herbaceous weeds emerge or shortly thereafter. Apply only during seasons when rainfall is sufficient to activate the herbicide in the soil.

**Weeds Controlled**

This product effectively controls **the** following weeds when applied at the **use** rates indicated for the respective crop species:

Chickweed	Horseweed	Ragweed
Crabgrass	Kentucky bluegrass	Shepherdspurse
Dogfennel	Nutsedge (yellow)	White snakeroot
Fescue	Panicums (broadleaf,	Yellow sweetclover
Fireweed (willowweed)	fall, narrow)	
Goldenrod	Pokeweed	

See also weeds controlled **under Application Information - Noncrop (Industrial) Sites**

**Application Rates**

Apply this product at the rates indicated by region. Use a low rate on coarse-textured soils (i.e., loamy sands, sandy loam) and a higher rate on fine-textured soils (i.e. sandy clay loams and silty clay loams).

**CONIFERS**

**Conifer Site Preparation - Application Before Transplanting**

Make all applications before transplanting to control herbaceous weeds.

Southeast - Apply 2 to 8 oz. per acre for loblolly, longleaf, slash, and Virginia pine. Transplant longleaf pine at least 60 days after treatment.

Northeast and Lake States - Apply 2 to 4 oz. per acre for black spruce. Transplant at least 13 months after treatment.

Apply 2 1/2 to 4 oz. of this product plus Accord<sup>1</sup> (as registered) for larch and tamarack. Transplant the following spring or summer but not less than 8 months after treatment.

West - Apply 2 to 4 oz. per acre for coastal redwood, Douglas fir, grand fir, lodge pole pine, ponderosa pine, western larch, western white pine, and white fir. For ponderosa pine in California and other arid areas, apply in the fall and transplant the following spring.

**Conifer Release - Application After Transplanting**

Apply this product after transplanting to control herbaceous weeds.



Southeast - Apply 2 to 8 oz. per acre for loblolly, longleaf, slash or Virginia pine. Apply 1 to 1-1/2 oz. per acre for eastern white pine.

Tank Mix Combinations (Southeast only) - To control a broader spectrum of weeds in stands of loblolly, longleaf, or slash pine, apply 2 to 4 oz. of this product plus 2 to 3 pt. of Dupont Velpar<sup>4</sup> L Herbicide or 2/3 to 1 lb. of Dupont Velpar<sup>4</sup> DF Herbicide. Tank mix may injure or kill trees when applied during high humidity and temperature.

To enhance control of bermudagrass and Johnsongrass in stands of loblolly pine, apply 2 oz. of this product plus 4 to 6 fl. oz. of Arsenal<sup>2</sup> Applicators Concentrate. For the best results, make the application during late winter through spring when weeds first emerge. Arsenal may temporarily inhibit pine growth if it is applied when pine is actively growing.

For control of many annual weeds particularly on cropland conversion areas, apply 2 to 4 oz. of this product plus 4 to 8 pt. of Aatrex<sup>3</sup> 4L per acre. Use the higher rates on medium to fine texture soils where organic matter exceeds 2%. Use only on tree species specifically listed on both the Spyder Selective Herbicide and Aatrex<sup>3</sup> 4L labels.

Northeast and Lake States - Apply 2 to 8 oz. per acre for jack or Virginia pine. Apply 1 to 1-1/2 oz. per acre for eastern white pine. Apply 1-1/2 to 3 oz. per acre for white spruce. Make applications when trees are dormant. Applications at budbreak and later stages of active growth may severely injure or kill trees.

West - Apply 2 to 4 oz. per acre for coastal redwood, Douglas fir, grand fir, lodgepole pine, ponderosa pine, western larch, or western white pine. Applications made after dormancy break in the spring and before the final resting bud has hardened in the fall may severely injure or kill trees. For ponderosa pine in California and other arid areas, treatments applied over the top of transplant stock in the first year outplanted should be made in the fall, following transplanting in the spring after the final resting bud has hardened, or the following spring (second year outplanted).

**HARDWOODS**

**Hardwood Site Preparation - Application Before Transplanting**

Apply 3 to 5 oz. on sites where northern red oak, white oak, chestnut oak, American sycamore, ash (white or green), red maple, sweetgum, or yellow poplar are to be planted. Make all applications before transplanting.

**Hardwood Release - Application After Transplanting**

Apply 1 to 4 oz. per acre in stands of American sycamore, ash (white or green), bald cypress, oaks (such as chestnut, northern red, southern red, overcup, pin, swamp chestnut, cherrybark, water, white, pin, etc.), red maple, sweetgum, or yellow poplar.

This product should be applied before the hardwood tree seedlings or transplants break dormancy (bud swell stage). Applications made over the top after the trees have broken dormancy may injure or kill the trees.

**IMPORTANT PRECAUTIONS - FORESTRY ONLY**

Applications of this product made to trees, conifers, or hardwoods that are suffering from loss of vigor caused by insects, diseases, drought, winter damage, animal damage, excessive soil moisture, planting shock, or other

stresses, may injure or kill the trees.

Applications of this product made for release (trees present) should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.

Do not apply this product to conifers or hardwoods grown for Christmas trees or ornamentals.

If a surfactant is used with this product, allowing the spray to contact tree foliage may injure or kill trees. The user assumes all responsibility for tree injury if a surfactant is used with this product if applied after planting.

Applications of this product may result in damage and mortality to other species of trees when they are present on sites with those listed in the preceding recommendations for forestry uses.

Use on hardwood trees growing in soils having a pH of 7 or greater may injure or kill the trees.

Careful consideration must be given by an experienced and knowledgeable forester to match the requirements of the hardwood tree species to the conditions of the site. Treatment of species mismatched to the site may injure or kill the trees.

This product is not recommended for use on poorly drained or marshy sites, but it may be used where plantings are on raised beds.

**NON-AGRICULTURAL USES  
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.

Selective non-crop industrial weed control and weed control in turf (industrial, unimproved only) are not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter treated areas until spray has dried

**NONCROP (INDUSTRIAL) SITES**

**Application Information**

This product is recommended for use for general, weed control on noncrop, industrial sites such as airports, military installations, fence rows, roadsides and associated rights-of-way, lumberyards, petroleum tank farms, pipeline and utility rights-of-way, pumping installations, railroads, storage areas, plant sites, and other similar areas including governmental and private lands. Apply by ground equipment only unless directed otherwise by supplemental labeling.

Combination with other herbicides broadens the spectrum of weeds controlled. In addition, total vegetation control can be achieved with higher rates of

this product plus residual type companion herbicides. To improve the control of weeds, add surfactant at 0.25% by volume

**AREAS OF 20" OR LESS ANNUAL RAINFALL (ARID AREAS)**

**Application Timing**

Apply this product as a preemergence or early postemergence spray during the rainy season when weeds are actively germinating or growing.

**Weeds Controlled**

This product effectively controls the following broadleaf weeds and grasses when applied at the rates shown.

**Application Rates**

Apply this product at the rates indicated by weed type. When applied at lower rates, this product provides short-term control of weeds listed; when applied at higher rates, weed control is extended.

**Broadleaf Weeds - 1-1/3 to 2 oz. per acre**

Annual sowthistle	Common mallow	Spreading orach
Black mustard	Common speedwell	Sunflower
Buckhorn plantain	Common yarrow	Western ragweed
Burclover	Curly dock	Whitestem filaree
Carolina geranium	Prickly coontail	
Chickweed	Seaside heliotrope	

Grasses (up to 6 to 12" tall) - 1-1/3 to 2 oz. per acre

Annual bluegrass	Italian ryegrass	Seashore saltgrass
Barnyardgras s	Jointed goatgrass	Signalgrass
Cheat	Red brome	Yellow foxtail
Foxtail barley	Reed Canarygrass	
Foxtail fescue	Ripgut brome	

Grasses . 2 to 3 oz. per

acre Smooth brome

The weeds listed in **Areas Of 20" Or More Annual Rainfall** can also be controlled in arid areas; however, this product must be applied at 3 to 8 oz. per acre to control those weeds. These higher rates also provide control of severe infestations and longer term control of weeds listed for arid areas.

**AREAS OF 20" OR MORE ANNUAL RAINFALL**

**Application Timing**

Apply this product as a preemergence or early postemergence spray during the rainy season when weeds are actively germinating or growing.

**Weeds Controlled**

This product effectively controls the following **broadleaf weeds and grasses** when applied at the rates shown.

**Application Rates**

Apply this product at the rates indicated by weed **type**. When applied at **lower rates**, this product provides short term control of weeds listed; when applied at **higher rates**, weed control is extended.

Broadleaf Weeds - 3 to 5 oz. per acre

Bouncingbet	Little mallow	
Burclover	Mustard	Tansy ragwort
Carolina geranium	Pigweed	Tumble mustard
Common chickweed	Purple starthistle	Vetch
Common dandelion	Ragweed	Wild carrot
Common speedwell	Sowthistle (annual)	Wild oats
Common yarrow	Sunflower	Yellow rocket
Crimson clover	Sweet clover	
Dogfennel	Tans yu s ta rd	
Hoary cress (whitetop)		

Broadleaf Weeds - 6 to 8 oz. per acre

Bedstraw	Horsetail (Equisetum)	Turkey mullein
Canada thistle	Kudzu	Wild blackberry
Curly dock	Musk thistle	
Goldenrod	Redstem filaree	

**Grasses - 3 to 5 oz. per acre**

Alta fescue	Foxtails (except green)	Red fescue
Annual bluegrass	Foxtail barley	Reed canarygrass
Annual ryegrass	Indiangrass	Ripgut brome
Bahiagrass	Italian ryegrass	Ryegrass
Barnyardgrass	Kentucky bluegrass	Smooth brome
Downy brome	Little barley	Sprangletop (annual)
Fescue	Red brome	Wheat (volunteer)

**Grasses - 6 to 8 oz. per**

**acre** Johnsongrass

For short-term (up to 3 months) control of johnsongrass, apply early postemergence. Repeat treatment if additional control is desired or if regrowth occurs.

Note: Use the higher level of recommended dosage ranges under the following conditions: heavy weed growth; soils containing more than 2 1/2% organic matter; and high soil moisture areas, such as along road edges or railroad shoulders.

**Specific Weed Problems - Noncrop (Industrial) Sites**

Kochia, Russian Thistle, and Prickly Lettuce

Since biotypes of Kochia, Russian thistle, and prickly lettuce are known to be resistant to this product, tank mixture combinations with herbicides having different modes of action, such as KARMEX<sup>4</sup> DF, HYVAR<sup>4</sup> X or KROVAR<sup>4</sup> I DF, must be used. In areas where resistance is known to exist, these weeds should be treated postemergence with other herbicides registered for their control, such as 2,4-D or dicamba. Do not allow kochia, Russian thistle, or prickly lettuce to form mature seed.

**TANK MIX COMBINATIONS**

To improve preemergence to early postemergence control of weeds and grasses, add 2 to 8 oz. of this product per acre to the recommended rates of the following herbicides: Dupont HYVAR<sup>4</sup> X Herbicide, Dupont KARMEX<sup>4</sup> DF Herbicide, Dupont KROVAR<sup>4</sup> I DF Herbicide, Dupont VELPAR<sup>4</sup> I Herbicide, Dupont VELPAR<sup>4</sup> Herbicide, Dupont ESCORT<sup>4</sup> Herbicide (do not use in California), Dupont TELAR<sup>4</sup> Herbicide, glyphosate, dicamba, or 2,4-D.

Apply this product plus a companion herbicide at the rates and timing as shown on package labels for target weeds. For application method and other use specifications, use the most restrictive directions for the intended combination.

Do not tank mix this product with Dupont HYVAR<sup>4</sup> XL Herbicide.

**UNDER ASPHALT AND CONCRETE PAVEMENT**

**Application Information**

This product can be used to control weeds under asphalt and concrete pavement, such as that used in parking lots, highway shoulders, median strips, roadways, and other industrial sites.

This product will not control tubers, rhizomes, woody vegetation such as small trees, brush or woody vines.

This product should only be used in an area that has been prepared according to good construction practices. Use sufficient water to ensure uniform coverage, generally 100 gal. per acre. Agitate tank continuously to keep this product in suspension.

**Application Timing**

This product should be applied immediately before paving to avoid lateral movement of the herbicide as a result of soil movement due to rainfall or mechanical means.

**Application Rate**

Apply this product at 4 to 8 oz. per acre. Use a higher rate on hard-to-control weeds and for long-term control.

**Tank Mix Combinations Under Asphalt and Concrete Pavement**

For broader spectrum control or for an extended period of control under asphalt or concrete pavement, this product may be applied as a tank mix with HYVAR X at 6 to 15 lbs. per acre or KROVAR I DF at 7 to 15 lbs. per acre.

**IMPORTANT PRECAUTIONS - UNDER ASPHALT ONLY**

Do not use this product under pavement in residential properties such as driveways, or in recreational areas, including jogging or bike paths, tennis courts, or golf cart paths. Desirable plants may be injured if their roots extend into treated areas or if planted in treated areas.

**TURF, INDUSTRIAL (UNIMPROVED ONLY)**

**Application Information**

This product is recommended to control weeds on unimproved industrial turf, on roadsides, or on other noncrop sites where the turf is well established as a ground cover. Applications may temporarily suppress grass growth and inhibit seedhead formation (chemical mowing).

**BERMUDAGRASS RELEASE**

**Application Timing**

Apply this product after bermudagrass has broken dormancy and is well established, usually 30 days after initial spring flush. If additional applications are necessary, apply this product again during late spring to early summer. On established weeds, apply this product 1 to 2 weeks after mowing for the best results.

This product may also be applied in late fall or early winter. Use the lower rates on small seedling weeds and a higher rate on larger weeds. Also, refer to the listing of Weeds Controlled under Noncrop (Industrial) Weed Control.

**Weeds Controlled**

This product may be used to control the following weeds when applied at the use rates shown.

Late Spring to Early Summer .1 to 2 oz./acre

Carolina Geranium	Foxtail	Spotted Spurge
Fescue	Goldenrod	Wildcarrot

Spring to Fall .2 to 3 oz./acre

Johnsongrass

Late Fall to Early Winter .1 to 4 oz./acre

Carolina geranium  
 Common chickweed  
 Little barley  
 Wild blackberry

**Tank Mix Combinations-Bermudagrass (South Only)**

Apply 1 to 2 oz. of this product per acre as a tank mix with 3 to 4 lbs. active ingredient of MSMA per acre on well-established bermudagrass during the summer. Refer to the MSMA package label for a list of additional weeds that may be controlled. Two or more sequential applications of MSMA alone may be necessary to maintain weed control.

**Centipede-grass Release**

**Application timing**

Apply 1 to 2 ounces of this product in the fall or early winter, or in the early summer following greenup of the centipede. Refer to the listing of Weeds Controlled under Bermudagrass Release.

**Bahiagrass Release and Seedhead Suppression**

**Application Timing**

Apply 1/2 to 1 oz. of this product per acre to turf after green-up and before seedheads emerge (boot stage). Ensure that desirable grasses are well established at application, as premature treatment may result in top kill and stand reduction of desirable turf. Make only one application per year.

**Smooth Brome and Crested Wheatgrass Release and Suppression**

**Application Timing**

Apply 1 oz. of this product per acre to turf after green-up and before seedheads emerge (boot stage). Ensure that desirable grasses are well established at application, as premature treatment may result in top kill and stand reduction of desirable turf. Make only one application per year.

**Weeds Controlled**

This product may be used to control the following weeds when applied at the use rates shown

Late Spring to Early Summer - 1  
oz./acre Downy Brome  
**Goldenrod**  
 Foxtail

**IMPORTANT PRECAUTIONS - INDUSTRIAL, UNIMPROVED TURF**

Excessive injury to turf may result if a surfactant is used with this product applications made to actively growing turf. The user assumes all responsibility for turf injury if a surfactant is used with this product treatment applied to actively growing turf.

This product may temporarily discolor or cause top kill of turf grasses. Applications made while turf is dormant may delay green-up in the spring.

Annual retreatments may reduce vigor, particularly at the higher recommended rates, where bahiagrass, crested wheatgrass and smooth brome are grown.

Applications of this product on turf that is under stress from drought, insects, disease, cold temperatures or late spring frost may result in injury.

Do not apply this product to turf within 1 year of planting as stand reduction may result.

**SPRAY EQUIPMENT**

Following a application of this product, do not use sprayer for application to agricultural or ornamental crops. The mixing and application equipment must be used for forestry and noncrop applications only. This is extremely important as low rates of this product can kill or severely injure most crops.

**BROADCAST APPLICATION**

**Ground**

When applying this product as a broadcast application. Select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern. Be sure the sprayer is calibrated before use. Avoid overlapping and shut off spray booms while starting, turning, slowing, or stopping to avoid injury to desired species.

**Air (Helicopter Only)**

When applying this product, select a spray volume and delivery system that will ensure thorough coverage and a uniform spray pattern. Do not use fixed-wing aircraft. Be sure the sprayer is calibrated. Avoid overlapping and shut off spray booms while starting, turning or slowing to avoid injury to desired species.

**MIXING INSTRUCTIONS**

1. Fill spray tank 1/2 full of water.
2. With the agitator running, add the proper amount of this product.
3. If using a companion product, add the recommended amount.
4. For postemergent applications, add the proper amount of spray adjuvants (i.e. surfactants, drift control agents, etc.).
5. Add the remaining water.
6. Agitate the spray tank thoroughly.

Use the spray preparation within 24 hours to avoid product degradation. If the spray preparation is left standing, agitate it thoroughly before using.

**SPRAYER CLEANUP**

Thoroughly clean all mixing and spray equipment following applications of this product as follows:

1. Drain tank; thoroughly rinse spray tanks, boom, and hose with clean water.
2. Fill the tank with clean water and 1 gal. of household ammonia (contains 3% active) for every 100 gals. of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the



tank and hose for at least 15 min. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.

Equivalent amounts of an alternate-strength ammonia solution or a commercial cleaner can be used in the cleanout procedure. If a commercial cleaner is used, carefully read and follow the individual cleaner instructions.

3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. Dispose of the rinsate on a labeled site or at an approved waste disposal facility. If a commercial cleaner is used follow the directions for rinsate disposal on the label.

Notes:

- Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
- Steam-cleaning aerial spray tanks is recommended before performing the above cleanout procedure to facilitate the removal of any caked deposits.
- When this product is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be followed.

**SPRAY DRIFT MANAGEMENT**

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

**AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR**

**IMPORTANCE OF DROPLET SIZE**

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICATIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS! See Wind Temperature and Humidity, and Temperature Inversions sections of this label.

**Controlling Droplet Size - General Techniques**

**Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

**Pressure** - Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.

**Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles.

### Controlling Droplet Size - Aircraft

**Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.

**Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.

**Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

### BOOM LENGTH AND HEIGHT

**Boom Length** (aircraft) - For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.

**Boom Height** (aircraft) - Application more than 10 ft above the canopy increases the potential for spray drift.

**Boom Height** (ground) - Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

### WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS.

Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

### SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### IMPORTANT PRECAUTIONS

Injury to or loss of desirable trees or other plants may result from failure to observe the following:

If equipment is drained or flushed on or near desirable trees or other plants,

or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots.

Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to this product may injure or kill most crops. Injury may be more severe when the crops are irrigated. Do not apply this product when these conditions are identified and powdery, dry soil, or light or sandy soil are known to be prevalent in the area to be treated.

Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to soils saturated with water, surfaces paved with materials such as asphalt or concrete, or soils through which rainfall will not readily penetrate may result in runoff and movement of this product. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for this product movement by soil erosion due to wind or water.

Do not use on lawns, walks, driveways, tennis courts, or similar areas. Keep from contact with fertilizers, insecticides, fungicides, and seeds.

Do not apply in or on irrigation ditches or canals including their outer banks. Do not apply through any type of irrigation system.

Do not use the equipment used to mix or apply this product on crops. The mixing and application equipment may be used for forestry and noncrop applications only.

If noncrop or forested sites treated with this product are to be converted to a food, feed, or fiber agricultural crop, or to a horticultural crop, do not plant the treated sites for at least one year after the this product application. To avoid damage to crops planted in these areas, and to ensure complete product dissipation in treated sites, soil samples should be quantitatively analyzed, and a bioassay should be conducted before planting.

Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.

**STORAGE AND DISPOSAL**

**STORAGE:** Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed by storage or disposal.

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

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container half 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.

**WARRANTY DISCLAIMER**

The directions for use of this product must be followed carefully, TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE

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**NOTIFICATION**

**JUN 04 2009**