



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (H7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:
228-408

Date of Issuance:
MAY 12 2003

NOTICE OF PESTICIDE:
 x Registration
 Reregistration

Term of Issuance:
Conditional

Name of Pesticide Product:
Riverdale Spyder
Herbicide

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Nufarm America, Inc
Riverdale-A Nufarm Company
1333 Burr Ridge Parkway, Suite 125A
Burr Ridge, IL 60527-0866

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

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

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

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

1. Submit/cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.
2. Make the labeling changes listed below before you release the product for shipment.
 - a. Add the phrase .EPA Registration No. 228-408..
 - b. Within the list fo PPE for early re-entry in the Agricultural Use Requirements box, revise the requirement for .waterproof gloves. to read .chemical resistant gloves made of any waterproof material.
 - c. In the Non-Agricultural Use Requirements box, add a statement similar to .Do not enter or allow others to enter treated areas until the sprays have dried..
 - d. On page 7, under Broadleaf weeds-3 to 5 oz per acre, move either "mustard" or "wild oats" to a separate line or column.

Signature of Approving Official:

Date:

Vukie K. Walters for James A. Tompkins

5/12/03

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e. Add the statement below at the end of the third paragraph under .Important Precautions. on page 12.

--Do not apply Spyder Herbicide 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.--

f. A .Warranty Statement. must be added to your label.

g. Update the Company names at the end of your label.

3. Submit three (3) copies of your final printed labeling incorporating the above changes before you release the product for shipment.

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

A stamped copy of labeling is enclosed for your records.

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%

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Riverdale is a Registered Trademark and Spyder is a Trademark of Riverdale - A Nufarm Company

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE BACK PANEL FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

ACCEPTED
with COMMENTS
In EPA Letter Dated:

MAY 12 2003

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 228-408

W

EPA REG. NO. 228-

NET WEIGHT LBS.

EPA EST. NO. 228-IL-1

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

4/15

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

Riverdale Spyder™ Herbicide is a dispersible granule that is mixed in water and applied as a spray. Spyder controls many annual and perennial grasses and broadleaf weeds in forestry and noncrop sites.

Spyder 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.

Spyder 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 Spyder into the root zone of weeds for preemergence control. When rainfall is low, Spyder may not provide satisfactory control.

It is noncorrosive, nonflammable, nonvolatile, and does not freeze.

For best postemergence results, apply Spyder 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

Spyder 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 Spyder; cold, dry conditions delay the herbicidal activity. In addition, weeds hardened-off by drought stress are less susceptible to Spyder.

Rainfall is needed to move Spyder 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.

Spyder should be used only in accordance with recommendations on this label or in separately published Riverdale recommendations.

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 nonrecommended 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, waterproof gloves and shoes plus socks.

FORESTRY**Application Information**

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

Application Timing

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

Weeds Controlled

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

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

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

Application Rates

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

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. Spyder plus Accord¹ (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, lodgepole 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 Spyder 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 Spyder plus 2 to 3 pt. of DuPont Velpar L Herbicide or 2/3 to 1 lb. of DuPont Velpar 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 Spyder plus 4 to 6 fl. oz. of Arsenal² 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 Spyder plus 4 to 8 pt. of Aatrex³ 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 and "Aatrex 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.

Spyder 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 Spyder 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 Spyder 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 Spyder to conifers or hardwoods grown for Christmas trees or ornamentals.

If a surfactant is used with Spyder, 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 Spyder treatments applied after planting.

Spyder applications 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.

Spyder 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.

NONCROP (INDUSTRIAL) SITES

Application Information

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

Weeds Controlled

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

Application Rates

Apply Spyder at the rates indicated by weed type. When applied at lower rates, Spyder 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	Chickweed	Seaside heliotrope
Black mustard	Common mallow	Spreading orach
Buckhorn plantain	Common speedwell	Sunflower
Burclover	Common yarrow	Western ragweed
Carolina geranium	Curly dock	Whitestem filaree
	Prickly coontail	

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

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

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, Spyder 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 Spyder as a preemergence or early postemergence spray during the rainy season when weeds are actively germinating or growing.

Weeds Controlled

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

Application Rates

Apply Spyder at the rates indicated by weed type. When applied at lower rates, Spyder 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	Dogfennel	Sunflower
Burclover	Hoary cress (whitetop)	Sweet clover
Carolina geranium	Little mallow	Tansymustard
Common chickweed	Mustard Wild oats	Tansy ragwort
Common dandelion	Pigweed	Tumble mustard
Common speedwell	Purple starthistle	Vetch
Common yarrow	Ragweed	Wild carrot
Crimson clover	Sowthistle (annual)	Yellow rocket

Broadleaf Weeds - 6 to 9 oz. per acre

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

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 9 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 Spyder, tank mixture combinations with herbicides having different modes of action, such as KARMEX DF, HYVAR X or KROVAR 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 Spyder per acre to the recommended rates of the following herbicides: DuPont HYVAR® X Herbicide, DuPont KARMEK® DF Herbicide, DuPont KROVAR® I DF Herbicide, DuPont VELPAR® I Herbicide, DuPont VELPAR® Herbicide, DuPont ESCORT® Herbicide (do not use in California), DuPont TELAR® Herbicide, glyphosate, dicamba, or 2,4-D.

Apply Spyder 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 Spyder with DuPont HYVAR® XL Herbicide.

UNDER ASPHALT AND CONCRETE PAVEMENT**Application Information**

Spyder 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.

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

Spyder 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 Spyder in suspension.

Application Timing

Spyder 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 Spyder 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, Spyder 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 Spyder 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**

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

Spyder 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

Spyder 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	Wild carrot

Spring to Fall - 2 to 3 oz./acre

Johnsongrass

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

Carolina geranium	Fescue	Little barley
Common chickweed		Wild blackberry

Tank Mix Combinations - Bermudagrass (South Only)

Apply 1 to 2 oz. Spyder 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.

Centipedegrass Release**Application timing**

Apply 1 to 2 ounces of Spyder 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. Spyder 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. Spyder 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

Spyder 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	Foxtail	Goldenrod
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IMPORTANT PRECAUTIONS - INDUSTRIAL, UNIMPROVED TURF

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

Spyder 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.

Spyder application on turf that is under stress from drought, insects, disease, cold temperatures or late spring frost may result in injury.

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

SPRAY EQUIPMENT

Following a Spyder application, 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 Spyder can kill or severely injure most crops.

BROADCAST APPLICATION**Ground**

Use 15 to 40 gals. of water per acre when applying Spyder 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)

Use 5 to 15 gals. of water per acre when applying Spyder. 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 Spyder.
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 Spyder 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:

1. Caution: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
2. Steam-cleaning aerial spray tanks is recommended before performing the above cleanout procedure to facilitate the removal of any caked deposits.
3. When Spyder 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 effect 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 Spyder may injure or kill most crops. Injury may be more severe when the crops are irrigated.

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 Spyder. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for Spyder 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 Spyder on crops. The mixing and application

equipment may be used for forestry and noncrop applications only.

If noncrop or forested sites treated with Spyder 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 Spyder application. To avoid damage to crops planted in these areas, and to ensure complete Spyder 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: Triple rinse (or equivalent) the container. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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