



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

1 JUL 2008

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

George Meindl  
Nufarm Americas Inc.  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527

Dear Mr. Meindl:

SUBJECT: MCPA Reregistration Label Amendment  
Riverdale Cool Power Selective IVM Herbicide  
EPA Registration No. 228-395

The label referred to above, submitted in accordance with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable with the following provisions:

1. The name of the product on the labeling is not the same as indicated in Agency records. The name of the product is: "Riverdale Cool Power Selective IVM Herbicide." Please revise this on the label.
2. In the "Hazards to Humans and Domestic Animals" section of the labeling make the following revisions:
  - a. In the fifth sentence, which begins: "Wear long-sleeved shirt..." add the following language after "gloves": "(barrier laminate, butyl rubber, nitrile rubber, viton, selection category F)."
  - b. Move the following statement to the "Personal Protective Equipment (PPE)" section of the labeling: "Remove and wash contaminated clothing before reuse. Users should remove clothing immediately if pesticide gets inside. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing, when wash thoroughly and change into clean clothing."
  - c. Delete the following statement, which appears in the "PPE" section of the labeling: "Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are given, use detergent and hot water. Keep and wash PPE separately from other laundry."
  - d. Relocate the text "Do not enter or allow others to enter the treated areas until spray has dried.", to the "Directions for Use" section under the heading, "Use Precautions".

e. Per the MCPP-p RED and the acute toxicity review, the PPE section must be revised to read:

“Some materials that are chemical-resistant to this product are made of barrier laminate, butyl rubber, nitrile rubber, or viton. If you want more options, follow the instructions for category F on an EPA chemical-resistant category selection chart.

Mixers, loaders, applicators, flaggers and other handlers must wear:

- Long sleeved shirt and long pants,
- Shoes plus socks, and
- Chemical-resistant gloves (except for pilots).

Additional PPE requirements for mixers and loaders supporting aerial application to rangelands, pasture lands, or noncropland. These mixers/loaders also must wear:

- chemical-resistant apron, and
- a NIOSH-approved respirator with a dust/mist filter with MSHA/NIOSH approval number prefix TC-21C or any N,R, P or HE filter.

See engineering controls of additional requirements.”

3. Per the MCPA RED, the Environmental Hazard section must be revised as specified below:

“Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. Runoff of this product be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

MCPA has properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.”

The text “MCPA may be toxic to fish, aquatic invertebrates and aquatic plants,” as originally required in the RED is not needed for MCPA and should be deleted from the label.

4. Spray drift text appearing on Page 4 of the label (“Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. 1. The distance of the outer most....**Sensitive Areas:** The pesticide should only be applied when

the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, know habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas)” is either duplicated or conflicts with text appearing in other sections of the label and must be deleted.

5. Since this product contains 3 active ingredients, the label must contain the most restrictive/protective text. Per the Triclopyr RED, “...all labels that contain range and pasture sites, including rights of way, fence rows, or any area where grazing or harvesting is allowed [must]:

- 1) remove all preharvest and pregrazing intervals for grass forage except for the existing restriction against grazing lactating dairy cattle until the next growing season;
- 2) specify a 14-day PHI for grass hay; and
- 3) retain the existing pre-slaughter interval of 3 days.

Since the label contains use on pasture and rangeland, rights of way, and fence rows, the label must be revised to contain these restrictions and any conflicting text must be removed from the label.

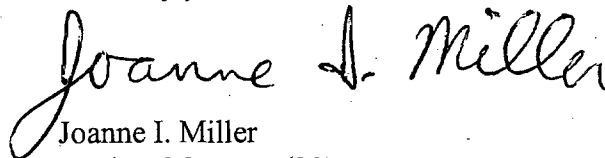
6. Rate restrictions text on Page 3 of the label must be revised to read:

“For all uses, except for spot treatment on rights of way:  
Do not apply more than 1.5 lbs ae MCPA per acre per year. Do not apply more than 2 applications per year with a minimum retreatment interval of 21 days.”

For spot treatment on rights of way:  
Do not apply more than 3.0 lbs ae MCPA per acre per year.”

Please note that final product reregistration cannot be considered until after all active ingredients in this product are eligible for reregistration.

Sincerely yours,



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

Enclosure

# COOL POWER®

## Selective IVM Herbicide

FOR THE CONTROL OF WOODY PLANTS AND BROADLEAF WEEDS ON RANGELAND, PERMANENT GRASS PASTURES, ROADSIDES, RIGHTS-OF WAY, AND CONSERVATION RESERVE PROGRAM (CRP) ACRES (INCLUDING FENCE ROWS AND NON-IRRIGATION DITCH BANKS WITHIN THESE LISTED AREAS).

CONTAINS MCPA, TRICLOPYR AND DICAMBA

ONE GALLON COVERS UP TO 4 ACRES

**ACTIVE INGREDIENT:**

Isooctyl (2-ethylhexyl) Ester of 2-Methyl-4-Chlorophenoxyacetic Acid*	56.14%
Butoxyethanol Ester of 3,5,6-Trichloro-2-Pyridinyloxyacetic Acid**	5.00%
Dicamba (3,6-Dichloro-o-Anisic Acid)***	3.60%

**OTHER INGREDIENTS:**

Contains Petroleum Distillates	TOTAL	100.0%
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Contains petroleum distillates

Acid Equivalent: triclopyr	31.8%, 3 lbs./gal.
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Isomer Specific AOAC Method, Equivalent to:

* MCPA Acid	36.0%, 3.0 lbs./gal.
** Triclopyr Acid	3.6%, 0.3 lbs./gal.
*** Dicamba Acid	3.6%, 0.3 lbs./gal.

### KEEP OUT OF REACH OF CHILDREN CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle.  
(If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300  
For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-395  
EPA EST. NO. 228-IL-1

MANUFACTURED BY  
NUFARM AMERICAS INC.  
BURR RIDGE, IL 60527



NET CONTENTS      GALLONS

000228-00395.20061103.pending RED

**ACCEPTED**  
with **COMMENTS**  
In EPA Letter Dated:

**1 JUL 2009**

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

228-395

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

Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Wear long-sleeved shirt and long pants, socks, shoes and gloves. Remove and wash contaminated clothing before reuse. Users should remove clothing immediately if pesticide gets inside. Users should remove PPE immediately after handling this product. Wash the outside of gloves before removing, then wash thoroughly and change into clean clothing. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are given, use detergent and hot water. Keep and wash PPE separately from other laundry. Do not enter or allow others to enter the treated area until spray has dried.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on the EPA chemical resistant category selection chart.

**Mixers, loaders, applicators and other handlers must wear: long sleeved shirt and long pants, shoes plus socks and chemical resistant gloves when mixing, loading or using any hand-held equipment.**

**Additional PPE requirements for mixers and loaders supporting aerial application to rangelands, pasture lands or non-cropland. These mixer/loaders also must wear: a chemical-resistant apron and a NIOSH- approved respirator with a dust/mist filter with MSHA/NIOSH approval number prefix TC-21C or any N2, R, P or HE filter. See engineering controls for additional requirements.**

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, 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.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**Enclosed Cockpits/Engineering Controls:**

Pilots must use an enclosed cockpit that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]

**FIRST AID**

<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<p>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.</p>

**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 1-877-325-1840 for emergency medical treatment information.

**NOTE TO PHYSICIAN**

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

**ENVIRONMENTAL HAZARDS**

Drift or runoff may adversely affect non-target plants and may be hazardous to aquatic organisms in water adjacent to treated areas. MCPA may be toxic to fish, aquatic invertebrates and aquatic plants. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark.

MCPA has properties and characteristics associated with chemicals detected in groundwater. The use of this product in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollution Discharge Elimination (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local

sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. READ ENTIRE LABEL. 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 through drift. Only protected handlers may be in the area during application.

For Pasture/Rangeland and Noncropland Rights-of-Way, do not apply more than 1.5 lb ae/acre per year. Do not apply more than 2 broadcast applications per year with a minimum retreatment interval of 21 days.

For spot treatments on Noncropland Rights-of-Way, do not apply more than 3.0 lb ae/acre per year.

**GENERAL INFORMATION**

This product is a stable oil soluble, emulsifiable liquid product containing a mixture of three herbicides. It is recommended for the control of listed susceptible woody plants and annual and perennial broadleaf weeds on rangelands, permanent grass pastures, and conservation reserve program (CRP) acres (including fence rows and non-irrigation ditch banks within these areas). This product may be applied to woody or herbaceous broadleaf plants as a foliar spray or as a basal bark or to cut stump application to woody plants. As a foliar spray, this product will control only herbaceous plants that have emerged from the soil or woody plants that are in full leaf at the time of application.

**USE PRECAUTIONS**

Maximum control (or killing) of weeds will be obtained from Spring or early Fall applications when weeds are actively growing. Use the higher rate for hard-to-control (or kill) weeds. Do not exceed specified dosages for any area.

When tank-mixing, follow all applicable use directions, precautions, and limitations on the respective product labels.

Many forbs (herbaceous broadleaves) are susceptible to this product. Do not spray pastures containing desirable forbs, especially legumes such as clover, unless injury or loss of such plants can be tolerated. However, the stand and growth of established grasses usually is improved after spraying, especially when rainfall is adequate and grazing is deferred.

Established grasses are tolerant to this product, but newly seeded grasses may be injured until well established as indicated by tillering, development of a secondary root system and vigorous growth. Do not reseed treated areas for a minimum of three weeks after treatment.

Do not apply this product directly to, or otherwise permit it to come into direct contact with cotton, grapes, peanuts, soybeans, tobacco, vegetable crops, flowers, citrus or other desirable broadleaf plants and do not permit spray mists containing it to drift onto them.

Do not apply directly to irrigation ditches or water used for irrigation or domestic purposes.

**SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and grower are responsible for considering all of these factors when making decision.

Apply only as a medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles.

Apply only when the wind speed is 2-10 mph at the application site.

Additional requirements for aerial applications:

The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.

Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above crop canopy.

When applications are made with a cross wind, the swath will be displaced downward. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

Do not make application into temperature inversions.

Additional requirements for ground boom application:

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

**Avoid Injurious Spray Drift**

Applications should be made only when there is little or no hazard from spray drift. Very small quantities of spray, which may not be visible, may seriously injure susceptible plants. Do not spray when wind is blowing toward susceptible crops or ornamental plants near enough to be injured. It is suggested that a continuous smoke column at or near the spray site or a smoke generator on the spray equipment be used to detect air movement, lapse conditions, or temperature inversions (stable air). If the smoke layers or indicates a potential of hazardous spray drift, do not spray.

**Ground Equipment:** With ground equipment, spray drift can be lessened by keeping the spray boom as low as possible; by applying 20 gallons or more of spray per acre; by the use of a drift control and deposition aid cleared for application to growing crops; by keeping the operating spray pressures at the lower end of the manufacturers recommended pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when the wind velocity is low (Follow state regulations). Avoid calm conditions which may be conducive to air inversions. In hand-gun applications, select the minimum spray pressure that will provide adequate plant coverage (without forming a mist). Do not apply with hollow cone-type insecticide or

other nozzles that produce a fine-droplet spray. Do not use a mistblower.

**Aerial Application:** This product may be aerially applied by fixed wing aircraft or helicopter. For aerial applications, use a drift control system such as Microfoil or Thru-Valve boom, or use a drift control additive cleared for application to growing crops with conventional dispersal equipment. Keep spray pressures low enough to provide coarse spray droplets. Spray boom should be no longer than 3/4 of the rotor or wing length. Do not use a spray thickening agent with the Microfoil or the Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when the wind velocity is low (Follow state regulations). Avoid calm conditions which may be conducive to air inversions.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they shall be observed. The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

**Information On Droplet Size:** The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. 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).

**Controlling Droplet Size:** The most effective way to reduce drift potential is to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets. Pressure - not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing the minimum number of nozzles that provide uniform coverage.

Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential. 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. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

**Boom Length:** For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

**Application Height:** Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

**Swath Adjustment:** when applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.)

**Wind:** Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. 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 low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

**Temperature Inversions:** Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures 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 an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive Areas:** The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

### MIXING DIRECTIONS

#### Oil-Water Emulsions

Oil-water emulsions may be prepared using diesel fuel, fuel oil, or kerosene plus an emulsifier such as Sponto 712 or Triton X-100. Use a jar test to check spray mix compatibility before preparing oil-water emulsion sprays in the mixing tank.

**Ground Application:** Add oil to the spray mix at a rate of 5 to 10% of the total mix, up to a maximum of 1 gallon of oil per acre, using agricultural spray emulsifiers according to mixing instructions below.

**Aerial Application:** Use oil and water in the spray mixture in a 1:5 ratio (1 part oil to 5 parts water), up to a maximum of 1 gallon of oil per acre according to mixing instructions below.

An agricultural surfactant at the manufacturer's recommended rate may be added to the spray mixture to provide improved wetting of foliage. To help minimize spray drift, a drift control and deposition aid cleared for application to growing crops is recommended.

**Spray volume should be sufficient to obtain complete and uniform foliar coverage.** For aerial application apply at least 2 gallons of total spray volume per acre. For ground application, apply 10 or more gallons of total spray volume per acre. Use higher spray volumes for ground or aerial application to ensure adequate coverage with increased depth and density of foliage, particularly for treatment of woody plants or as indicated in the "Treatment Recommendation" section of this label.

This product may be foliar applied by diluting with water or by preparing an oil-water emulsion. For woody plant control, an oil-water emulsion will perform more dependably under a broader range of conditions than a straight water dilution and is especially recommended for aerial applications.

### PLANTS CONTROLLED WOODY PLANTS

alder  
ash  
aspen  
beech  
birch  
blackbrush  
cascara  
ceanothus  
cherry†  
cottonwood  
dogwood  
elderberry  
elm (except winged elm)  
granjeno

guajillo  
guava  
hawthorn  
huisache (suppression)  
lantana†  
locust  
maple (except bigleaf and vine)  
milkweed vine†  
oaks  
Osage orange  
pepper vine†  
persimmon, eastern  
poison ivy

poison oak  
poplar  
saltbush (Silverm myrtle)†  
sassafras  
sumac  
trumpet creeper†  
twisted acacia  
Virginia creeper†  
wax myrtle (top growth)  
wild roses  
willow  
willow primrose

†basal or dormant stem applications only

### ANNUAL, BIENNIAL AND PERENNIAL BROADLEAF WEEDS

beggarweed  
bindweed  
black medic  
buckhorn  
burdock  
buttercup  
canada thistle  
carpetweed  
catnip  
chamise  
chickweed  
chicory  
cinquefoil  
clover  
cocklebur  
coffeeweed  
cornflower  
cornspeedwell  
curly dock  
dandelion (top growth)  
dock  
dog fennel  
english daisy  
florida pusley  
frenchweed  
goldenrod  
ground ivy  
hawkweed

healall  
heartleaf drymary  
henbit  
jimsonweed  
knawel  
knotweed  
kochia  
lambsquarter  
lespedeza  
little Starwort  
mallow  
matchweed  
morningglory  
oxalis (Stricta and corniculata)  
parsley-piert  
pennywort  
pepperweed  
pigweed  
plantain  
poison ivy  
poison oak  
purslane  
ragweed  
red clover  
red sorrel  
sericea lespedeza  
sheep sorrel

shepherdspurse  
smartweed  
sowthistle  
speedwell  
spiderwort  
spotted catsear  
spurge  
spurweed  
stinging nettle  
stitchwort  
sulfur cinquefoil  
thistle  
toadflax  
tropical soda apple  
veronica  
vetch  
wild aster  
wild carrot (top growth)  
wild garlic  
wild geranium  
wild lettuce  
wild onion  
wild radish  
wild violet  
wood sorrel  
yarrow



### APPLICATION METHODS AND TREATMENT RECOMMENDATIONS

#### Rangeland and Permanent Grass Pasture

There is a maximum single application rate of 1 lb. ae/A and only one application per growing season. There is only a preharvest and pregrazing interval for grass forage which is a restriction against grazing lactating dairy cattle until the next growing season. There is a 14 day PHI for grass hay and a pre-slaughter interval of 3 days.

#### High-Volume Foliar Treatment of Individual Plants Using Ground Equipment

For control of susceptible woody plants, use this product alone or in tank-mix combination at the recommended rate to make 100 gallons of spray mixture. To control a broader spectrum of woody plants and broadleaf weeds this product may be tank-mixed with recommended rates of other herbicides (see application rates table below). When tank-mixing, follow all applicable use directions, precautions, and limitations on the respective product labels.

#### TANK MIXING

This product may be applied in tank mix combination with labeled rates of other herbicides provided

- (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and
- (2) tank mixing is not prohibited by the label of the tank mix product.

#### TANK MIXING PRECAUTIONS

Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.

- Do not exceed recommended application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

**Tank Mix Compatibility Testing:** A jar test is recommended prior to tank mixing to ensure compatibility of this product and other herbicides or spray carriers. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 2 hour. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

#### Mixing Order:

1. Add half the needed water to the mixing tank and start agitation.
2. Add water soluble herbicide (if used).
3. Prepare a premix of oil, emulsifier (if oil-water emulsion), and this product plus other oil-soluble herbicide (if used), e.g. 2,4-D Ester. Continue agitation and add premix to the spray tank. **Note:** Do not allow water or mixtures containing water to get into the premix or this product since a thick "invert" (water in oil) emulsion may be formed that will be difficult to break. Such an emulsion may also be formed if the premix or this product is put in the mixing tank before the addition of water.
4. Add the remaining water. Also during final filling of the tank add a drift control and deposition aid cleared for application to growing crops (if used), plus an agricultural surfactant (if a water dilution rather than an oil-water emulsion spray is used). Continuous agitation of the spray mixture during both mixing and application is necessary to ensure spray uniformity.

Application Rates per 100 Gallons of Spray			
Product		Tank-Mix Product	Rate
1.1 to 2.2 qt	plus	Grazon P + D herbicide	4 qt
1.1 to 2.2 qt	plus	2, 4-D low volatile ester herbicide	1-2 qt
1.1 to 2.2 qt	plus	Tordon* 22K herbicide	1-2 qt
2.2 qt	plus	Reclaim* <sup>1,2</sup> herbicide	2 qt

<sup>1</sup> Reclaim\* herbicide is registered for use only in Texas, Oklahoma and New Mexico.

<sup>2</sup> See directions for "Mesquite control using high volume foliar (also called leaf spray) application" below.

Depending on the size and density of the woody plants involved, apply sufficient spray volume to thoroughly wet all leaves, stems, and root collars. To minimize spray drift, select the minimum spray pressure that will provide adequate plant coverage without forming a mist and direct sprays no higher than tops of target woody plants. A drift control additive cleared for application to growing crops is recommended to reduce spray drift. Before using any recommended tank mixture read the directions and all use precautions on both labels.

For best results, foliar spray applications should be made when woody plants and weeds are actively growing. **Note:** See "Foliar Broadcast Treatment" section for information on environmental factors influencing control results as well as recommendations concerning application timing.

#### Mesquite control using high volume foliar (also called leaf spray) application:

For control of mesquite infestations of low to moderate density, this product and Reclaim may be applied in tank-mixture to individual plants with backpack or hand-held sprayers or a vehicle-mounted sprayer with hand-held spray wand or spray gun. For individual plant treatment, use 2.2 quarts of this product in combination with 2 quarts of Reclaim per 100 gallons of total spray solution. Apply in water

or as an oil-water emulsion as described in "Mixing Directions". If using an oil-water emulsion, add the oil at a rate of 5% of the total spray volume. Apply as a complete spray-to-wet foliar application, including all leaves. Thorough coverage is necessary for good results, but it is not necessary to spray to the point of runoff. Do not apply when mesquite foliage is wet. The total amount of Reclaim applied should not exceed 1-1/3 pints per acre. For best results, follow information given below concerning effect of environmental conditions and applications timing on control. This application method works best for brush less than 8 feet tall, since efficient treatment and thorough coverage of taller brush is difficult to achieve with this method. To minimize drift, select a spray nozzle and pressure that will provide good coverage while forming a coarse spray. Additionally, drift may be reduced by using the minimum pressure necessary to obtain plant coverage without forming a mist and by directing sprays no higher than tops of target plants. If desired, a spray dye may be added to the spray mixture to mark the treated plants.

**FOLIAR BROADCAST TREATMENT USING AERIAL OR GROUND EQUIPMENT**

**Environmental conditions and application timing influence brush and weed control results.**

**General:** For best results, foliar applications should be made when woody plants and weeds are actively growing. For woody species, make applications after the rapid growth period of early spring when leaf tissue is fully expanded and terminal growth has slowed. Brush regrowth should be at least 4 ft. in height prior to treatment to insure adequate foliage for herbicide absorption. Adequate soil moisture before and after treatment as well as the presence of healthy foliage at the time of application are important factors contributing to optimal herbicidal activity.

**Mesquite:** The herbicidal response of mesquite is strongly influenced by foliage condition, stage of growth and environmental conditions. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature is above 75°F at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Application should be made within 60 days after the 75°F minimum soil temperature at the 12 to 18-inch depth has been reached. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. Do not treat if mesquite exhibits new (light green) terminal growth in response to recent heavy rainfall during the growing season. Rate of soil warm-up at the 12 to 18-inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured (clay) soils and dry soils warm up more quickly than wet soils. Mesquite regrowth should be at least 4 ft. in height prior to treatment to insure adequate foliage for herbicide absorption.

**Mesquite Only**

Apply this product at .55 to 1.1 pint per acre in combination with 2/3 to 1-1/3 pint per acre of Reclaim. See label for Reclaim for additional treatment recommendations and information on mesquite control. Apply aerially as a oil:water emulsion in 4 or more gallons total volume per acre or in 10 or more gallons total volume per acre using ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

**Mesquite and Pricklypear Cactus**

Where pricklypear cactus is a target species in association with mesquite, apply a tank mix of .55 to 1.1 pints of this product with 1 to 2 pints of Tordon 22K per acre. (The 2 pint per acre rate of Tordon 22K will provide a higher and more uniform plant kill of pricklypear.) Tordon 22K may also be applied in combination with Reclaim to control pricklypear while providing improved control of mesquite. See labels for Tordon 22K and Reclaim for additional information and treatment recommendations. Apply aerially as a oil:water emulsion in 4 or more gallons total volume per acre or in 10 or more gallons total volume per acre using ground equipment. If mesquite canopy is dense, use higher spray volumes. Use a maximum of 1 gallon of oil per acre for aerial or ground application.

**South Texas Mixed Brush (Mesquite, Pricklypear Cactus, Blackbrush, Twisted Acacia and Granjeno**

Use 1.1 to 2.2 pints of this product in a tank mix with 2 pints of Tordon 22K per acre where pricklypear is a problem or with 2/3 to 1-1/3 pints of Reclaim per acre where mesquite is the prevalent species. This product will contribute to control of non-legume species such as granjeno and oaks. However, where woody legume species are predominate Tordon 22K at 2 pints per acre may be applied in combination with Reclaim at 1/3 to 1-1/3 pints per acre for improved control. See labels for Tordon 22K and Reclaim for additional information and recommendations. Apply aerially in a oil:water emulsion in 4 or more gallons total volume per acre or in 15 or more gallons total volume per acre using ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application. The use of an oil:water emulsion is critical and good spray coverage is essential for acceptable brush control.

**Sand Shinnery Oak Suppression**

In Texas, New Mexico and Oklahoma, apply this product alone at a rate of .55 to 2.2 pints per acre for suppression of shinnery oak growing on sandy soils. Grass response following suppression may be impressive where rainfall is adequate. Grazing deferment following application together with proper grazing management is recommended to allow for the reestablishment of grass stands.

**Post Oak and Blackjack Oak - Regrowth Stands**

Apply in the late spring (May) to early summer (June-July) when oak leaves are fully developed (expanded). Use 2.2 quarts of this product alone or in tank mix combination with 0.5 to 1.0 pints of 2,4-D low-volatile ester herbicide per acre. Apply in an oil:water emulsion or water surfactant dilution (see mixing instructions) in sufficient total volume per acre to assure thorough coverage; usually 5 gallons per acre or more by fixed-wing aircraft or helicopter or 15 to 25 gallons per acre by ground equipment. Use a maximum of 1 gallon of oil per acre for aerial or ground application. Lower rates may be used for suppression only. Control will require at least 3 consecutive treatments.

**Note:** Regrowth plants have a large root mass relative to top growth when compared to undisturbed plants. In order for top growth to intercept and translocate enough herbicide to control the roots, broadcast treatment should be delayed until top growth is at least four feet tall.

**High volume foliar treatment:** For regrowth less than four feet tall, apply 2.2 quarts of this product per 100 gallons of water and 2 quarts of Ag surfactant alone or in tank mix combination with 1 gallon of Grazon P+D or 1 quart of Tordon 22K. Apply as a high volume

leaf-stem treatment to individual plants using ground equipment.

**Post Oak and Blackjack Oak - Mature Stands**

For control of mature stands (greater than 5 feet tall), apply the product at 2.2 quarts per acre in late spring (May) to early summer (June-July) when oak leaves are fully developed (expanded). Understory species such as winged elm, buckbrush, tree huckleberry and ash occurring in some areas will not be controlled (only suppressed or defoliated) by this product alone. Where these understory species occur, control may be improved by tank mixing 2.2 quarts of this product with 1 quart of Tordon 22K or 4 quarts of Grazon P+D per acre. For best results, apply as a oil/water emulsion in a total volume of 5 gallons per acre or more by fixed-wing aircraft or helicopter.

**Other Susceptible Woody Plants**

**(See Listing of Woody Plants Controlled by this product)**

Use 2.2 to 4.4 pints of this product alone or in combination with 2 to 3 quarts of 3.8 lb/gal 2,4-D low volatile ester or amine formulation. When difficult-to-control species such as ash, choke cherry, elm, maple or oaks are prevalent, and during applications made when plants are mature late in the summer or during drought conditions, use the higher rates of this product, alone or with 2,4-D. This product may also be applied in tank mixture with Grazon P+D or Tordon 2K for increased control of certain species. See labels for Grazon P+D and Tordon 22K for additional information and treatment recommendations. Apply aerially in 4 or more gallons total volume per acre or in 10 or more gallons total volume per acre using ground equipment. For best results on blackberry, apply during or after bloom.

For management of kudzu, apply this product at 1.1 quart per acre. Repeat application may be necessary to achieve desired level of control.

**Susceptible Broadleaf Weeds**

**(See Listing Of Annual, Biennial And Perennial Broadleaf Weeds Controlled by this product)**

**General:** Use at 2.2 pints per acre in a water spray. Apply as a broadcast spray in a total volume of 10 or more gallons per acre by ground equipment or aerially in a total volume of 2 or more gallons per acre. Apply at anytime the weeds are actively growing. Use this product at .55 to 3.3 pints may be tank-mixed with 1 to 2 quarts of 3.8 lb/gal 2,4-D amine or low volatile ester.

**RECOMMENDATIONS FOR SPECIFIC BROADLEAF WEEDS:**

Weeds Controlled	Rate per Acre	Specific Use Recommendations
sericea lespedeza	1.1 to 2.2	For best results, apply after maximum foliage development in the late spring to early summer, but prior to bloom
sulfer cinquefoil	1.1 to 2.2 pt	For best results, apply to plants in the rosette stage.
topical soda apple	2.2 pt	Apply when tropical soda apple plants reach the first flower stage. For best results, apply in a total spray volume of 40 gallons per acre using ground equipment. An agricultural surfactant may be added at the manufacturer's recommended rate to provide more complete wetting and coverage of the foliage. Spot treatments may be used to control sparse plants stands. For spot treatment use a 1.1 to 1.65 solution of this product in water (1.1 to 1.65 gallons of this product in 100 gallons total spray mixture) and spray the entire plant to completely wet the foliage.  In Florida, control of tropical soda apple may be improved by using the following management practices; <ul style="list-style-type: none"> <li>• Mow plants to a height of 3 inches every 50 to 60 days or whenever they reach flowering. Continue the mowing operation through April.</li> <li>• In late May to June (50 to 60 days after the April mowing) apply this product as a broadcast treatment as recommended above.</li> <li>• Use spot treatment as recommended above to control any remaining plants or thin stands of plants that germinate following a broadcast treatment.</li> </ul>

**Individual Plant Treatment Non-Foliar Applications**

**Low Volume Basal Bark treatment (Also called Stem Spray Method)**

Susceptible woody plants such as mesquite, huisache, red maple, red and white oak, birches and aspen, with stems less than 6 inches in basal diameter, can be controlled by low volume basal applications of this product. Mix 20 to 30 gallons of this product in enough oil to make 100 gallons of total spray mixture. Apply with a backpack or knapsack (but not with a mistblower) using low pressure and a solid cone or flat-fan nozzle. Spray the basal parts of the brush and tree trunks to a height of 12 to 15 inches from the ground in a manner which thoroughly wets the lower stem, including the root collar area, but not to the point of runoff. Herbicide concentration should vary with size and susceptibility of species treated. Apply at any time, including the winter months, except when snow or water prevent spraying to the ground line.

**Streamline Basal Bark Treatment**

To control or suppress susceptible woody plants such as mesquite, huisache, red maple, white and red oak, elbowbush, greenbriar,

hackberry, pricklyash, yaupon and wild grape, mix 27.5 to 33 gallons of this product with 10% penetrant such as Cidekick in enough oil to make 100 gallons of spray mixture. Streamline basal bark treatments are most effective on stems less than 4 inches in basal diameter. Apply with a backpack or knapsack sprayer using equipment which provides a directed straight stream spray. Apply the spray in a 2 to 3 inch wide band to one side of stems less than 3 inches in basal diameter. Direct the spray to a point approximately 12 to 24 inches above the ground. Treat both sides of stems which are 3 or more inches in basal diameter. Better control is achieved when spray is applied to thin juvenile bark and above rough thickened mature bark. Vary herbicide concentration with size and susceptibility of the brush being treated. Apply at any time, including winter months, except when snow or water prevents spraying to the desired height above the ground level.

**Note:** Best results with some hardwood species occur when applications are made from approximately 6 weeks prior to leaf expansion in the spring until approximately 2 months after leaf expansion is completed.

**Treatment of Cut Stumps in California**

To control resprouting, apply the undiluted product to wet the area adjacent to the cambium and bark around the entire circumference of freshly cut stumps.

Treatments may be applied throughout the year; however, control may be reduced with treatment during periods of moisture stress as in late summer. Stumps should be cut so that they are approximately level to facilitate uniform product coverage. Use an applicator which can be calibrated to deliver the small amounts of material required.

**Cut Stump Treatment**

To control resprouting of freshly cut stumps of susceptible species, mix 22 to 33 gallons of this product in enough oil to make 100 gallons of spray mixture. Apply with a backpack or knapsack sprayer using low pressures and a solid cone or flat fan nozzle. Spray the sides of the stump and the outer portion of the cut surface, including the cambium in a manner which thoroughly wets the stem and root collar area, but not to the point of runoff. Spray mixture concentration should vary with the size and susceptibility of species treated. Apply at any time, including in winter months, except when snow or water prevent spraying to the ground line.

**Dormant Stem Treatment**

Mix 3.3 to 6.6 quarts of this product in enough oil to make 100 gallons of spray. Apply with knapsack or power spraying equipment, using low pressure (20-40 psi). Treat anytime when brush is dormant and most of the foliage has dropped. Do not apply when snow or water prevent spraying to the ground line. Thoroughly wet the upper parts of the stems and use the remainder needed to wet the lower 12 to 15 inches above the ground to the point of run-off. For root suckering species such as sumac, sassafras and locust, also spray the ground under the plant to cover small root suckers which may not be visible above the soil surface. For oil-water mixture application, mix 6 quarts of this product, 25 gallons of oil and 1.5 gallons of an approved agricultural spray emulsifier such as Sponto 712 or Triton X-100 as indicated in the mixing directions. Treat as above.

**Thinline Basal Bark Treatment**

Control of susceptible woody plants such as red maple, blackberry, dogwood, red and white oak, with stems less than 6 inches in diameter, can be achieved with applications of this undiluted product in a thin stream to all sides of the stems about 6 inches above the base of the plants. The Stream should be directed horizontally to apply a narrow band of this product around each stem or clump. From 2.2 to 16.5 ml of chemical is required for treatment of single stems and from 27.5 to 110 ml to treat clumps of stems. Use an applicator metered or calibrated to deliver the small amounts required.

**Growing Point and Leaf Base (Crown) Treatment of Yucca**

Mix 14.3 oz. of this product in 5 gallons of spray mixture in diesel or fuel oil. Thoroughly wet the center of the plant including growing point and leaf bases to the soil surface. Complete coverage of leaves is not necessary.

**Treatment of Conservation Reserve Program (CRP) Acres (Established Permanent Grass Stands)**

Use this product on CRP acres only after perennial grasses are well established (see precaution for newly seeded grasses under "General Use Precautions").

**Restrictions:** When applying to CRP lands, follow all applicable state and federal regulations. Follow the most severe grazing restriction imposed by the pesticide label or by the USDA Acreage Conservation Reserve Program. After that time period, follow local (CRP) guidelines regarding cropping and haying restrictions. Do not use this product if damage or loss of existing legumes or other desirable broadleaf plants cannot be tolerated.

**Broadcast Application (Ground or Air):** For control of listed broadleaf weeds, apply this product as a broadcast spray at 1.1 to 2.2 pints/acre or up to 1.65 quarts per acre for deep-rooted perennial broadleaf and susceptible woody species. Use a total spray volume of 10 or more gallons per acre for ground broadcast or 2 or more gallons per acre by air. For other woody plant treatment methods, including high volume foliar, basal bark or cut stump treatment, refer to the preceding "Application Methods and Treatment Recommendations" for appropriate use directions.

On CRP acres, apply no more than 1.65 quarts/acre of this product per growing season.

**Roadsides (Including Aprons and Guard Rails), Rights-of-Way, and Other Similar Non-Crop Areas:** For the control of broadleaf weeds, mix at a rate of 1/4 to 3/4 gallon of this product per 50 to 300 gallons of water. This mixture will cover 1 acre. Thoroughly saturate all weeds with spray mixture. Apply any time between the time when plants come into full leaf (Spring) to when the plants begin to go dormant. Best results are obtained when weeds are young and actively growing. Do not cut weeds until herbicide has translocated throughout the plant causing root death. For small broadleaf weeds, use the lower rate. Heavy, dense stands require the higher rate of 3 ounces of this product per gallon of water and spray to thoroughly wet all foliage.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Always store pesticides in a secured warehouse or storage building. Do not store near seeds, fertilizers, insecticides or fungicides. Containers should be opened in well-ventilated area. Keep container tightly sealed when not in use. Do not stack cardboard cases more than two pallets high.

**PESTICIDE DISPOSAL:** If container is damaged or if pesticide has leaked contain all spillage. Absorb and clean up all spilled material with granules or sand. Place in a closed labeled container for proper 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). Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or if allowed by State and local authorities by burning. If burned, stay out of smoke.

Local conditions may affect the use of this chemical as shown on this label. Consult State Experimental Station or Extension Service weed specialist for specific recommendations for local weed problems and for information on possible lower dosages.

**WARRANTY DISCLAIMER**

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