



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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

FEB -2 2009

Mr. Clyde L. Livingston  
Monsanto Company  
1300 I (Eye) Street, NW, Suite 450 East  
Washington, DC 20005

Dear Mr. Livingston:

Subject: Maverick and Outrider Herbicide (Reformat and Revise Master Label)  
EPA Registration No. 524-500  
Application Dated November 14, 2008

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act as amended is acceptable provided you make the following change before you release the product for shipment.

--On page 41, under Aerial Application, revise the second sentence in the second paragraph to read "Apply the **specified** rate of this product in the 5-30 gallons of water per acre.—

Submit one copy of your final printed labeling before you release the product for shipment. Amended labeling is enclosed for your records.

Sincerely,

*Vicki K. Walters for*  
James A. Tompkins  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

# MASTER LABEL FOR EPA REG. NO. 524-500

Registered Brand Names:

**Maverick® Herbicide**  
**Outrider® Herbicide**

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I. MAIN LABEL FOR MAVERICK® HERBICIDE

**MAVERICK®**  
Herbicide by Monsanto

**Complete Directions For Use Pamphlet**

EPA Reg. No. 524-500

**WATER DISPERSIBLE GRANULE**  
Maverick herbicide is a selective herbicide for the control of certain annual and perennial grasses and broadleaf weeds in winter and spring wheat.

Read the entire label before using this product.

Use only according to label instructions.

Read "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

*Alternate language:*

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

**1.0 INGREDIENTS**

ACTIVE INGREDIENT :

Sulfosulfuron.....	75.0%
OTHER INGREDIENTS.....	25.0%
	100.0%

Product is protected by U.S. Patent Nos. 5,017,212 and 5,534,482. No license granted under any non U.S. Patent(s).

[insert Net Contents:]	
[insert Est. No.]	[insert print plate no.]

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

(314) 694-4000

4/46  
ACCEPTED  
FOR COMMENTS  
In EPA Letter Dated:  
FEB -2 2009  
Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
524-500

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

### CAUTION!

#### CAUSES MODERATE EYE IRRITATION

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling.

FIRST AID	
IF IN EYES	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.</li><li>• Call a poison control center or physician for treatment advice.</li></ul>
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or physician, or going for treatment.</li><li>• In case of emergency involving this product, call collect, day or night, <b>(314) 694-4000</b>.</li><li>• This product is identified as <b>Maverick herbicide, EPA Reg. No. 524-500</b>.</li></ul>	

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. 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.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural

pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

**User Safety Recommendations**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**3.2 Environmental Hazards**

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is highly toxic to non-target plants. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

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**DIRECTIONS FOR USE**

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It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the 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 12 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
- Chemical-resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

#### 4.0 STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120°F). Do not store under moist conditions.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container.

**Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

[Alternate language: See individual container label for pesticide disposal or handling information.]

#### 5.0 GENERAL PRODUCT INFORMATION

**Product Description:** Maverick herbicide is a selective herbicide for the control of certain grasses and broadleaf weeds in winter and spring wheat. Refer to the appropriate sections of this label for a listing of weeds controlled in each crop.

The level of weed control following Maverick herbicide application is dependent upon application rate, weed species, size of the weed at time of application, and growing conditions. For best results, postemergence applications should be made to actively

growing weeds at the growth stages defined on this label. Heavy infestations should be treated early before the weeds become too competitive with the crop.

**Time to Symptoms:** Soon after Maverick herbicide is applied, growth of susceptible weeds is inhibited and susceptible weeds are no longer competitive with the crop. Following growth inhibition, affected plants may appear dark green and stunted, affected leaves will turn yellow and/or red, and the growing point of the plant dies. These visible effects of control may not be observed for 1 to 3 weeks after application.

**Preharvest Interval:** Wheat forage may be grazed immediately after application of Maverick herbicide. Do not harvest wheat for hay within 30 days of Maverick application. Do not harvest wheat for grain within 55 days of Maverick application.

**Weed Resistance:** Biotypes of certain plants, particularly broadleaf weeds, have demonstrated resistance to sulfonylurea herbicides or other herbicides with the same mode of action. Biotypes are naturally occurring individuals of a species that are identical in appearance but have slightly different genetic composition.

Weeds showing resistance to the sulfonylurea mode of action can also be expected to be resistant to Maverick herbicide. To prevent or delay the development of broadleaf weed resistance, it is recommended that Maverick herbicide be used in tank-mixes with or sequentially applied with an herbicide having a different mode of action and also labeled for the intended application.

To prevent or delay any development of grassy weed resistance, particularly bromus species, use a non-selective herbicide or tillage to keep weeds from flowering and setting seed during fallow periods in a wheat-fallow-wheat production system. Do not use Maverick herbicide for weed control during fallow periods.

## 6.0 MIXING

Thoroughly clean mixing and application equipment prior to mixing spray solution.

Eliminate any risk of siphoning the contents of the spray or mixing tank back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by State or local regulations.

Apply spray solutions within 24 hours after mixing.

### 6.1 Water Carrier

This product mixes readily with water. Mix spray solutions of this product as follows. Fill the spray tank with about three-fourths of the desired final volume. Add the appropriate amount of this product to achieve the desired application rate as defined on this label (see the appropriate section of this label for application rates). Continue the filling process while maintaining agitation. For postemergence applications, add nonionic surfactant near the end of the filling process.

## 6.2 Surfactants and Adjuvants

A nonionic surfactant is required for all postemergence applications of Maverick herbicide and is the only adjuvant required to be added to the spray solution. Use only nonionic surfactants that are approved by EPA for use on food crops and that contain at least 80 percent active ingredient. Nonionic surfactants should be added to a concentration of 0.5 percent by volume (2 quarts per 100 gallons of spray solution), unless otherwise directed. **DO NOT USE NONIONIC SURFACTANTS OR OTHER ADDITIVES THAT ALTER THE pH OF THE SPRAY SOLUTION BELOW pH 5.**

Oil-based adjuvants or adjuvants containing oils are not recommended when this herbicide is tank-mixed with emulsifiable concentrate pesticide formulations.

Do not use low rates of liquid fertilizer as a substitute for surfactant.

## 6.3 pH Adjustment

Spray solutions of between pH 6.0 and 8.0 are required for optimal performance of Maverick herbicide. Failure to adjust the pH of the spray solution may result in reduced weed control. Follow the mixing procedure described on this label and adjust the pH of the spray solution after the addition of nonionic surfactant. To adjust the pH, add between 2 to 4 quarts (depending on the starting pH of your water carrier) of a 7-percent solution of ammonia for every 100 gallons of spray solution.

**CAUTION:** Do not use ammonia with chlorine bleach as your pH adjuster, as dangerous gases will form.

## 6.4 Fluid Fertilizer Carrier

**APPLICATION OF THIS HERBICIDE IN LIQUID FERTILIZER SOLUTIONS MAY RESULT IN LEAF BURN AND REDUCED FORAGE GROWTH.**

This herbicide generally provides most consistent performance when applied with water as the spray carrier and surfactant is added to the spray solution. Liquid nitrogen fertilizer solutions (28-0-0 or 32-0-0) may, however, be used as a spray carrier in place of all or part of the water when the label directions are followed.

**DO NOT USE MAVERICK HERBICIDE IN FERTILIZER SOLUTIONS OF pH 5 OR LESS.**

Fall applications of this herbicide in liquid fertilizer solutions may cause rapid leaf burn, resulting in reduced weed control and reduced forage growth.

Fertilizer solutions should contain less than 50 percent liquid nitrogen and not exceed 30 pounds of actual nitrogen per acre.

Nonionic surfactants should be added at 0.25 percent by volume (1 quart per 100 gallons of spray solution) to spray solutions containing fluid fertilizer.



## 6.5 Tank Mixtures

**Herbicides:** Maverick herbicide can be tank-mixed with other herbicides as directed in the "WINTER WHEAT" and "SPRING WHEAT" sections of this label to provide a broader spectrum of weed control and an alternate mode of herbicidal action. Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities before mixing in the spray tank. For tank mixtures, add individual components to the spray tank in the following sequence: water dispersible granules (this product), water-soluble bags, dry flowables, emulsifiable concentrates, drift control additives, water-soluble liquids, nonionic surfactants.

Refer to each individual product label or supplemental labeling for all products in the tank mixture, and observe all instructions, precautions and limitations on the label, including application rates and restrictions related to soil texture, soil organic matter, wheat growth stage and crop rotation. Use the mixture according to the most restrictive precautionary statements for each product in the tank mixture.

**Insecticides:** Maverick herbicide may be tank-mixed or used sequentially with insecticides labeled for use in wheat, except Malathion.

**DO NOT USE MAVERICK HERBICIDE PLUS MALATHION, AS CROP INJURY MAY RESULT.**

Tank mixtures of Maverick herbicide plus insecticides are not recommended when the wheat crop has significant insect damage, is under drought stress, or when growth is negatively influenced by other environmental stresses, such as nutrient deficiency, poor soil pH, or disease.

Do not apply Maverick herbicide within 60 days of crop emergence where an organophosphate insecticide has been applied as an in-furrow treatment, as crop injury may result.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

This product may be applied using either ground or aerial (fixed-wing or helicopter) spray application equipment. Calibrate spray equipment before use. Use equipment that is capable of continuous and vigorous tank agitation. When tank is full, the agitation system should be capable of creating a rippling or rolling action on the liquid surface.

Apply Maverick herbicide uniformly as a broadcast spray with properly calibrated ground equipment in 5 to 20 gallons of water per acre, or in 10 to 40 gallons of liquid fertilizer solution per acre. Apply with aerial equipment in 5 to 15 gallons of water per acre. Select spray volumes that ensure thorough and uniform weed coverage. Use nozzles that provide optimum spray distribution and coverage at the appropriate spray pressure. Thorough coverage is necessary to provide good weed control. Avoid streaking, skips, overlaps, and spray drift during application.

Monsanto will not be liable for rotational crop injury resulting from spray overlaps during Maverick herbicide applications.

Do not apply this product through any type of irrigation system.

### Equipment Cleaning

Thoroughly clean application equipment with a 1-percent solution of ammonia (one quart of ammonia for every 25 gallons of rinse water) promptly after using this product. Use a sufficient volume of cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Rinse with water and repeat the cleaning procedure with the ammonia solution. Complete the cleaning procedure by rinsing thoroughly with clean water.

If visible residue is present in the spray tank, use a 1-percent solution of ammonia plus 0.25 percent nonionic surfactant (8 fluid ounces for every 25 gallons of rinse water) as the cleaning solution.

## 8.0 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 the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

Care must be used when applying this product to prevent injury to desirable plants and crops. Do not allow the herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted since minute quantities of this product can cause severe damage or destruction to plants on which treatment was not intended. Drift potential increases at wind speeds less than 3 miles per hour or more than 10 miles per hour. However, equipment type, nozzle size, and other factors influence drift potential at any given wind speed. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. Avoid applying at excessive speed or pressure. AVOID WINDLESS AND GUSTY WIND CONDITIONS.

### AERIAL SPRAY DRIFT REQUIREMENTS

1. The distance of the outermost 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 should be observed.

### Importance of 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 the **“Wind”**, **“Temperature and Humidity”**, and **“Temperature Inversions”** sections of this label).

### Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the 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 higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **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. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **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 the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. 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 droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour 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 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 be made 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).

## 9.0 WINTER WHEAT

When applied to winter wheat as directed in this section, the following weeds are either controlled or suppressed by Maverick herbicide as indicated for either preemergence application, postemergence application in the fall, or postemergence application in the spring.

WEED SPECIES	PRE	FALL POST	SPRING POST
<b>Barley, volunteer</b> <i>Hordeum vulgare</i>	C	C	S
<b>Bedstraw, catchweed</b> <i>Galium aparine</i>	S	C	C
<b>Bluegrass, bulbous</b> <i>Poa bulbosa</i>	.	.	C
<b>Bluegrass, roughstalk</b> <i>Poa trivialis</i>	.	C	.
<b>Brome, downy</b> <i>Bromus tectorum</i>	C	C	S

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<b>Brome, Japanese</b> <i>Bromus japonicus</i>	C	C	S
<b>Brome, riggut</b> <i>Bromus rigidus</i>	.	S	S
<b>Chamomile, mayweed</b> <i>Anthemis cotula</i>	.	C	C
<b>Cheat</b> <i>Bromus secalinus</i>	C	C	S
<b>Chess, hairy</b> <i>Bromus commutatus</i>	C	C	S
<b>Chickweed, common</b> <i>Stellaria media</i>	.	S	C
<b>Fiddleneck, tarweed</b> <i>Amsinckia lycopoides</i>	.	S	S
<b>Flixweed</b> <i>Descurainia Sophia</i>	S	S	S
<b>Henbit</b> <i>Lamium amplexicaule</i>	S	S	.
<b>Lady's-thumb</b> <i>Polygonum persicaria</i>	.	.	S
<b>Mustard, tumble</b> <i>Sisymbrium altissimum</i>	S	C	C
<b>Mustard, wild</b> <i>Sinapis arvensis</i>	C	C	C
<b>Oat, wild (fall germinating)</b> <i>Avena fatua</i>	.	S	S
<b>Oat, wild (spring germinating)</b> <i>Avena fatua</i>	.	.	S
<b>Pennycress, field</b> <i>Thlaspi arvense</i>	S	S	S
<b>Quackgrass</b> <i>Elytrigia repens</i>	.	.	C
<b>Rescuegrass</b> <i>Bromus catharticus</i>	.	S	S
<b>Ryegrass, Italian</b> <i>Lolium multiflorum</i>	.	S	S**
<b>Shepherd's-purse</b> <i>Capsella bursa-pastoris</i>	.	.	C
<b>Tansymustard, pinnate</b> <i>Descurainia pinnata</i>	S	S	S
<b>Wallflower, bushy</b> <i>Erysimum repandum</i>	.	C	C

\*\* Spring application will provide suppression only in WA, ID, OR.

C = Control

S = Suppression

. = Not Control or Suppressed

Maverick herbicide can be applied in winter wheat either as a single preemergence application, a single postemergence application, or as a split postemergence application to control or suppress the weeds listed in this section. Best weed control is obtained when soil moisture is adequate to support vigorous wheat and weed growth.

Choose one of the following application scenarios.

### 9.1 Preemergence in Winter Wheat

Apply Maverick herbicide preemergence to winter wheat at 2/3 ounce of product per acre in a single application. Preemergence applications of Maverick herbicide should be applied after drilling wheat but before wheat or weed emergence. Do not use preemergence application if dry soil conditions will cause delayed wheat and/or weed emergence. Preemergence applications under dry conditions make this product vulnerable to wind erosion until fall moisture is received. Under these conditions, wait until crop and weeds have emerged and are showing good vigor, and then follow directions for postemergence application.

Preemergence applications are not recommended for no-till systems or when high crop residue levels (plant material) are present on the soil surface.

### 9.2 Postemergence in Winter Wheat—Single Application

Apply Maverick herbicide at 2/3 ounce of product per acre in a single application when the target weeds listed in this section are actively growing. Use a nonionic surfactant at a concentration of 0.5 percent by volume (2 quarts per 100 gallons of spray solution) with this postemergence application.

In the states of KS, OK, TX and MT, the single postemergence application should be made after the wheat is in the 2-leaf stage, but prior to the jointing stage (Feekes' Scale 6). In all other states, postemergence application should be made after the wheat emerges, but prior to the jointing stage (Feekes' Scale 6).

#### **Brome (Cheat, Downy Brome, Japanese Brome)**

For best control of brome species, apply Maverick herbicide as a single postemergence fall application of 2/3 ounce of product per acre when brome is in the 2- to 3-leaf stage of growth. Best performance with fall application of Maverick herbicide will occur with good soil moisture and/or rainfall soon after application.

For spring postemergence suppression of brome species, apply a single application of 2/3 ounce of this product per acre when brome has recovered from cold weather (majority of foliage is green and not red or purple) and is actively growing. For best control, apply when brome is less than the 5-tiller stage of growth.

#### **Mustards and other winter annual broadleaf weeds**

For fall postemergence control of mustards and other winter annual broadleaf weeds, apply 2/3 ounce of this product per acre in a single application. For best

control, apply when weeds are less than 2 inches in diameter. Best performance with fall application of Maverick herbicide will occur with good soil moisture and/or rainfall soon after application.

For spring postemergence control of winter annual broadleaf weeds, apply 2/3 ounce of this product per acre. For best control, make application when weeds are less than 2 inches in diameter. Tank mixtures with broadleaf herbicides should be used when winter annual broadleaf weeds are greater than 2 inches in diameter.

### 9.3 Postemergence in Winter Wheat—Split Application

[Optional Statement: For use only in the following states: Idaho, Montana, Oregon, Washington, and Wyoming]

As an alternative to a single postemergence application, Maverick herbicide may be applied to winter wheat in a split application. Start with an initial application of 3/8 ounce of product per acre after winter wheat and target weeds have emerged and are beyond the 2-leaf stage, followed by a second application of 3/8 ounce of Maverick herbicide per acre in the spring, no sooner than two weeks following the initial application but prior to boot stage (Feeke's scale 9). Add a nonionic surfactant at a concentration of 0.5 percent by volume (2 quarts per 100 gallons of spray solution) with this postemergence application.

FOR SPLIT APPLICATION ONLY, DO NOT EXCEED ¾ OUNCE OF PRODUCT PER ACRE PER CROPPING SEASON.

### 9.4 Tank Mixtures for Winter Wheat

For additional broadleaf weed control, Maverick herbicide may be applied as a spring postemergence application to winter wheat in a tank mixture with the following herbicides.

2,4-D amine<sup>1,2,3</sup>

2,4-D LV ester<sup>2</sup>

Bronate (bromoxynil + MCPA)

Buctril (bromoxynil)

Buctril 4EC

MCPA amine<sup>1,2,3</sup>

MCPA LV ester<sup>2</sup>

Puma (fenoxaprop)<sup>3</sup>

Sencor 4 (metribuzin)<sup>3,4</sup>

Sencor DF (metribuzin)<sup>3,4</sup>

<sup>1</sup> Tank mixtures with this herbicide may result in reduced control of brome species.

<sup>2</sup> Tank mixtures with this product may be made provided the specific product being used is registered for postemergence application to wheat.

<sup>3</sup> Not recommended for use with split application rate of 3/8 ounce of Maverick herbicide.

<sup>4</sup> Different formulations of the active ingredient may be used, provided that the specific product being used is registered for postemergence application to wheat.

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Tank mixtures with herbicides formulated as amines may decrease the effectiveness of Maverick herbicide.

Refer to individual tank-mix product label for application rate and restrictions related to soil texture, soil organic matter, and wheat growth stage.

Tank mixtures with metribuzin may be applied only in the spring.

See the "MIXING" section of this label for additional information on Tank Mixtures.

### 10.0 SPRING WHEAT

When applied to spring wheat as directed in this section, the following weeds are either controlled or suppressed by Maverick herbicide as indicated for either preemergence or postemergence application:

WEED SPECIES	PRE	POST
<b>Oat, wild</b> <i>Avena fatua</i>	•	C
<b>Sunflower, common</b> <i>Helianthus annuus</i>	C	C
<b>Quackgrass</b> <i>Elytrigia repens</i>	•	S
<b>Barley, volunteer</b> <i>Hordeum vulgare</i>	S	S

C = Control      S = Suppression      • = Not controlled or suppressed

In spring wheat, apply a single postemergence application of 2/3 ounce of Maverick herbicide per acre when soil moisture is adequate to support vigorous wheat and weed growth, and prior to jointing stage (Feekes' scale 6). Use a nonionic surfactant at a concentration of 0.5 percent by volume (2 quarts per 100 gallons of spray solution) with this postemergence application.

Postemergence application of Maverick herbicide is not recommended for durum wheat.

**For wild oat control**, apply 2/3 ounce of Maverick herbicide per acre when wild oat are in the 1 to 4 true leaf stage.

#### Tank Mixtures for Spring Wheat

For additional broadleaf weed control, Maverick herbicide may be applied to spring wheat in a tank mixture with the following herbicides:

2,4-D amine <sup>1, 2</sup>	Dakota (fenoxaprop + MCPA)
2,4-D LV ester <sup>2</sup>	MCPA amine <sup>1, 2</sup>



## I. MAVERICK HERBICIDE

Bronate (bromoxynil + MCPA)

Buctril (bromoxynil)

Buctril 4EC

Cheyenne

Curtail (clopyralid + 2,4-D)<sup>1</sup>

MCPA LV ester<sup>2</sup>

Puma (fenoxaprop)

Stinger (clopyralid)

Tiller (fenoxaprop + 2,4-D + MCPA)

<sup>1</sup> Tank mixtures with this herbicide may result in reduced control of grass species.

<sup>2</sup> Tank mixtures with this herbicide may be made provided the specific product is registered for this use.

### 11.0 CROP ROTATION

No crop other than wheat may be planted sooner than 3 months after application of Maverick herbicide.

The following tables provide crop rotation intervals (months) for selected crops based on soil pH and cumulative precipitation by geographic region. For soils with pH higher than listed or for cumulative precipitation less than listed, a successful field bioassay must be completed before planting, as described in this section under "Field Bioassay". If a shorter rotation interval other than that listed for a crop is desired, a successful field bioassay must be completed before planting.

All crops other than those listed in these tables may be seeded into fields treated with Maverick herbicide only after the completion of a successful field bioassay. Any crop, other than wheat, intended to be planted into pastureland that has been treated with Outrider® herbicide must undergo a field bioassay before planting.

#### Field Bioassay

To conduct an effective field bioassay, plant strips of the crop you intend to grow the following season in fields previously treated with Maverick herbicide. Crop response will determine if the crop(s) planted in the test strips can be adequately grown in these areas.

**Table 1 - OK, KS, NE, TX**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Millet	< 7.5	18	3
Corn – IR	< 7.5	18	3
Soybean -STS™	< 7.5	18	3
Winter Canola (varieties that exhibit tolerance to sulfonyleurea herbicides)	< 7.5	18	3
Corn – normal	< 7.5	30	12

I. MAVERICK HERBICIDE

Cotton	< 7.5	30	12
Soybean	< 7.5	30	12
Sorghum (grain)	6.0 - 7.5	30	22
Sunflower	< 6.0	30	17
Winter Canola (varieties that do not exhibit tolerance to sulfonylurea herbicides)	6.0 - 7.5	30	22

**Table 2 - WA, OR, ID**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Millet	< 7.5	18	3
CLEARFIELD Canola	< 7.5	18	3
Corn – IR	< 7.5	18	3
Soybean –STS	< 7.5	18	3
Potato	< 7.5	18	12
Barley	< 7.5	24	22
Canola	< 7.5	24	22
Corn – normal	< 7.5	24	22
Lentils	< 7.5	24	22
Peas* - all classes (including chickpeas)	> 6.5	24	22
	< 6.5	30	17
Soybean	< 7.5	24	22

\* Peas should not be planted on clay or eroded hillsides treated with Maverick herbicide without conducting a field bioassay as described in this section.

**Table 3 - CO, SD, WY**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Millet	< 7.5	18	3
Corn – IR	< 7.5	18	3
Soybean -STS™	< 7.5	18	3
Corn – normal	< 7.5	24	22

Soybean	< 7.5	24	22
Sorghum (grain)	6.5 - 7.5	45	34
Sunflower	< 6.5	35	22

**Table 4 - MT, ND**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
CLEARFIELD Canola	< 7.5	12	12

**Table 5 - All Other Regions**

Crop	Soil pH	Cumulative Precipitation (Inches)	Rotation Interval (Months)
Soybean -STS	<6.5	30	3
Soybean	<6.5	30	5
	<7.5	24	12

## 12.0 LIMIT OF WARRANTY AND LIABILITY

This Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label pamphlet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company to the extent consistent with applicable law, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions,

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or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Maverick and Outrider are registered trademarks of Monsanto Technology LLC. All other trademarks are the property of their respective owners.

In case of an emergency involving this product,  
call collect, day or night, (314 694-4000).

©[Year]

MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI 63167 USA

Formulated in the United States Using Active Ingredient Made in Japan.

[insert barcode]

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## II. MAIN LABEL FOR OUTRIDER® HERBICIDE

### OUTRIDER®

Herbicide by Monsanto

#### Complete Directions For Use Pamphlet

EPA Reg. No. 524-500

#### WATER DISPERSIBLE GRANULE

Outrider herbicide is a selective herbicide for the control of certain annual and perennial grasses and broadleaf weeds in select pasture grasses and rangelands, and non-crop areas.

Read this entire label before using this product.

Use only according to label instructions.

Not all products recommended on this label are registered for use in California. Check the registration status of each product in California before using.

[Optional text: Do not apply by aerial application unless permitted by supplemental labeling.]

Read the "LIMIT OF WARRANTY AND LIABILITY" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION OR REPACKAGING.

[Alternate language: THIS IS AN END-USE PRODUCT. MONSANTO DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.]

### 1.0 INGREDIENTS

#### ACTIVE INGREDIENT:

Sulfosulfuron.....	75.0%
OTHER INGREDIENTS: .....	25.0%
	100.0%

This product is protected by U.S. Patent Nos. 5,017,212 and 5,534,482. No license granted under any non U.S. Patent(s).

[insert Net Contents:]
<div style="display: flex; justify-content: space-between;"> <span>[insert Est. No.]</span> <span>[insert print plate no.]</span> </div>

## 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE,

1-800-332-3111

2. IN CASE OF AN EMERGENCY INVOLVING THIS PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL COLLECT, DAY OR NIGHT,

(314) 694-4000

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 Hazards to Humans and Domestic Animals

Keep out of reach of children

### CAUTION!

CAUSES MODERATE EYE IRRITATION

Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling

FIRST AID	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes.</li> <li>Call a poison control center or physician for treatment advice.</li> </ul>
<ul style="list-style-type: none"> <li>Have the product container or label with you when calling a poison control center or physician, or going for treatment.</li> <li>In case of an emergency involving this product, call collect, day or night, <b>(314) 694-4000</b>.</li> <li>This product is identified as <b>Outrider Herbicide, EPA Reg. No. 524-500</b>.</li> </ul>	

### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. 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.

*[For WPS uses only, delete this paragraph when label contains only non-WPS uses: When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.]*

#### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

### 3.2 Environmental Hazards

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is highly toxic to non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Monsanto Supplemental Labeling.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### Agricultural Use Requirements

*[Agricultural Use Requirements box can be deleted if label contains only non-WPS uses]*

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

## II. OUTRIDER HERBICIDE

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

**Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.**

**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
- Chemical-resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow the instructions for Category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

### Non-Agricultural Use Requirements

*[Non-Agricultural Use Requirements box can be deleted if label contains only non-WPS uses]*

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (40 CFR Part 170) for agricultural pesticides. The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

*[Optional re-entry statement for non-WPS label: Keep people and pets off treated areas until spray solution has dried.]*

## 4.0 STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120°F). Do not store under moist conditions.

**PESTICIDE DISPOSAL:** To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).



**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container  $\frac{1}{4}$  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. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned stay out of smoke.

[Alternate language: See individual container label for pesticide disposal or handling information.]

## 5.0 GENERAL PRODUCT INFORMATION

### Product Description:

Outrider is a selective, systemic herbicide, formulated as a water dispersible granule (WDG), for control of many annual and perennial weeds. This herbicide may be used over the top of many perennial grasses such as unimproved bahiagrass, bermudagrass and tall fescue in non-crop areas. It can be used for weed control in bermudagrass and bahiagrass hayfields and pastures and in selected rangeland grasses. It can also be used for weed control in Conservation Reserve Program areas and in native grasses including: big bluestem, bushy bluestem, little bluestem, buffalograss, indiagrass, blue oats grama, side oats grama, lovegrass and switchgrass.

### Use Sites:

Non-Crop Use Sites: Outrider herbicide may be used for general weed control on non-crop sites including airports, conservation areas, ditch banks, dry ditches, dry canals, fallow areas, fencerows, industrial sites, lumberyards, manufacturing sites, natural areas, petroleum tank farms and pumping installations, railroads, roadsides, storage areas, utility rights-of-way, utility sites and substations, warehouse areas and wildlife areas.

Crop Use Sites: Outrider herbicide can be used for general weed control in pastures, hayfields and rangelands as defined in this label. It can be used for weed control in perennial native grasses as defined on the label.

Do not use this product on or around athletic fields, commercial turf sites, golf courses, residential turf sites or sod and turfgrass seed farms.

**Time to Symptoms:** Outrider herbicide is absorbed through the roots and foliage of plants, rapidly inhibiting the growth of susceptible vegetation. Within 2 to 3 weeks after application, leaf growth of susceptible vegetation slows and the growing points turn reddish-purple. Within 4 to 6 weeks after application, leaf veins and leaves become discolored, and the growing points die. Warm and moist conditions following

## II. OUTRIDER HERBICIDE

application will accelerate herbicidal activity. Cool, dry conditions will delay herbicidal activity. Weeds stressed by drought are less susceptible to Outrider herbicide.

**Rainfastness:** Heavy rainfall soon after application (less than 2 hours) may wash this product off of the foliage and a repeat application may be required for adequate control.

**Maximum Annual Use Rate:** THE COMBINED TOTAL OF ALL APPLICATIONS OF THIS PRODUCT MUST NOT EXCEED 2.66 OUNCES OF PRODUCT PER ACRE PER YEAR.

**IMPORTANT:** Do not allow this product to contact roots or foliage of desirable vegetation, areas where roots of desirable vegetation may extend, or areas where this product may be washed or moved into contact with roots of desirable vegetation.

**Desirable plants may be injured if planted into treated areas.**

Do not use on feed or food crops.

### 6.0 MIXING

Thoroughly clean mixing and application equipment prior to mixing spray solution.

Eliminate any risk of siphoning the contents of the spray or mixing tank back into the carrier source while mixing. Use approved anti-back-siphoning devices where required by State or local regulations.

**APPLY SPRAY SOLUTIONS WITHIN 24 HOURS AFTER MIXING.**

#### 6.1 Water Carrier

This product mixes readily with water. Mix spray solutions of this product as follows: fill the spray tank with about three-fourths of the desired final volume. Add the appropriate amount of this product to achieve the desired application rate as defined on this label (see the appropriate section of this label for application rates). Continue the filling process while maintaining agitation. Add nonionic surfactant near the end of the filling process.

#### 6.2 Surfactants

Addition of a nonionic surfactant to the spray solution at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for all postemergence applications unless otherwise directed. Use only nonionic surfactants that contain at least 90 percent active ingredient. **DO NOT USE NONIONIC SURFACTANTS OR OTHER ADDITIVES THAT ALTER THE pH OF THE SPRAY SOLUTION BELOW pH 5.**

### 6.3 pH Adjustment

Spray solutions of between pH 6.0 and 8.0 are required for optimal performance of Outrider herbicide. Failure to adjust the pH of the spray solution may result in reduced weed control. Follow the mixing procedure described on this label and adjust the pH of the spray solution after the addition of nonionic surfactant. To adjust the pH, add between 2 to 4 quarts (depending on the starting pH of your water carrier) of a 7-percent solution of ammonia for every 100 gallons of spray solution.

**CAUTION:** Do not use ammonia with chlorine bleach as your pH adjuster, as dangerous gases will form.

### 6.4 Tank Mixtures

Tank mixtures of this product with other herbicide products may be used to increase the spectrum of vegetation controlled. Outrider herbicide can be tank-mixed with other herbicides or materials that are specifically listed on this label. Read and follow all label directions for all products used in the tank mixture. Observe all precautions and limitations on the label. Use the mixture according to the most restrictive precautionary statements for each product in the tank mixture.

Buyer and all users are responsible for all loss or damage in connection with the use or handling of mixtures of this product with herbicides or other materials that are not expressly listed on this label. Mixing this product with herbicides or other materials that are not listed on this label may result in reduced performance of Outrider herbicide.

Tank mixtures with broadleaf herbicides formulated as amines (including 2,4-D and others) may decrease the effectiveness of Outrider herbicide.

When a generic active ingredient, such as 2,4-D, dicamba, diuron or MSMA is listed on this label for tank-mixing with this product, the user is responsible for ensuring that the specific application being made is included on the label of the product being used in the tank mixture.

When preparing tank mixtures, add individual components to the spray tank in the following sequence: water, water dispersible granules (this product), water-soluble bags, dry flowables, emulsifiable concentrates, drift control additives, water-soluble liquids, nonionic surfactants.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

This product may be applied using either ground or aerial (fixed-wing or helicopter) spray application equipment. Apply spray solutions of this product using properly maintained and calibrated equipment capable of delivering desired volumes. Use equipment that is capable of continuous agitation.

Do not apply this product through any type of irrigation system.

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Do not allow this herbicide solution to mist, drift, or splash onto desirable vegetation or soil areas where sensitive crops will be planted, as minute quantities of this product can cause severe damage or destruction to susceptible plants on which treatment was not intended.

Best results are obtained when weeds are actively growing and not disturbed by mowing for at least 14 days before and 14 days after application.

### 7.1 Ground Broadcast Application

Apply Outrider herbicide uniformly with properly calibrated ground application equipment at rates specified on this label in 10 to 50 gallons of water per acre. Select spray volumes that ensure thorough and uniform weed coverage. Spray booms should be equipped with nozzles that provide optimum spray distribution and uniform coverage at the appropriate spray pressure. Avoid streaking, skips, overlaps and spray drift during application.

### 7.2 Aerial Application

All treatments described on this label may be made using aerial equipment where appropriate, except where specifically prohibited, provided that the applicator complies with the precautions and restrictions described in the "SPRAY DRIFT MANAGEMENT" section of this label. [Optional text: Do not apply by aerial application unless permitted by supplemental labeling.] Apply this product at rates specified on this label in 5 to 15 gallons of water per acre when making aerial applications.

### 7.3 Hand-Held and High-Volume Application

Hand-held spray guns, backpack sprayers and other similar types of sprayers may be used to apply this product. Follow the use directions for hand-held and high-volume application in the specific use sections of this label. Apply to foliage of vegetation to be controlled at a rate of approximately 2 gallons of spray solution per 1000 square feet. Spray coverage should be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

### 7.4 Injection Systems

This product may be used in ground injection spray systems. It may be diluted prior to injecting into the spray stream. Do not mix this product with the undiluted concentrate of other products when using injections systems, unless specifically directed.

### 7.5 Equipment Cleaning

Thoroughly clean application equipment with a 1-percent solution of ammonia (one quart of ammonia for every 25 gallons of rinse water) promptly after using this product. Use a sufficient volume of cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Rinse with water and repeat the cleaning procedure with the

ammonia solution. Complete the cleaning process by rinsing thoroughly with clean water.

If visible residue is present in the spray tank, use a 1-percent solution of ammonia plus 0.25 percent nonionic surfactant (8 fluid ounces for every 25 gallons of rinse water) as the cleaning solution.

## 8.0 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 is responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to labeled non-crop sites. These requirements do not apply to forestry applications.

### AERIAL SPRAY DRIFT REQUIREMENTS

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  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 should be observed.

### Importance of 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 the “Wind”, “Temperature and Humidity”, and “Temperature Inversions” sections of this label).

### Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the 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 higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

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- **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. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  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 the exposure of the droplets to evaporation and wind.

### Swath Adjustment

When applications are made with a crosswind, the swath will be displaced downwind. 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 droplets, etc.).

### Wind

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 miles per hour 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 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 be made 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.

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### 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).

## 9.0 BERMUDAGRASS AND BAHIAGRASS NON-CROP SITES

Outrider herbicide may be used to control or partially control many annual and perennial weeds for effective release of bermudagrass and bahiagrass on roadsides and other non-crop sites listed in the "GENERAL PRODUCT INFORMATION" section of this label.

### 9.1 Ground Broadcast Application

Apply Outrider herbicide at 0.75 to 2 ounces of product per acre in a spray solution containing a nonionic surfactant at a concentration of 0.25 percent by volume. Use the higher application rate of this product within the range for control of large established weeds or when weed growth is heavy or dense. Follow-up applications can be made after suitable re-growth of weeds but no sooner than 30 days after the previous application.

### 9.2 Hand-Held and High-Volume Application

With hand-held and high-volume spray equipment, apply a spray solution consisting of 1 ounce of Outrider herbicide plus 1 quart of a nonionic surfactant (0.25 percent) per 100 gallons of spray solution.

### 9.3 Tank Mixtures

ESTABLISHED STANDS OF BERMUDAGRASS AND BAHIAGRASS ARE TOLERANT TO OUTRIDER HERBICIDE AT RATES SPECIFIED ON THIS LABEL; HOWEVER, TANK MIXTURES OF THIS PRODUCT WITH OTHER HERBICIDES MAY INCREASE GRASS INJURY. USE THESE TANK MIXTURES ONLY WHEN SOME TEMPORARY INJURY OR DISCOLORATION OF THE BERMUDAGRASS AND BAHIAGRASS CAN BE TOLERATED.

Tank mixtures of this product with other herbicides may be used to increase the spectrum of weed control in bermudagrass and bahiagrass.

This product may be applied at a rate of 0.75 to 2 ounces per acre in a tank-mix with the following products.

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*[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for weed control in these bermudagrass and bahiagrass sites: 2,4-D, chlorsulfuron, clopyralid, dicamba, diuron, glyphosate, imazapic, metsulfuron methyl, MSMA, sulfometuron methyl, triclopyr]*

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## II. OUTRIDER HERBICIDE

Campaign, Escort, Escort XP, Garlon 3A, Garlon 4, MSMA, Oust, Oust XP, Plateau, Roundup PRO, Roundup PRO Concentrate, Telar DF, Transline, Vanquish]

Refer to the label of each individual product included in the tank mixture for application rates and use instructions for weed control on bermudagrass and bahiagrass turf sites.

A surfactant does not need to be added to the spray solution when this product is tank-mixed with Campaign, Roundup PRO, or Roundup PRO Concentrate herbicides.

### **Release of Dormant Bermudagrass or Bahiagrass**

This product may be tank-mixed with Campaign, Roundup PRO, or Roundup PRO Concentrate herbicides to control or partially control many winter annual weeds in dormant bermudagrass and bahiagrass prior to spring green-up.

In dormant bermudagrass or bahiagrass, apply 0.75 to 2 ounces of Outrider per acre, alone or in a tank mixture with one of the following herbicide products at an application rate within the range indicated.

<b>Tank-Mix Product</b>	<b>Application Rate</b>
Campaign	16 to 64 fluid ounces per acre
Roundup PRO	8 to 64 fluid ounces per acre
Roundup PRO Concentrate	6.4 to 51 fluid ounces per acre

**In dormant bermudagrass only**, up to 1 ounce per acre of Escort may be applied along with 0.75 to 2 ounces of Outrider, alone or in a three-way tank mixture with Roundup PRO or Roundup PRO Concentrate herbicides at the rates indicated in the previous table, to increase the spectrum of broadleaf weeds controlled. Addition of Escort may delay green-up of bermudagrass in the spring. **TANK MIXTURES OF THIS PRODUCT WITH ESCORT IN HIGHLY MAINTAINED TURFGRASS AREAS WILL RESULT IN UNACCEPTABLE TURF INJURY.**

In the state of Texas, applications of Outrider herbicide applied before September 30 will not delay green-up of bermudagrass the following spring; however some temporary discoloration of desirable spring germinating wildflowers may occur.

### **Release of Actively Growing Bermudagrass**

This product may be tank-mixed with Roundup PRO or Roundup PRO Concentrate herbicides to control or partially control johnsongrass and other weeds in bermudagrass when it is actively growing. Use only on well-established stands of bermudagrass. Apply 0.75 to 2 ounces of this product alone or in a tank mixture with one of the following herbicide products within the range of application rates indicated. Use the higher application rate within the range to control perennial weeds or annual weeds greater than 6 inches in height.



## II. OUTRIDER HERBICIDE

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Tank-Mix Product	Application Rate
Roundup PRO	8 to 32 fluid ounces per acre
Roundup PRO Concentrate	6.4 to 26 fluid ounces per acre

The following herbicide products can also be applied at the application rates indicated in a tank mixture with 0.75 to 2 ounces of Outrider per acre, alone or in a three-way tank mixture with Roundup PRO or Roundup PRO Concentrate herbicides at the application rates indicated in the previous table.

Tank-Mix Product	Application Rate
Escort	1 ounce per acre
Oust	0.5 ounce per acre
Telar	0.5 ounce per acre

DO NOT apply this product in tank mixtures with Escort, Oust, or Telar in highly maintained turfgrass areas.

### Release of Actively Growing Bahiagrass

This product may be tank-mixed with Roundup PRO or Roundup PRO Concentrate herbicides to control or partially control johnsongrass and other weeds in bahiagrass while it is actively growing. Use only on well-established stands of bahiagrass. Apply 0.75 to 2 ounces of this product per acre, alone or in a tank mixture with one of the following herbicide products at the application rate indicated.

Tank-Mix Product	Application Rate
Roundup PRO	6 fluid ounces per acre
Roundup PRO Concentrate	5 fluid ounces per acre

## 10.0 TALL FESCUE NON-CROP SITES

Outrider herbicide may be used to control or partially control johnsongrass and other weeds listed in the "WEEDS CONTROLLED" section of this label in tall fescue on roadsides and other non-crop sites listed on this label.

Use this product only on well-established stands of tall fescue. Even at rates listed in this section, use of this product may result in temporary chlorosis and discoloration, and may result in transient growth reduction of the desirable turf. These symptoms generally appear 7 to 10 days after application and are typically gone within 21 to 28 days.

### 10.1 Ground Broadcast Application

Apply Outrider herbicide at 0.75 to 1 ounce per acre in a spray solution containing a nonionic surfactant at a concentration of 0.25 percent by volume. Do not exceed 1 ounce of this product per acre per year. Use the higher application rate of this product within the range for control of large established weeds or when weed growth is heavy or dense.

### 10.2 Hand-Held and High-Volume Application

With hand-held and high-volume spray equipment, apply a spray solution consisting of 1 ounce of Outrider herbicide plus 1 quart of a nonionic surfactant (0.25 percent) per 100 gallons of spray solution.

### 10.3 Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of vegetation controlled in tall fescue. This product may be applied at 0.75 to 1 ounce per acre in a tank-mix with the following products.

*[Insert active ingredient(s) or brand name of product(s) containing the following active ingredients that, at the time of printing, are registered for weed control in these tall fescue sites: 2,4-D, clopyralid, dicamba, metsulfuron methyl, MSMA, triclopyr]*

Escort, Escort XP, Garlon 3A, Garlon 4, MSMA, Transline]

Refer to the label of each individual product included in the tank mixture for application rates and use instructions for weed control on tall fescue sites.

## 11.0 BERMUDAGRASS AND BAHIAGRASS PASTURE SITES

Outrider herbicide may be used in early spring through the fall to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of this label in well-established bermudagrass and bahiagrass pastures.

Grass forage may be grazed immediately after application. However, for best weed control, do not mow or harvest the pasture to be treated for 2 weeks before or 2 weeks after application. For best control of johnsongrass, make application when the johnsongrass is actively growing, is at least 18 to 24 inches tall and up to the heading stage.

For control of large established weeds or when weed growth is particularly heavy or dense, a single application of up to 2 ounces of Outrider herbicide can be made.

### 11.1 Ground Broadcast Application

Apply 1.33 ounces of Outrider herbicide per acre along with a nonionic surfactant at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) in

10-50 gallons of spray solution per acre. A follow-up application can be made after suitable regrowth of weeds but no sooner than 40 days after the previous application.

### **11.2 Hand-Held and High-Volume Application**

With hand-held and high-volume spray equipment, apply a spray solution consisting of 1.33 ounces of Outrider herbicide plus 1 quart of a nonionic surfactant (0.25 percent) per 100 gallons of spray solution. A follow-up application can be made after suitable regrowth of weeds but no sooner than 40 days after the previous application.

## **12.0 PASTURE AND RANGELAND SITES IN STATES WEST OF THE MISSISSIPPI RIVER**

Outrider herbicide may be used in pasture and rangeland grasses in States west of the Mississippi River in the fall or spring to provide selective post-emergent control or partial control of the weeds specified in the "WEEDS CONTROLLED" section of this label.

This product is selective in crested wheatgrass and selectivity in other pasture grasses is increased when they are not actively growing. Temporary stunting or chlorosis of grasses may occur but desirable grasses will recover. If concern exists about selectivity on desirable grasses, a small area should be treated to confirm selectivity.

Grass forage may be grazed immediately after application. However, for best weed control do not mow or graze the pasture or rangeland for 2 weeks before or after application.

### **12.1 Ground Broadcast and Aerial Application**

Apply 0.75 to 1.33 ounces of Outrider herbicide per acre along with a nonionic surfactant. Use the higher rate when weeds are in advanced growth stage. The level of weed control following application is dependent on weed species and weed stage of growth at application. For best results, weeds should be actively growing and in an early vegetative stage.

Refer to the "SPRAY DRIFT MANAGEMENT" section of this label for guidelines regarding spray drift management.

### **12.2 Dormant Pastures and Rangelands**

Apply 0.75 to 1.33 ounces of Outrider herbicide per acre in a tank mix with Roundup PRO Concentrate at 10 to 13 fluid ounces per acre or Roundup PROMAX at 9 to 11 fluid ounces per acre for control of weeds in dormant pastures. When tank mixing this product with Roundup PROMAX herbicide at rates below 12 ounces per acre, the addition of a nonionic surfactant to the spray solution at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required. These applications should be made when the desirable pasture grass species are dormant and a new flush of the target weeds is emerged and actively growing.

### 13.0 NATIVE GRASSES AND CONSERVATION RESERVE PROGRAM (CRP) SITES

Outrider herbicide may be used to selectively control the weeds listed in the "WEEDS CONTROLLED" section of this label in perennial native grassland areas, including land enrolled in the Federal Conservation Reserve Program (CRP). Outrider herbicide may be applied to the following native perennial grasses:

- big bluestem
- blue oats grama
- Indiangrass
- little bluestem
- side oats grama
- lovegrass
- bushy bluestem
- buffalograss
- switchgrass

For selective weed control in the native grasses listed in this section, apply 1.33 to 2 ounces of this product per acre. Use the higher application rate of 2.0 ounces per acre of this product for control of large established weeds, or when weed growth is heavy or dense.

Addition of a nonionic surfactant to the spray solution at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for this application.

Sequential applications of this product may be made at a minimum of 30 days between applications, up to a maximum use rate of 2.66 ounces of product per acre per year.

Do not apply Outrider herbicide to newly seeded perennial native grasses prior to the 3-leaf growth stage. Native grasses listed in this section may be reseeded into treated areas, but no sooner than 14 days after treatment.

### 14.0 CROP ROTATION RESTRICTIONS

No crop, except wheat, may be planted into pasturelands, rangelands, or land taken out of the CRP that has been treated with this product within 12 months after application. For all crops, except wheat, a successful field bioassay, as described in this section, must be completed before planting.

Do not seed any crop, except wheat, any sooner than 3 months after the last application of this product. There are no crop rotation restrictions for wheat.

#### Field Bioassay

To conduct an effective field bioassay, plant strips of the crop you intend to grow the following season in the fields previously treated with Outrider herbicide. Crop response to the bioassay will determine if the crop(s) planted in the test strips can be safely grown in the previously treated fields.

## 15.0 NON-CROP TREE SITES

Outrider herbicide may be applied as a broadcast application around or over the top of select hardwood and conifer tree species in conservation and wildlife areas to control johnsongrass, tall fescue, purple and yellow nutsedge, and other weed species listed in the "WEEDS CONTROLLED" section of this label.

This product generally has been shown to provide selective control on the following tree species:

- American Plum
- Green Ash
- Sycamore
- Bald Cypress
- Pecan
- Walnut
- Bur Oak
- Pin Oak
- Cottonwood
- Swamp White Oak

Treated trees must be growing in areas where commercial fruit or nut harvest will not occur. Make over-the-top applications to non-bearing trees only. Treat over the top of transplanted trees after they are well established. Temporary yellowing and growth reduction may occur in some species.

Do not apply by air.

Apply up to 1.33 ounces of this product per acre with a nonionic surfactant concentration of 0.25 percent (1 quart per 100 gallons of spray solution). Sequential applications of this product can be made at a minimum of 21 days between applications, up to a maximum use rate of 2.66 ounces per acre per year.

## 16.0 WEEDS CONTROLLED

### Barley, volunteer

*Hordeum vulgare*

### Bedstraw, catchweed

*Galium aparine*

### Bentgrass, creeping

*Agrostis stolonifera*

### Bluegrass, bulbous

*Poa bulbosa*

### Bluegrass, roughstalk

*Poa trivialis*

### Brome, downy

*Bromus tectorum*

### Brome, ripgut

*Bromus rigidus*

### Buttercup

*Ranunculus arvensis*

### Fiddleneck, tarweed

*Amsinckia lycopsoides*

### Flixweed

*Descurainia sophia*

### Horseweed

*Conyza canadensis* Canadensis

### Johnsongrass

*Sorghum halepense*

### Mustard, tumble

*Sisymbrium altissimum*

### Mustard, wild

*Sinapis arvensis*

### Nutsedge, purple

*Cyperus rotundus*

### Nutsedge, yellow

*Cyperus esculentus*

II. OUTRIDER HERBICIDE

**Chamomile, mayweed**

*Anthemus cotula*

**Cheat**

*Bromus secalinus*

**Chess, hairy**

*Bromus commutatus*

**Chickweed, common**

*Stellaria media*

**Cocklebur, common**

*Xanthium strumarium*

**Pennycress, field**

*Thlaspi arvense*

**Quackgrass**

*Elytrigia repens*

**Shepherd's-purse**

*Capsella bursa-pastoris*

**Sunflower, common**

*Helianthus annuus*

**Tansymustard, pinnate**

*Descurainia pinnata*

## 17.0 LIMIT OF WARRANTY AND LIABILITY

Monsanto Company warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label pamphlet ("Directions") when used in accordance with those Directions under the conditions described therein. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, NO OTHER EXPRESS WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

To the extent consistent with applicable law, buyer and all users shall promptly notify this Company of any claims whether based in contract, negligence, strict liability, other tort or otherwise.

Buyer and all users are responsible for all loss or damage from use or handling which results from conditions beyond the control of this Company to the extent consistent with applicable law, including, but not limited to, incompatibility with products other than those set forth in the Directions, application to or contact with desirable vegetation, unusual weather, weather conditions which are outside the range considered normal at the application site and for the time period when the product is applied, as well as weather conditions which are outside the application ranges set forth in the Directions, application in any manner not explicitly set forth in the Directions, moisture conditions outside the moisture range specified in the Directions, or the presence of products other than those set forth in the Directions in or on the soil, crop or treated vegetation.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE LIMIT OF THE LIABILITY OF THIS COMPANY OR ANY OTHER SELLER FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT (INCLUDING CLAIMS BASED IN CONTRACT, NEGLIGENCE, STRICT LIABILITY, OTHER TORT OR OTHERWISE) SHALL BE THE PURCHASE PRICE PAID BY THE USER OR BUYER FOR THE QUANTITY OF THIS PRODUCT INVOLVED, OR, AT THE ELECTION OF THIS COMPANY OR ANY OTHER SELLER, THE

II. OUTRIDER HERBICIDE

REPLACEMENT OF SUCH QUANTITY, OR, IF NOT ACQUIRED BY PURCHASE, REPLACEMENT OF SUCH QUANTITY. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL THIS COMPANY OR ANY OTHER SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES.

This Company does not warrant any product reformulated or repackaged from this product except in accordance with this Company's stewardship requirements and with express written permission from this Company.

Upon opening and using this product, buyer and all users are deemed to have accepted the terms of this LIMIT OF WARRANTY AND LIABILITY which may not be varied by any verbal or written agreement. If terms are not acceptable, return at once unopened.

Campaign, Outrider, Roundup PRO, Roundup PRO Concentrate, and Roundup PROMAX are registered trademarks of Monsanto Technology LLC.

All other trademarks are the property of their respective owners.

EPA Reg. No. 524-500

In case of an emergency involving this product,  
call collect, day or night, (314)694-4000.

©[year]

MONSANTO COMPANY  
800 N. LINDBERGH BLVD.  
ST. LOUIS, MISSOURI, 63167 U.S.A.

Formulated in the United States Using Active Ingredient Made in Japan.

[insert barcode]

### III. SUPPLEMENTAL LABELING

#### SUPPLEMENTAL LABELING

READ THE ENTIRE LABEL FOR OUTRIDER® HERBICIDE BEFORE PROCEEDING WITH THE USE DIRECTIONS CONTAINED IN THIS SUPPLEMENTAL LABELING.

When using Outrider herbicide as permitted according to this Supplemental Labeling, read and follow all applicable directions, restrictions, and precautions on the label provided with the pesticide container and on this Supplemental Labeling. This Supplemental Labeling must be in the possession of the user at the time of pesticide application.

### **OUTRIDER®** Herbicide by Monsanto

EPA Reg. No. 524-500

Outrider is a trademark of Monsanto Technology LLC.

## SELECTIVE HERBACEOUS WEED CONTROL IN FORESTRY CONIFER RELEASE

Keep out of reach of children

### CAUTION!

In case of emergency involving this product, call collect, day or night, (314) 694-4000.

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#### Personal Protective Equipment (PPE)

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**Applicators and other handlers must wear:** long-sleeved shirt and long pants and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separate from other laundry.

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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#### Environmental Hazards

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This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this chemical in areas where soils are



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permeable, particularly where the water table is shallow, may result in ground water contamination.

This pesticide is highly toxic to non-target plants. Do not apply to non-target areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to plants in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

The use of any pesticide in a manner that may kill or otherwise harm an endangered species or adversely modify their habitat is a violation of Federal Laws.

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#### DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

##### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the worker protection standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, 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 in this labeling 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 to enter into treated areas during the restricted entry interval (REI) of 12 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
- Chemical resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene. For more options, follow instructions for category A (dry and water-based formulations) on an EPA chemical resistant category selection chart.

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#### SPRAY DRIFT MANAGEMENT

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**Note:** Application of this product should not contact leaves of desirable plants since foliar injury, discoloration, or death may result.

**AVOID DRIFT—DO NOT APPLY DURING LOW-LEVEL INVERSION CONDITIONS, WHEN WINDS ARE >5 MILES PER HOUR OR GUSTY, OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED.**

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.

Coarse sprays are less likely to drift; therefore, avoid combinations of pressure and nozzle types that will result in splatter or fine particles (mist) which are likely to drift.

### **Aerial Application**

**DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL.**

Aerial application of this product is by helicopter only. Apply the recommended rate of this product in 5 to 30 gallons of water per acre. Use the higher recommended spray volumes where weeds are dense or form multiple canopy layers.

When used according to label directions this product will give control or partial control of herbaceous weeds such as ragweed and sedges and other weeds listed in the "WEEDS CONTROLLED" section of the Outrider® herbicide label.

### **Aerial Spray Drift Management**

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops.

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 should be observed.

### **The importance of spray 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 may not prevent drift if applications are made improperly or under unfavorable environmental conditions (see the following Wind, Temperature and Humidity, and Temperature Inversion sections of this advisory).

### **Controlling initial droplet size:**

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher flow rates 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

### III. SUPPLEMENTAL LABELING

higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.

- **Number of nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation** - Orienting nozzles so the spray stream is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **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. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

#### **Controlling placement of spray droplets:**

- **Boom length** - For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application height** - Applications should not be greater than 10 feet above the top of the tallest plants unless a greater height is required for aircraft safety. Greater application heights result in greater droplet size reduction through evaporation and greater movement in air currents. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Application speed** - Slower aircraft speeds within a safe range will produce less air turbulence and fewer small droplets.
- **Swath adjustment** - When applications are made with a cross-wind, the swath will be displaced downwind. 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 (wind speed, droplet size, etc.).

#### **Key environmental factors:**

- **Wind** - Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided when wind speeds are below 2 miles per hour due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Applicators 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 air currents that are 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 detector. 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:**

Pesticides 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).

Avoid direct application to any body of water.

Drift control additives may be used. When a drift control additive is used, read and carefully observe all the cautionary statements and all other information appearing on the additive label.

Ensure uniform application—To avoid streaked, uneven, or overlapped application, use appropriate marking devices.

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**FORESTRY HERBACEOUS CONIFER RELEASE**

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This product provides control or partial control of herbaceous weeds in a forestry conifer release program using a spring or early summer application after planting loblolly, slash or longleaf pine, and in fallow silvicultural nursery sites for these species. Best results are obtained when Accord® SP herbicide or a labeled tank-mix with Accord SP herbicide has been used for site preparation prior to planting.

**Ground Broadcast Application**

Apply Outrider herbicide at 0.75 to 2 ounces per acre. Do not exceed 2 ounces of this product per acre per year.

Use the higher application rate of this product within the range or in one of the tank mixtures described on this labeling for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth.

Addition of a nonionic surfactant at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence application of this product. Use only nonionic surfactants that contain at least 90 percent active ingredient.

**Hand-Held and High-Volume Application**

### III. SUPPLEMENTAL LABELING

Apply a spray solution consisting of 1 to 2 ounces of Outrider herbicide plus 1 quart of a nonionic surfactant per 100 gallons of water. Use only nonionic surfactants that contain at least 90 percent active ingredient.

#### Aerial Application

Apply Outrider herbicide at 0.75 to 2 ounces of product per acre. Do not exceed 2 ounces of this product per acre per year.

Use the higher application rate of this product within the range or in one of the tank mixtures described on this labeling for control of large established weeds or when weed growth is heavy or dense. Best results are obtained when weeds are in the early stage of growth.

Addition of a nonionic surfactant at a concentration of 0.25 percent by volume (1 quart per 100 gallons of spray solution) is required for postemergence application of this product. Use only nonionic surfactant that contains at least 90 percent active ingredient.

#### Tank Mixtures

Tank mixtures of this product may be used to increase the spectrum of herbaceous vegetation controlled in a conifer release program. When tank-mixing, read and carefully observe the label directions, precautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

Ensure that the tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any recommended rate of this product may be used in a tank-mix with the following products for forestry use.

PRODUCT	APPLICATION RATE
Arsenal Applicators Concentrate*	4 fl oz/a
Arsenal Applicators Concentrate* + Oust or Oust XP	4 fl oz/a + 1 oz/a
Oust or Oust XP	1-2 oz/a
Oust or Oust XP + Velpar	1-2 oz/a + 0.375-.05 lb/a
Oustar	8-12 oz/a
Velpar	0.375-0.75 lb/a

\* Use of surfactant not recommended with these products for slash and longleaf pine

Any of these mixtures can be used as a broadcast spray or in a banded application around trees to reduce potential for soil erosion.

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**Read the "LIMIT OF WARRANTY AND LIABILITY" statement in the label pamphlet for Outrider herbicide before using. These terms apply to this supplemental labeling, and if these terms are not acceptable return the product unopened at once.**

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ST. LOUIS, MISSOURI 63167

*[insert print plate no.]*