

# Razor® Xtreme

## Herbicide

For Non-Selective, Broad-Spectrum Weed Control

### 1.0 INGREDIENTS

#### ACTIVE INGREDIENTS:

Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt*	30.94%
Glyphosate, N-(phosphonomethyl) glycine, in the form of its potassium salt**	22.99%

OTHER INGREDIENTS:	46.07%
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TOTAL:	100.00%
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\* Contains 400 grams per litre or 3.33 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt.

Equivalent to 297 grams per litre or 2.5 pounds per U.S. gallon glyphosate acid.

\*\* Contains 297 grams per litre or 2.5 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its potassium salt.

Equivalent to 243 grams per litre or 2.0 pounds per U.S. gallon glyphosate acid.

Equivalent to 540 grams per litre or 4.5 pounds per U.S. gallon glyphosate acid.

## KEEP OUT OF REACH OF CHILDREN CAUTION

SEE BACK PANEL FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

Read the entire label before using this product. Use only according to label instructions.

### 2.0 IMPORTANT PHONE NUMBERS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300

For Medical Emergencies Only, Call (877) 325-1840

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

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT.

A broad-spectrum herbicide for industrial, turf, ornamental, forestry, roadside, utility rights-of-way, and other listed terrestrial weed control. (For a complete list of terrestrial uses, see the Directions for Use section in the attached label booklet.)

This product is protected by Patent No's. 5,668,085, RE 37,866 and 6,365,551

EPA REG. NO. 71368-81

Manufactured for  
Nufarm Inc.  
11901 S. Austin Avenue  
Alsip, IL 60803



Nufarm

Grow a better tomorrow.

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**3.0 PRECAUTIONARY STATEMENTS**  
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**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing.

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 eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation could result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

**Personal Protective Equipment (PPE)**

Some of the materials that are chemical-resistant to this product are listed below.

**Applicators and other handlers must wear:**

- long-sleeved shirt and long pants,
- socks and shoes, and
- chemical-resistant gloves made of any waterproof material, such as polyethylene or polyvinyl chloride.

Follow manufacturer's instructions for cleaning/maintaining PPE (Personal Protective Equipment). If there are no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

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

USER SAFETY RECOMMENDATIONS
<b>Users should:</b> <ul style="list-style-type: none"><li>• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li><li>• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li></ul>

**3.2 ENVIRONMENTAL HAZARDS**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high-water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters and rinsate.

**3.3 PHYSICAL OR CHEMICAL HAZARDS**

Spray solutions of this product may be mixed, stored and applied using stainless steel, fiberglass, plastic or plastic-lined steel containers.

**DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.** This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas, which can form a highly combustible gas mixture. This gas mixture could flash or explode if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source and cause serious personal injury.

**DIRECTIONS FOR USE**

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 regulations.

## AGRICULTURAL USE REQUIREMENTS

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

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

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

## NON-AGRICULTURAL USE REQUIREMENTS

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

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

## 4.0 PRODUCT INFORMATION

**Product Description:** This product is a postemergence, systemic herbicide with no soil residual activity. It is generally non-selective and gives broad-spectrum control of many annual and perennial weeds, woody brush, trees and vines. It is formulated as a water-soluble liquid containing surfactant and may be applied using standard and specialized pesticide application equipment after dilution and thorough mixing with water or other carrier according to label directions.

No additional surfactant in the spray solution is needed. This includes additives containing surfactants, buffering agents or pH adjusting agents when Razor Xtreme Herbicide is the only pesticide used, unless otherwise directed.

**Mechanism of Action:** The active ingredient in this product inhibits an enzyme found only in plants and microorganisms that is essential to the formation of specific amino acids.

**No Soil Activity:** This product binds tightly to soil particles and does not provide residual weed control. Weeds must be emerged at the time of application to be controlled by foliar application of this product. Weed seeds in the soil will not be affected by this product and will continue to germinate. Unattached plant rhizomes and root stocks beneath the soil surface will also not be affected by this product.

**Biological Degradation:** Degradation of this product is primarily a biological process carried out by soil microbes.

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Enhanced control of most perennial weeds is obtained when this product is applied at late growth stages approaching maturity. Refer to the "ANNUAL WEEDS RATE SECTION," "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH, TREES AND VINES RATE SECTION" for more information on the control of specific weeds.

**Cultural Considerations:** Reduced weed control could result when this product is applied to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to re-grow prior to application. Always use a higher product application rate within the given range when weed growth is heavy or dense, or when weeds are growing in an undisturbed (non-cultivated) area. Reduced weed control could also result when this product is applied to weeds that show signs of disease or insect damage, are covered with dust, or are surviving under poor growing conditions.

**Spray Coverage:** For enhanced results, spray coverage must be uniform and complete. Do not spray foliage to the point of runoff.

**Rainfastness:** Heavy rainfall soon after application may wash this product off of the foliage and a repeat application may be required for adequate control. For maximum effectiveness, product should be applied 4 hours prior to irrigation or rain. Refer to specific use sections of this label for additional information on the minimum intervals required before re-application of this product.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects are a gradual wilting and yellowing of the plant that advances to complete browning of aboveground growth and deterioration of underground plant parts. Effects are visible on most annual weeds within 2 to 4 days, but on most perennial weeds, effects might not be visible for 7 or more days after application. Extremely cool or cloudy weather following application could slow activity of this product and delay development of visual symptoms.

**Maximum Application Rates:** The maximum application or use rates stated throughout this label are given in units of volume (fluid ounces or quarts) of this product per acre. However, the maximum allowable application rates apply to this product combined with the use of any and all other herbicides containing the active ingredient Glyphosate, whether applied separately or in a tank mixture, on a basis of total pounds of Glyphosate (acid equivalents) per acre. If more than one Glyphosate-containing product is applied to the same site within the same year, you must ensure that the total use of Glyphosate (pounds acid equivalents) does not exceed the maximum allowed. See the "INGREDIENTS" section of this label for necessary product information.

Unless otherwise specified on this label, the combined total application of this product on a site must not exceed 5.3 quarts (6 pounds of Glyphosate acid) per acre per year. For applications on non-crop sites, or on tree, vine or shrub crop production sites, the combined total application of this product must not exceed 7 quarts (8 pounds of Glyphosate acid) per acre per year.

**NOTE:** Use of this product in any manner not consistent with this label could result in injury to persons, animals or crops, or have other unintended consequences.

## 5.0 WEED RESISTANCE MANAGEMENT

GROUP	9	HERBICIDE
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Glyphosate, the active ingredient in this product, is a Group 9 herbicide based on the mechanism of action classification system of the Weed Science Society of America. Any weed population can contain plants that are naturally resistant to Group 9 herbicides. Weeds resistant to Group 9 herbicides can be effectively managed by using another herbicide from a different Group (either alone or in a mixture according to label directions), by using other cultural or mechanical methods of weed control, or a combination of the two. Consult your local company representative, state cooperative extension agent, professional consultant or other qualified authority to determine appropriate actions for controlling specific resistant weeds.

### 5.1 Weed Management Practices

Resistant populations arise when rare individual plants are uncontrolled by a normal dose of a given herbicide under normal environmental conditions. In the absence of other control measures these individuals survive, produce seed, and eventually become the dominant biotype in the field through continuous selection. The best means of reducing this selection is to use diverse weed control practices such as multiple herbicides with different mechanisms of action, and often in combination with various mechanical and cultural practices.

To minimize the occurrence of herbicide-resistant biotypes, including those resistant to Glyphosate, implement the following weed management practice options that are practical to your situation. These management practices are applicable to reduce the spread of confirmed resistant biotypes (managing existing resistant biotypes) and to reduce the potential for selecting for resistance in new species (proactive resistance management).

- Use a diversified approach toward weed management focused on preventing weed seed production and reducing the number of weed seeds in the soil.
- Plant crops into fields as weed-free as possible and then keep them as weed-free as possible.
- Plant crop seed that is as weed-free as possible.
- Scout fields routinely, before and after herbicide application.
- Use multiple herbicide mechanisms of action that are effective against the most troublesome weeds in your field and against those with known resistance.
- Apply herbicides at application rates listed on the label when weeds are within the size range indicated on the label.
- Emphasize cultural practices that suppress weeds by using crop competitiveness.
- Use mechanical and biological weed management practices where appropriate.
- Prevent field-to-field and within-field movement of weed seed or vegetative propagules.
- Manage weed seed at harvest and after harvest to prevent a buildup of the weed seedbank.

### 5.2 Management of Glyphosate-Resistant Biotypes

Appropriate testing is needed to determine if a weed is resistant to Glyphosate. Contact your Nufarm representative to determine if resistance in any particular weed biotype has been confirmed in your area.

Glyphosate-resistant weeds can be controlled or managed by applying this product in combination with residual preemergence herbicides and/or other postemergence herbicides labeled for control of the targeted weed in the crop being grown. For more information, see the "ANNUAL WEEDS RATE SECTION" and "PERENNIAL WEEDS RATE SECTION" of this label.

Since the occurrence of resistant weeds is difficult to detect prior to use, Nufarm accepts no liability for any losses that result from the failure of this product to control resistant weeds.

## 6.0 MIXING

Spray solutions of this product may be mixed, stored and applied using clean stainless steel, fiberglass, plastic or plastic-lined steel containers.

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS.

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

A 50-mesh nozzle screen or line strainer on the spray equipment is adequate.

Clean sprayer parts promptly after using this product by thoroughly flushing with water.

### 6.1 Mixing with Water

PERFORMANCE OF THIS PRODUCT CAN BE SIGNIFICANTLY REDUCED IF WATER CONTAINING SOIL SEDIMENT IS USED AS CARRIER. DO NOT MIX THIS PRODUCT WITH WATER FROM PONDS OR DITCHES THAT IS VISIBLY MUDDY OR MURKY.

This product mixes readily with water. Mix spray solutions of this product as follows. Begin filling the mixing tank or spray tank with clean water. Add the required amount of this product near the end of the filling process and mix gently. Foaming of the spray solution can occur during mixing. To prevent or minimize foaming, mix gently, terminate bypass and return lines at the bottom of the tank, and, if necessary, add an appropriate anti-foam or defoaming agent to the spray solution.

### 6.2 Tank Mixtures

This product does not provide residual weed control. This product may be tank-mixed with other herbicides to provide residual weed control in the soil, a broader weed control spectrum, or an alternate mechanism of action.

Some tank-mix products have the potential to cause crop injury under certain conditions, at certain growth stages and/or under other circumstances. Read the label of all products to be used in the tank mixture prior to use to determine the potential for crop injury.

Tank mixtures with other herbicides, insecticides, fungicides, micronutrients or foliar fertilizers could result in reduced weed control or crop injury. Nufarm has not tested all tank-mix product formulations for compatibility, antagonism or reduction in product performance. To the extent consistent with applicable law, buyer and all users are responsible for any and 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 specified on this label, or on separate supplemental labeling or Fact Sheets published for this product.

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

Refer to all individual product labels, supplemental labeling and Fact Sheets for all products in the tank mixture, and observe all precautions and limitations on the label, including application timing restrictions, soil restrictions, minimum re-cropping intervals and any crop rotation restrictions. Use according to the most restrictive precautionary statements for each product in the tank mixture. For enhanced results, apply tank mixtures with this product at a minimum spray volume rate of 10 gallons per acre.

### 6.3 Tank-Mixing Procedure

Always predetermine the compatibility of all tank-mix products together in the carrier by mixing small proportional quantities in advance.

Mix only the quantity of spray solution that will be applied that day. Application of tank-mix solutions that are allowed to stand overnight could result in reduced weed control.

Prepare tank mixtures of this product as follows:

1. Place a 20- to 35-mesh screen or wetting basket over the filling port of the tank.
2. Through the screen, fill the tank one-half full with water and start gentle agitation.
3. If ammonium sulfate is to be used, add it slowly through the screen into the tank and continue adding water into the tank through the screen. If dry ammonium sulfate is being used, ensure that it is completely dissolved in the tank before adding other products.
4. If a wettable powder is used, prepare a slurry of it with water and add it SLOWLY through the screen into the tank while continuing gentle agitation.
5. If a flowable formulation is used, premix one part flowable with one part water and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
6. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water and add the diluted mixture SLOWLY through the screen into the tank while continuing gentle agitation.
7. Continue filling the tank with water through the screen and add the required amount of this product near the end of the filling process.
8. If a nonionic surfactant is used, add it to the tank before completing the filling process.
9. Add individual tank-mix components to the tank as follows: wettable powders, flowables, emulsifiable concentrates, drift reduction additives, water soluble liquids, this product, surfactant.

Maintain gentle agitation at all times until the contents of the tank are sprayed out. If the spray mixture is allowed to settle, agitate thoroughly to re-suspend the mixture before resuming application.

Keep by-pass and return lines on or near the bottom of the tank to minimize foaming. A 50-mesh nozzle screen or line strainer on the spray equipment is adequate.

### 6.4 Mixing Spray Solution Concentrations

Prepare the desired volume of spray solution at a given concentration by mixing the amount of this product indicated in the following table in water.

**Spray Solution Table:**

Amount Razor Xtreme Herbicide						
Desired Volume	0.4%	0.7%	1.0%	1.5%	4.0%	7.0%
1 Gallon	0.5 fluid ounce	0.9 fluid ounce	1.3 fluid ounces	2 fluid ounces	5 fluid ounces	9 fluid ounces
25 Gallons	0.8 pint	0.7 quart	1 quart	1.5 quarts	4 quarts	7 quarts
100 Gallons	1.6 quarts	2.8 quarts	1 gallons	1.5 gallons	4 gallons	7 gallons

2 tablespoons = 1 fluid ounce (fl oz)

For filling backpack and pump-up sprayers, consider mixing the appropriate amount of this product with water in a larger container and then filling the sprayer from the larger container.



## 6.5 Surfactants

Although not always required, surfactant may be added to spray solutions of this product. However, additional surfactant can increase the performance of this product at water carrier volumes above 30 gallons per acre or at application rates below 16 fluid ounces of this product per acre.

Nonionic surfactants that are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. Use a surfactant concentration of 0.25 to 0.5 percent (1 to 2 quarts per 100 gallons of spray solution) when adding surfactant that contains at least 70 percent active ingredient, or a 1-percent surfactant concentration (4 quarts per 100 gallons of spray solution) when adding surfactant that contains less than 70 percent active ingredient. Read and carefully observe all precautionary statements and other information on the surfactant label.

## 6.6 Ammonium Sulfate

Unless otherwise directed, the addition of 1 to 2 percent dry ammonium sulfate by weight (8.5 to 17 pounds per 100 gallons of water), could increase the performance of this product on annual and perennial weeds, particularly under hard water conditions, drought conditions or when tank-mixed with certain residual herbicides. An equivalent amount of a liquid formulation of ammonium sulfate may also be used. Ensure that dry ammonium sulfate is completely dissolved in the spray tank before adding herbicides. Thoroughly rinse the spray system with clean water promptly after use to reduce corrosion.

When using ammonium sulfate, apply this product at rates directed on this label; lower application rates will result in reduced performance.

## 6.7 Colorants and Dyes

Colorants and marking dyes may be added to spray solutions of this product; however, they can reduce the performance of this product. Use colorants and dyes according to the manufacturer's directions.

## 6.8 Drift Reduction Additives

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and controlled droplet applicators (CDA). When a drift reduction additive is used, read and follow all precautions, limitations and all other information on the product label. Use of drift reduction additives can affect spray coverage, which could reduce the performance of this product.

## 7.0 APPLICATION EQUIPMENT AND TECHNIQUES

This product may be applied with the following application equipment:

**Aerial Application Equipment**-fixed-wing and helicopter

**Ground Application Equipment**-boom or boomless systems, pull-type sprayers, floaters, pick-up sprayers, spray coupes and other ground broadcast application equipment

**Handheld Sprayers**-backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers\*, lances and other handheld and motorized spray equipment used to direct the spray onto weed foliage

\* This product is not registered in California or Arizona for use in mistblowers.

**Selective Application Equipment**-shielded and hooded sprayers, wiper applicator, sponge bar

**Injection Systems**-aerial or ground injection sprayers

**Controlled Droplet Applicator (CDA)**-handheld or boom-mounted applicators that produce a spray consisting of a narrow range of droplet sizes

APPLY THIS PRODUCT USING PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF ACCURATELY DELIVERING DESIRED VOLUMES. Do not apply this product through any type of irrigation system.

### 7.1 Spray Drift Management

AVOID CONTACT OF THIS HERBICIDE WITH FOLIAGE, STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, AS SEVERE PLANT INJURY OR DESTRUCTION COULD RESULT.

Do not allow the herbicide solution to mist, drip, drift, or splash onto desirable vegetation, as small quantities of this product can cause severe damage or destruction to the crop, plants or other vegetation on which application was not intended.

AVOID DRIFT. USE EXTREME CARE TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS WHEN APPLYING THIS PRODUCT.

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

The likelihood of injury occurring as the result of spray drift while applying this product increases when winds are gusty, as wind velocity increases, when wind direction is constantly changing or when there are other meteorological conditions that favor spray drift. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift.

TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFERS MUST BE MAINTAINED.

AVOID APPLYING THIS PRODUCT AT EXCESSIVE SPEED OR SPRAYER PRESSURE.

### 7.2 Aerial Application Equipment

Unless otherwise prohibited, all applications of this product described on this label may be made using aerial application equipment where appropriate, provided that the applicator complies with the precautions and restrictions specified on this label or on separate supplemental labeling published for this product.

DO NOT APPLY THIS PRODUCT USING AERIAL APPLICATION EQUIPMENT EXCEPT UNDER CONDITIONS SPECIFIED ON THIS LABEL OR ON SEPARATELY PUBLISHED SUPPLEMENTAL LABELING FOR THIS PRODUCT.

FOR SPECIFIC USE INSTRUCTIONS, RESTRICTIONS AND REQUIREMENTS RELATED TO THE AERIAL APPLICATION OF THIS PRODUCT IN ARKANSAS AND CALIFORNIA, OR SPECIFIC COUNTIES THEREIN, REFER TO THE LIMITATIONS ON AERIAL APPLICATION IN THAT STATE OR COUNTY PRESENTED IN THIS SECTION.

Unless otherwise directed, the maximum single application rate of this product is 44 fluid ounces per acre when using aerial application equipment. Apply this product at the appropriate rate in 3 to 15 gallons of water per acre unless otherwise directed on this label or on separate supplemental labeling for this product. Refer to the individual use sections of this label for application rates, spray volumes and additional directions for use.

Drift control reduction additives may be used.

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

#### **Aircraft Maintenance**

Thoroughly wash aircraft, especially landing gear, after each day of spraying to remove residues of this product accumulated during spraying or from spills. PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES COULD RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. LANDING GEAR IS MOST SUSCEPTIBLE. The maintenance of an organic coating (paint) that meets aerospace specification MIL-C-38413 can help prevent corrosion.

#### **AERIAL SPRAY DRIFT MANAGEMENT**

The following drift management requirements must be followed to minimize off-target drift movement during aerial application. These requirements do not apply to forestry applications.

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 must be followed.

#### **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 the application is made improperly, or under unfavorable environmental conditions, such as in windy, high temperature with low humidity, and/or inversion conditions as described below.

#### **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:** Operate at a sprayer pressure towards the lower end of the range listed 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 the 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 air stream, 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 could further reduce drift without reducing swath width.
- **Application height:** Application must be made at a height of 10 feet or less above the top of the largest plants unless a greater height is required for aircraft safety. Making the application at the lowest height that is safe reduces the exposure of the droplets to evaporation and wind.

#### **Swath Adjustment**

When an application is made with a crosswind present, the swath will be displaced downwind. Therefore, on the upwind and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Increase the swath adjustment distance with increasing drift potential (higher wind, smaller droplets, etc.).

#### **Wind**

Drift potential is lowest at wind speeds of between 2 and 10 miles per hour. However, many factors, including droplet size and equipment type, determine drift potential at any given wind speed. Avoid application 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. Every applicator must be familiar with local wind patterns and how they affect drift.

#### **Temperature and Humidity**

When making an application in low relative humidity, set application equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

#### **Temperature Inversion**

Do not apply this product during a temperature inversion as drift potential is high under these conditions. Temperature inversions restrict vertical air mixing, which causes small droplets to remain suspended 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**

Apply this product only 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.



## State Specific Limitations on Aerial Application

### LIMITATIONS ON AERIAL APPLICATION IN CALIFORNIA ONLY

DO NOT apply this product using aerial application equipment in residential areas.

AVOID DRIFT – DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT OF THIS PRODUCT ONTO ANY VEGETATION TO WHICH APPLICATION WAS NOT INTENDED CAN CAUSE DAMAGE. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, USE PROPER AERIAL APPLICATION EQUIPMENT FITTED WITH APPROPRIATE NOZZLES AND MAINTAIN ADEQUATE BUFFERS.

Follow the directions below when making an aerial application near non-target crops, desirable annual vegetation, or desirable perennial vegetation after bud break and before total leaf drop.

1. Do not apply this product within 100 feet of all desirable vegetation or non-target crops.
2. If winds are blowing up to 5 miles per hour TOWARD desirable vegetation or non-target crops, do not apply this product within 500 feet of the desirable vegetation or crops.
3. If winds are blowing between 5 and 10 miles per hour TOWARD desirable vegetation or non-target crops, a buffer zone greater than 500 feet might be needed to protect the desirable vegetation or crops.
4. Do not apply this product using aerial application equipment when winds are blowing in excess of 10 miles per hour.
5. Do not apply this product using aerial application equipment when inversion conditions exist.

When tank-mixing this product with 2,4-D, only 2,4-D amine formulations may be applied in California using aerial application equipment. Tank mixtures of this product with 2,4-D amine formulations may be applied by air in California in fallow fields and in reduced tillage systems, and for alfalfa and pasture renovation applications only. This product, when tank-mixed with dicamba, may not be applied by air in California.

### ADDITIONAL LIMITATIONS FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

The following information applies only from February 15 through March 31 within the following boundaries of Fresno County, California:

North: Fresno County line

South: Fresno County line

East: State Highway 99

West: Fresno County line

Observe the following directions to minimize off-site movement during aerial application of this product. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor and aerial applicator.

#### Written Directions

Written directions MUST be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. These written directions MUST state the proximity of surrounding crops and that conditions of each manufacturer's product label and this label have been satisfied.

#### Aerial Applicator Training and Equipment

Aerial application of this product is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved fly-ins constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

**Application at Night** – Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product, call 1-800-332-3111.

### LIMITATIONS ON AERIAL APPLICATION IN ARKANSAS ONLY

AVOID DRIFT. DO NOT APPLY INTO STILL AIR WHERE THERE IS A TEMPERATURE INVERSION LAYER LOW ENOUGH FOR FINE SPRAY PARTICLES TO BECOME SUSPENDED AND MOVE OUTSIDE THE TARGET AREA WHEN THE INVERSION LAYER MOVES. DO NOT APPLY WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION THAT FAVORS DRIFT. DRIFT IS LIKELY TO CAUSE DAMAGE TO ANY VEGETATION CONTACTED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.

Apply this product at the appropriate rate in 3 to 15 gallons of water per acre.

Use sufficient carrier volume and appropriate equipment set-up to form droplets large enough to avoid drift potential. Coarse droplets in the 300 to 500 (VMD) micron range have a lower drift potential.

Applications are typically to be made with the nozzle release point at 8 to 15 feet above the top of the target plants unless a greater height is required for aircraft safety.

The distance of the outermost nozzles on the boom must not exceed 75 percent of the length of the wingspan or rotor. In many cases, reducing this distance to 65 percent of the length of the wingspan or rotor will improve drift control without affecting the swath width.

Nozzles must always discharge backward parallel with the air stream and never discharge downwards more than 45 degrees on fixed wing aircraft or forward of the prevailing airflow on rotary winged aircraft. Avoid the use of nozzles with wide-angle discharge.

Do not apply this product when winds are in excess of 10 miles per hour.

Do not apply when there is a low-level inversion where fine spray particles could be suspended in still air and move outside the target area when the inversion layer moves. These conditions can occur when wind speeds are less than 2 miles per hour.

Follow the directions below when an aerial application is made near non-target crops or other desirable vegetation:

1. Do not apply this product within 100 feet of non-target crops or any desirable vegetation.
2. If winds are blowing up to 5 miles per hour TOWARD non-target crops or desirable vegetation, do not apply this product within 500 feet upwind of the desirable vegetation or crop.
3. If winds are blowing between 5 and 10 miles per hour TOWARD non-target crops or desirable vegetation, a buffer zone greater than 500 feet might be needed to protect the crop or desirable vegetation.

### **7.3 Ground Application Equipment**

Apply this product at the appropriate rate as specified on this label in 3 to 40 gallons of water per acre when making a broadcast application using ground application equipment, unless otherwise directed on this label or on separate supplemental labeling or Fact Sheets published for this product. As the weed density increases, increase the spray volume towards the upper end of this range to ensure complete coverage. Use nozzles that will avoid generating a fine mist. For enhanced results with ground application equipment, use flat-fan nozzles. Check spray pattern for uniform distribution of spray droplets.

### **7.4 Handheld Sprayers**

When using a handheld sprayer, apply spray solutions of this product uniformly and completely to the foliage of target weeds using a coarse droplet spectrum and a spray-to-wet technique; do not spray to the point of runoff. For the appropriate concentration of this product in the spray solution and timing of application to control specific weeds, woody brush, trees and vines, refer to the "ANNUAL WEEDS RATE SECTION," "PERENNIAL WEEDS RATE SECTION" and "WOODY BRUSH, TREES AND VINES RATE SECTION" of this label.

Spot treatment application of this product for weed control in a cropping system using a handheld sprayer may be made only when specifically directed on this label or on separate supplemental labeling for this product. The crop sprayed with this product will be killed along with the weeds. Take care not to spray or allow spray to drift outside the target area in order to avoid unwanted crop destruction.

### **7.5 Selective Application Equipment**

Selective application equipment allows this product to be applied to weeds growing near the crop or other desirable vegetation without killing the desirable vegetation. Selective application equipment must be capable of preventing all contact of the herbicide solution with the crop or other desirable vegetation and operated without spray mist escape, leakage, or dripping of the herbicide solution.

AVOID CONTACT OF THIS HERBICIDE WITH DESIRABLE VEGETATION. Contact of this product with desirable vegetation could result in unwanted plant damage or destruction. To the extent consistent with applicable law, such damage shall be the sole responsibility of the applicator.

#### **Shielded and Hooded Sprayers**

A shielded sprayer directs the herbicide solution to the target weeds while protecting the crop or other desirable vegetation from being contacted by the herbicide spray with an impervious material or shield. Use nozzles that provide uniform coverage within the application area. Keep shields properly adjusted to protect desirable vegetation.

A hooded sprayer is a type of shielded sprayer where the spray pattern is fully enclosed, including the top, sides, front and back, thereby shielding the crop or other desirable vegetation from the spray solution.

This product may be diluted in water and applied using a shielded or hooded sprayer to weeds listed on this label growing on any non-crop site described on this label and in between rows of plants (row middles) in any cropping system listed on this label.

Properly adjust the hood to protect desirable vegetation. Ensure that the hood is capable of completely enclosing the spray pattern. If necessary when applying around crops grown on raised beds, extend the front and rear flaps of the hooded sprayer downward to reach the ground in deep furrows.

A hooded sprayer must be configured and operated in a manner that minimizes bouncing and avoids raising the hood up off the ground surface at any time. If the hood is raised, spray particles can escape and come into contact with the crop, causing damage to or destruction of the crop or other desirable vegetation. Avoid operating this equipment on rough or sloping terrain where the spray hood is likely to rise up off the ground surface.

Use hoods designed to minimize excessive dripping or runoff down the inside of the hood, such as a single, low pressure, low-drift, flat-fan nozzle with an 80- to 95-degree spray angle positioned at the top center of the hood, with a spray volume of 20 to 30 gallons per acre.

The following procedures will help reduce the potential for crop injury when using a hooded sprayer:

- Operate the sprayer with the hood on the ground or skimming across the ground surface.
- Leave at least an 8-inch untreated strip over the drill row. (For example, if the crop row width is 38 inches, make the maximum width of the spray hood 30 inches.)
- Operate at a ground speed of no greater than 5 miles per hour to minimize bouncing of the hooded sprayer.
- Apply when wind speed is 10 miles per hour or less.
- Use low-drift nozzles that will provide uniform coverage within the application area.

Injury to a crop or other desirable vegetation can occur when application is made to foliage of weeds that come into direct contact with the crop or desirable vegetation. Do not apply this product when leaves of desirable vegetation are growing in direct contact with weeds. Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation can result in discoloration, stunting or destruction.

#### **Wiper Applicator**

A wiper applicator is a device that physically wipes this product or solutions of this product directly onto the target weed or cut stump. Any handheld device that is capable of physically wiping this product or solutions of this product directly onto the target weed or cut stump, such as a paint brush, may be used.

A mechanical wiper applicator, such as a rope wick or sponge bar that can be driven through a field over the top of a crop or other desirable vegetation to control weeds that are taller than the desirable vegetation, must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation.

When using a mechanical wiper applicator, adjust the height of the applicator to ensure adequate contact with weeds and so that the wiper contact point is a minimum of 2 inches above the desirable vegetation. Enhanced results can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds that do not come into contact with the herbicide solution will not be affected. Poor contact can occur when weeds are growing in dense clumps, when operating in an area of severe weed infestation or when weed height varies dramatically. In these situations, more than one application of this product might be necessary.

Operate wiper applicators at a ground speed of no greater than 5 miles per hour. Performance in areas of heavy weed infestation can be improved by reducing speed, which will provide more time for re-saturation of the wiper with the herbicide solution and more contact time of the wiper with the weed. Enhanced results with a wiper applicator can be obtained when two applications are made travelling in opposite directions in the field.

Keep wiper surfaces clean.

Droplets, mist, foam or splatter of the herbicide solution settling onto desirable vegetation can result in discoloration, stunting or destruction. Avoid leakage or dripping onto desirable vegetation. Be aware that on sloping ground the herbicide solution can migrate to one side, causing dripping on the lower end and drying of the wiper on the upper end of the applicator.

Do not apply this product using a wiper applicator when weeds are wet.

Do not add surfactant to the herbicide solution when using a wiper applicator.

**For Rope and Sponge Wick Applicators-** use solutions ranging from 33 to 75 percent of this product in water.

**For Panel Applicators-** use solutions ranging from 33 to 100 percent (undiluted) of this product in water.

Mix only the amount of this product that will be used during a 1-day period, as reduced product performance can result from the use of solutions held in storage.

Clean wiper parts promptly after using this product by thoroughly flushing with water.

### **7.6 Injection Systems**

This product may be used in aerial and ground injection spray systems as a liquid concentrate or diluted prior to injecting into the spray stream. Do not mix this concentrated product with the undiluted concentrate of other products for use in injection systems, unless otherwise directed.

### **7.7 Controlled Droplet Applicator (CDA)**

The amount of this product applied per acre using a controlled droplet applicator (CDA) must be no less than the rate specified on this label for application using conventional broadcast application equipment.

A controlled droplet applicator produces a spray pattern that is not easily visible. Use extreme care to avoid spray or drift from contacting the foliage or any other green tissue of desirable vegetation, as plant damage or destruction could result.

## **8.0 NONCROP TERRESTRIAL USE SITES**

This product may be used according to the directions for use described on this label to control weeds, woody brush, trees and vines listed on this label on any terrestrial site described on this label.

This product may be used to control weeds, woody brush, trees and vines on maintained landscapes, on improved and unimproved land, on lawns and turf and around ornamentals on industrial, commercial and residential sites, including airports, apartment complexes, chaparrals, ditch banks, driveways, dry ditches, dry canals, farmsteads, fencerows, forestry sites, golf courses, greenhouses, lumber yards, manufacturing sites, municipal sites, natural areas, nurseries, office complexes, ornamental beds, parks, parking areas, pastures, petroleum tank farms, pumping installations, railroads, rangeland, recreational areas, residential areas, roadsides, schools, shadehouses, sod and turfgrass seed farms, sports complexes, storage areas, substations, utility rights-of-way, utility sites, warehouse areas, wildlife food plots and wildlife management areas.

This product may be used for non-selective control of unwanted vegetation on any site listed on this label for trim-and-edge application around objects, including around building foundations, equipment storage areas and trees, along and in fences, and to eliminate unwanted weeds growing in and around established shrub beds and ornamental plantings. This product may also be used for complete elimination of vegetation from a terrestrial site prior to planting ornamentals, flowers, or turfgrass (sod or seed), and prior to land development, including prior to beginning construction projects or the laying of asphalt or other road material. Application of this product may be repeated, as needed, to maintain bare ground, up to a total application of 7 quarts per acre per year.

This product may be used for establishment and maintenance of fuel breaks, for establishing fire perimeters and black lines, along fire roads and to facilitate prescribed burning practices on any site described on this label.

This product may also be used for weed control or growth regulation on Christmas tree farms, farmsteads, production nurseries, and sod farms and turfgrass seed farms. Unless otherwise directed, application of this product may be made according to the directions for use in the sections that follow on any of these sites using any method of application described on this label to control any weeds, woody brush, trees and vines listed in the “ANNUAL WEEDS RATE SECTION,” “PERENNIAL WEEDS RATE SECTION” and “WOODY BRUSH, TREES AND VINES RATE SECTION” of this label.

## 9.0 ADDITIONAL NONCROP SITE MANAGEMENT INFORMATION

The following sections contain additional use information specifically related to certain use sites. Unless otherwise directed, any application of this product described in the “WEEDS CONTROLLED” section or any other section of this label may be made on the use sites described in the sections that follow, where applicable, using any method of application described on this label that is appropriate.

### 9.1 Forestry, Hardwood and Christmas Tree Management

This product may be used for control or partial control of woody brush, trees and herbaceous weeds on any tree site, including forestry settings, Christmas tree plantations, and silvicultural and production nursery sites, using any method of application listed on this label. See the “WEEDS CONTROLLED” section of this label for application rates and specific use directions.

#### Weed Management, Site Preparation

This product may be used to control or partially control undesirable woody brush, trees, vines and herbaceous weeds listed on this label for preparing sites prior to planting any tree species, including Christmas trees, eucalyptus trees and hybrid tree cultivars, and for controlling weeds around established trees, for the release of conifer and hardwood trees, establishing wildlife openings and maintaining roads on any tree site.

**TANK MIXTURES:** This product may be applied in a tank-mix with the products listed in this section to increase the spectrum of vegetation controlled. Any application rate of this product listed on this label may be used in a tank-mix with the following products for tree site management, including site preparation, provided that the product is labeled for the use on the site of application and prior to planting the desired species. Refer to the individual label of all products used in the tank mixture for approved uses and application rates. Read and follow directions for use and precautions for each product used, including planting interval restrictions, if any. Use this product according to the most restrictive precautionary statements of any product in the mix.

imazapyr; metsulfuron methyl; sulfometuron methyl; triclopyr

Patriot; Polaris; Spyder Extra; Tahoe

For control of herbaceous weeds, apply these tank-mix products at the lower end of the application rate range specified on the product label. For control or partial control of dense stands or for hard-to-control woody brush, trees and vines, apply these products at an application rate or spray solution concentration towards the higher end of the given range.

#### Conifer Release

This product may be broadly applied over the top of conifer tree species listed in this section after formation of final conifer resting buds in the fall or prior to initial bud swelling in the spring for control, partial control or suppression of herbaceous weeds and hardwoods listed in the “WEEDS CONTROLLED” section of this label to facilitate the release of these tree species in a forestry, plantation or nursery setting. Unless otherwise directed, make this application only where conifers have been established for a minimum of one growing season.

**PRECAUTIONS:** Conifer injury can occur when this product is applied at rates higher than prescribed on this label, where spray applications overlap, if application is made when conifers are actively growing, or when they are growing under stress from drought, flood, improper planting or insect, animal or disease damage.

#### Conifer Release Outside the Southeastern United States

For release of the following conifer species growing for a minimum of one growing season in most areas outside the southeastern United States, apply 22 to 44 fluid ounces of this product per acre as a broadcast application over the top of the conifer trees.

Douglas fir	Hemlock	California redwood
Fir species	Pines*	Spruce

\*Includes all species **except** loblolly pine, longleaf pine, shortleaf pine or slash pine.

Apply 22 to 36 fluid ounces of this product for release of Douglas fir, pine and spruce that have been established for only one growing season (except in California).

For release of spruce (*Picea* spp.) in Maine, Michigan, Minnesota, New Hampshire and Wisconsin, up to 2 quarts of this product may be applied after formation of final resting buds in the fall for control of woody brush and tree species.

**PRECAUTIONS:** Ensure that the conifers are well hardened off before application of this product. The addition of non-ionic surfactants to spray solutions of this product when making over-the-top conifer release applications could cause conifer injury.

#### Conifer Release in the Southeastern United States

For release of the following conifer species established for more than one growing season in the southeastern United States, apply 32 to 54 fluid ounces of this product per acre in the fall as a broadcast application over the top of the trees. For release of these species after only one growing season, apply only 22 fluid ounces of this product per acre.

Eastern white pine	Longleaf pine	Slash pine
Loblolly pine	Shortleaf pine x	Virginia pine

**TANK MIXTURES:** This product may be applied for conifer release in a tank-mix with the following products to provide a broader spectrum of postemergence weed control and for residual control of weeds listed on the label of those products. Only apply these tank mixtures over the top of conifer species that are approved for this use for all products in the mix. Refer to the individual product labels for approved uses and application rates. Read and follow all directions for use and precautions for each product used. Use this product according to the most restrictive precautionary statements of any product in the mixture.

atrazine; imazapyr; sulfometuron methyl

Polaris; Spyder Extra

For release of Douglas fir established for a minimum of one growing season prior to bud swell in early-spring, apply 22 fluid ounces of this product in a tank-mix with 4 pounds (active ingredient) of atrazine per acre.

For herbaceous release of loblolly pine, Virginia pine and longleaf pine in the spring and early-summer, apply 11 to 16 fluid ounces of this product in a tank-mix with 2 to 4 ounces of Spyder Extra per acre.

#### **Late-Summer and Fall after Resting Bud Formation**

For release of jack pine and white spruce, apply 22 to 44 fluid ounces of this product in a tank-mix with 1 to 3 ounces of Spyder Extra per acre. For release of white pine, apply 22 to 44 fluid ounces of this product in a tank-mix with 1 to 1.5 ounces of Spyder Extra per acre.

For release of Douglas fir, apply 22 to 32 fluid ounces of this product in a tank-mix with 2 to 6 ounces of Polaris per acre.

For release of balsam fir and red spruce, apply 44 fluid ounces of this product in a tank-mix with 1 to 2.5 ounces of Polaris per acre.

## **9.2 Native and Wildlife Habitat Management**

This product may be used to control exotic and other undesirable vegetation in wildlife habitat and natural areas, including riparian and estuarine areas, rangeland, and wildlife refuges. Application may be made to allow recovery of native plant species or prior to planting desirable native species, and for similar broad-spectrum vegetation control. Spot treatment, cut stump, cut stem, stem injection, wiper applicator and all other methods of application listed on this label may be used to selectively remove unwanted plants for habitat management and enhancement.

This product may also be used to eliminate annual and perennial weeds prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait a minimum of 7 days after application before tilling to allow translocation of this product into underground plant parts.

## **9.3 Ornamental and Production Nursery Management**

All uses of this product described on this label may be used in a plant nursery setting using any method of application described.

This product may be used to control weeds growing around established woody ornamental species, such as arborvitae, azalea, boxwood, crabapple, eucalyptus, euonymus, fir, Douglas fir, jojoba, hollies, lilac, magnolia, maple, oak, poplar, privet, pine, spruce and yew. This product may also be used to trim and edge around potted plants and other objects in a plant nursery.

This product may also be used to clear an area of unwanted vegetation prior to planting any ornamental plant, tree, shrub or other plants.

**PRECAUTIONS:** Protect desirable plants from the spray solution using shields or coverings made of waterproof material. Take care to avoid contact of spray, drift or mist with foliage, green stems or immature bark of established ornamental species.

#### **Greenhouse/Shadehouse**

This product may be used to control weeds growing in and around greenhouses and shadehouses.

**RESTRICTIONS:** Desirable vegetation must not be present during application in a greenhouse. Turn air circulation fans off before applying this product inside a greenhouse or shadehouse and until the application solution has dried.

## **9.4 Commercial, Residential and Recreational Area Management**

All applications of this product described on this label may be used on commercial, residential and recreational areas, including parks, schools and athletic fields, using any method of application described on this label, including spot treatment of unwanted vegetation, trim-and-edge application around trees, fences, walking paths, buildings, sidewalks, nature trails, and other objects in these areas, to eliminate unwanted weeds growing in established shrub and ornamental beds, for turf management and renovation, and to eliminate vegetation from a site prior to development, including prior to planting an area to ornamentals, flowers or turfgrass (sod or seed), or beginning construction projects.



## 9.5 Pasture Management

The use of this product in pastures includes use on bahiagrass, bermudagrass, bluegrass, brome, fescue, guineagrass, kikuyugrass, orchardgrass, pangola grass, ryegrass, Timothy, and wheatgrass.

### Preplant, Preemergence, Pasture Renovation

This product may be applied prior to planting or emergence of forage or perennial grasses. Refer to the "WEEDS CONTROLLED" section of this label for application rates of this product for control of specific weeds.

**RESTRICTIONS:** If the total application rate of this product is 2 quarts per acre or less, no waiting period between application and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait a minimum of 8 weeks after application before grazing or harvesting.

### Spot Treatment, Wiper Applicator

This product may be applied in pastures as a spot treatment or over the top of desirable grasses using a wiper applicator to control taller growing weeds. For enhanced weed control, remove domestic livestock before application to allow for sufficient plant growth and wait a minimum of 7 days after application before grazing livestock or harvesting for feed. See additional instructions on the use of wiper applicators in the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label.

**RESTRICTIONS:** For spot treatment or use with a wiper applicator at rates of 2 quarts per acre or less, this product may be applied over the entire pasture or any portion of it. At rates greater than 2 quarts per acre, this product may be applied over no more than 10 percent of the total pasture at any one time. Application may be repeated in the same area at 30-day intervals.

### Weed Suppression in Dormant Pastures

This product may be applied in dormant pastures to suppress competitive growth and seed production of annual weeds and other undesirable vegetation. Apply 8 to 11 fluid ounces of this product per acre using broadcast application equipment on pastures in late-fall after desirable perennial grasses have reached dormancy or in late-winter before desirable perennial grasses break dormancy and initiate green growth.

**PRECAUTIONS:** Higher application rates may be used for hard-to-control weeds; however, higher rates can cause stand reduction. Some stunting of perennial grasses can occur if broadcast application is made when they are not dormant.

**RESTRICTIONS:** No waiting period is required between application and grazing or harvesting for feed. Do not apply more than 2 quarts of this product per acre per year onto pasture grasses except for renovation. If reseeding is needed due to severe stand reduction, no waiting period is required after application of this product before seeding the pasture grasses listed at the beginning of this section; for all other pasture grasses, wait a minimum of 30 days after application before seeding.

## 9.6 Railroad Management

All uses of this product described in the "WEEDS CONTROLLED" or any other section of this label may be used on railroad sites using any method of application described.

Application of this product along railroad rights-of-way may be made in up to 80 gallons of spray solution per acre.

### Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders and reduce the need for mowing and mechanical brush removal along railroad rights-of-way. Application of this product may be repeated as weeds continue to emerge in order to maintain bare ground, up to a maximum total application rate of 7 quarts of this product per acre per year.

**TANK MIXTURES:** This product may be applied in a tank mixture with the following products for enhanced control of woody brush and trees for bare ground, ballast and shoulder, crossing and spot treatment, and brush, tree and vine control on railroad sites, provided that the product used is labeled for these applications. Refer to the individual label of all products used in the tank mixture for approved uses and application rates. Always read and follow label directions for each product in the mix.

2,4-D; atrazine; bromacil; chlorsulfuron; clopyralid; dicamba; diquat; diuron; hexazinone; imazapyr; metsulfuron methyl; pelargonic acid; simazine; sulfometuron methyl; sulfosulfuron; tebuthiuron; triclopyr

Hyvar; Krovar; Outrider; Patriot; Polaris; Princep; Sahara; Scythe; Spike; Spyder Extra; Tahoe; Telar; Transline; Velpar; Weedar 64

### Brush, Tree and Vine Control

This product may be used to control woody brush, trees and vines along railroad rights-of-way. Apply 2.5 to 7 quarts of this product in up to 80 gallons of spray solution per acre as a broadcast application using either a boom or boomless sprayer. Apply a 0.7- to 1.5-percent solution of this product when using high-volume application equipment with a spray-to-wet technique, or a 4- to 7-percent solution when using low-volume directed sprays for spot treatment.

**TANK MIXTURES:** This product may be applied in a tank-mix with one or more of the following products for enhanced control of woody brush, trees and vines along railroad rights-of-way, provided that the product used is labeled for use on these sites. Refer to the individual product label for approved sites and application rates.

chlorsulfuron; clopyralid; dicamba; fosamine; hexazinone; imazapyr; metsulfuron methyl; picloram; triclopyr

Krenite; Patriot; Polaris; Tahoe; Telar; Tordon; Transline; Vanquish; Velpar

### Weed Control in Dormant and Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds in dormant and actively growing bermudagrass along railroad rights-of-way. See the "WEEDS CONTROLLED" section of this label for directions for use of this product for weed control in grasses.



## 9.7 Rangeland Management

This product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangeland. Slight discoloration of the desirable grasses could occur, but will re-green and resume growing under moist soil conditions as effects of this product wear off.

Preventing seed production is critical to the control of invasive annual grassy weeds on rangeland. Yearly application of this product to eliminate invasive annual weeds before they produce seed will help eliminate viable weed seeds from the soil. Delay grazing of the area after application of this product to allow desirable perennials to grow, flower and re-seed the area.

**Bromus Control:** A broadcast application of 5 to 11 fluid ounces of this product per acre will control or suppress downy brome (*Bromus tectorum*), Japanese brome (*Bromus japonicus*), soft chess (*Bromus mollis*), cheatgrass (*Bromus secalinus*), cereal rye and jointed goatgrass on rangeland. For enhanced results, apply this product when most brome plants are in early-flower and before the plants, including seedheads, turn color. Allow for secondary weed flushes to occur after spring rains to further deplete the seed reserve in the soil and encourage perennial grass conversion on weedy sites. Apply this product in the fall in areas where spring moisture is normally limited and fall germination allows for good weed growth and weed seed depletion.

**Medusahead Control:** To control or suppress medusahead, apply 11 fluid ounces of this product per acre at the 3-leaf stage. Delaying application beyond this stage will result in reduced or unacceptable control. Controlled burning prior to application of this product will eliminate the thatch layer produced by slowly decaying culms. Allow new weed growth to occur before applying this product after a burn. Repeat this application annually to eliminate medusahead seeds in the soil and allow desirable perennial grasses to repopulate the area.

**RESTRICTIONS:** Do not apply more than 2 quarts of this product per acre per year on rangeland. Do not use ammonium sulfate when applying this product on rangeland grasses. No waiting period between application of this product and feeding or livestock grazing is required.

## 9.8 Roadside Management

All uses of this product described on this label may be used for weed management along roadways, including weed control in dormant and active bermudagrass and bahiagrass, weed control along shoulders and under and around guardrails, signposts and other objects along the road, using any method of application described on this label.

**TANK MIXTURES:** This product may be tank-mixed with the following products for shoulder, guardrail, spot treatment and maintaining bare ground applications, provided that the product used is labeled for use on these sites. Refer to the individual product labels for approved uses and application rates.

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2,4-D; atrazine; bromacil; chlorsulfuron; clopyralid; dicamba; diuron; fosamine; hexazinone; imazapic; imazapyr; metsulfuron methyl; oryzalin; oxadiazon; pendimethalin; picloram; prodiamine; simazine; sulfometuron; sulfosulfuron; triclopyr

Crossbow; Endurance; Gallery; Krovar; Landmark; Outrider; Patriot; Plateau; Poast; Ronstar; Sahara; Spyder Extra; Surflan; Telar; Velpar; Weedar 64

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## 9.9 Utility Management

This product may be used along electrical power, pipeline and telephone rights-of-way, and on all sites associated with these utility rights-of-way, including substations, access roads and railroads, and along similar rights-of-way that run in conjunction with utilities, for spot treatment of unwanted vegetation, side-trimming, trim-and-edge application around objects, weed control prior to planting a utility site to ornamentals, flowers, or turfgrass (sod or seed), turf management, to eliminate unwanted weeds growing in established shrub or ornamental beds, to prepare or establish wildlife openings and for eliminating vegetation prior to beginning construction projects. Application of this product may be repeated as needed to maintain bare ground as weeds continue to emerge, up to a maximum application rate of 7 quarts per acre per year.

**TANK MIXTURES:** This product may be tank-mixed with the following products for use on utility sites, provided that the product used is labeled for use on these sites. Refer to the individual product label for approved uses and application rates. For control of herbaceous weeds, use a lower application rate or spray solution concentration within the given ranges for these tank-mix products and increase the rate or concentration toward the higher end of the ranges for control of dense stands or hard-to-control woody brush, trees and vines.

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2,4-D; atrazine; bromacil; chlorsulfuron; clopyralid; dicamba; diuron; fosamine; hexazinone; imazapic; imazapyr; metsulfuron methyl; oryzalin; pendimethalin; prodiamine; simazine; sulfometuron methyl; sulfosulfuron; triclopyr

Endurance; Krenite; Krovar; Outrider; Patriot; Polaris; Plateau; Sahara; Spyder Extra; Surflan; Tahoe; Telar; Transline; Vanquish; Velpar; Weedar 64

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Ensure that the Tahoe product is thoroughly mixed with water according to label directions before adding this product to the spray mixture. Maintain continuous agitation when adding this product in order to avoid tank-mix compatibility problems.

For enhanced results with side trimming, apply this product in a tank-mix with Tahoe.

## 9.10 Bioenergy

This product may be applied as preplant broadleaf weed control, preemergent broadleaf weed control, and for broadleaf weed control when the crop is in a state of dormancy, for giant reedgrass (*Arundo donax*), switchgrass (*Panicum virgatum*) giant Miscanthus (*Miscanthus x giganteus*) and other non-food perennial grass bioenergy crops. It also can be applied as preplant broadleaf weed control, preemergent broadleaf weed control, and for broadleaf weed control when the crop is in a state of dormancy, for hybrid poplar trees, cottonwood trees and willow trees grown as bioenergy crops. Apply when weeds are actively growing.

This product can be used to control undesirable vegetation when the bioenergy crop is in a state of dormancy for broadleaf weed control. Bioenergy crops include giant reedgrass (*Arundo donax*), switchgrass (*Panicum virgatum*) giant Miscanthus (*Miscanthus x giganteus*), and other non-food perennial grass bioenergy crops. It also can be used to control undesirable vegetation in hybrid poplar trees, cottonwood trees and willow trees grown as bioenergy crops when the bioenergy crop is in a state of dormancy.

For specific rates of application for various annual and perennial weeds, see the “WEEDS CONTROLLED” section of the label. Applications may be made with wiper applicators or conventional spray equipment. For selective applications with broadcast spray equipment, apply 8 to 10.7 fluid ounces per acre of this product in early spring before desirable bioenergy crops break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Treat when bioenergy crops are in a state of dormancy. Bioenergy crop injury may occur if applications are made when crops are not dormant.

**PRECAUTIONS:**

- Use sufficient gallonage for thorough and uniform coverage, but a minimum of 8 gallons per acre for broadcast application.
- Apply to actively growing grass and broadleaf weeds.
- This product does not provide residual control; therefore, delay application until maximum weed emergence. A second treatment may be necessary to control later germinating weeds.

**RESTRICTIONS:**

- Maximum of 5.3 quarts of this product per acre per year.
- Do not make more than 2 applications per year.
- Applications must be made at least 30 days prior to planting.
- Do not apply through any type of irrigation system.
- Do not hay or graze treated plantings.
- Treated plantings not to be consumed by human or animal.

## 10.0 NONCROP WEEDS CONTROLLED

Read the entire label before proceeding to use this product.

Always use the higher application rate or spray solution concentration of this product within a given range when weed growth is heavy or dense, or when weeds are growing in an undisturbed (non-cultivated) area.

Poor weed control could be realized if application is made to weeds covered with dust. For weeds that have been mowed, grazed or cut, allow re-growth to occur prior to application of this product.

Refer to the sections that follow for application rates and timing of application for the control of annual and perennial weeds, woody brush, trees and vines.

### 10.1 Weed Control, Renovation and Chemical Mowing in Turf

The use of this product described in this section may be applied to turfgrass growing on any terrestrial site listed on this label. Ensure that any tank-mix product applied with this product is labeled for the intended use and on the site of application.

#### Weed Control in Dormant Bermudagrass and Bahiagrass

This product may be used to control or suppress many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass prior to spring green-up in areas where these turfgrasses are desirable ground covers and some temporary injury or discoloration can be tolerated.

Apply 5 to 44 fluid ounces of this product in 10 to 40 gallons of water per acre when bermudagrass and bahiagrass are dormant and prior to spring green-up.

Application of more than 11 fluid ounces of this product per acre on highly maintained bermudagrass and bahiagrass turf, such as golf courses and lawns, could result in injury or delayed green-up in the spring.

For residual weed control in dormant bermudagrass and bahiagrass, this product may be tank-mixed with Outrider<sup>®</sup> or Spyder Extra herbicides. Apply 5 to 44 fluid ounces of this product in a tank-mix with 0.75 to 1.33 ounces of Outrider herbicide per acre, or with 0.25 to 1 ounce of Spyder Extra herbicide in 10 to 40 gallons of water per acre. To avoid delays in green-up and minimize injury, apply no more than 1 ounce of Spyder Extra herbicide per acre on bermudagrass and no more than 0.5 ounce on bahiagrass and avoid application when these grasses are in a semi-dormant condition.

DO NOT apply this product in a tank-mix with Outrider or Spyder Extra herbicides on highly maintained bermudagrass and bahiagrass turf, such as on golf courses and lawns.

#### Weed Control in Actively Growing Bermudagrass

This product may be used to control or partially control many annual and perennial weeds in actively growing bermudagrass. Some bermudagrass injury could result from the application of this product, but the bermudagrass will recover under moist conditions once the effects of the product wear off. Use only on well-established bermudagrass where some temporary injury or discoloration can be tolerated.

Apply 11 to 32 fluid ounces of this product in 10 to 40 gallons of spray solution per acre. Use a lower application rate within this range when controlling annual weeds less than 4 inches tall (or runner length) and increase the rate towards the upper end of the range as weeds increase in size or as they approach flower or seedhead formation. At these application rates, this product will provide partial control of the following perennial weeds in actively growing bermudagrass:

Bahiagrass	Fescue, tall	Trumpetcreeper
Bluestem, silver	Johnsongrass	Vaseygrass

**PRECAUTIONS:** Applying more than 11 fluid ounces of this product per acre on highly maintained bermudagrass, such as on golf courses and lawns, could cause unacceptable turf injury and discoloration.

For a broader weed control spectrum in actively growing bermudagrass, this product may be tank-mixed with Outrider or Spyder Extra herbicides. Apply these tank-mixtures only on well-established bermudagrass where some temporary injury or discoloration can be tolerated. Make no more than one application of this product in these tank mixtures in the same season, otherwise the bermudagrass could be severely injured.

Apply 5 to 22 fluid ounces of this product per acre in a tank-mix with 0.75 to 1.33 ounces of Outrider herbicide for control or partial control of johnsongrass and other weeds listed on the Outrider herbicide label. Use the higher application rate of both products within the given ranges for control of annual or perennial weeds greater than 6 inches tall.

Apply 11 to 22 fluid ounces of this product per acre in a tank-mix with 1 to 2 ounces of Spyder Extra herbicide per acre for enhanced control of weeds listed on the Spyder Extra herbicide label. Use a lower application rate of each product within the given ranges to control annual weeds listed on the labels that are less than 4 inches tall (or runner length) and increase the rates toward the upper end of the ranges as annual weeds increase in size and approach the flower or seedhead stage. This tank-mix will provide partial control of the following perennial weeds in actively growing bermudagrass:

Bahiagrass	Dallisgrass	Fescue, tall	Trumpet creeper
Bluestem, silver	Dock, curly	Johnsongrass	Vaseygrass
Broomsedge	Dogfennel	Poorjoe	Vervain, blue

**PRECAUTIONS:** Apply these tank mixtures only on well-established bermudagrass where some temporary injury or discoloration can be tolerated. DO NOT apply this product in a tank mixture with Outrider herbicide or Spyder Extra herbicide on highly maintained bermudagrass, such as on golf courses and lawns.

#### **Weed Control in Actively Growing Bahiagrass**

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 4 fluid ounces of this product in 10 to 40 gallons of water per acre 1 to 2 weeks after full green-up or after mowing to a uniform height of 3 to 4 inches prior to seedhead emergence.

For growth suppression of bahiagrass for up to 120 days, apply 3 fluid ounces of this product per acre, followed by an application of 1.5 to 3 fluid ounces per acre about 45 days later. Make no more than two growth suppression applications per year.

For broad spectrum weed control in actively growing bahiagrass, this product may be tank-mixed with Outrider® or Spyder Extra herbicides.

Apply 1.5 to 3.5 fluid ounces of this product in a tank-mix with 0.75 to 1.33 ounces of Outrider herbicide per acre to control perennial weeds or annual weeds greater than 4 inches in height.

Apply 4 fluid ounces of this product in a tank-mix with 0.25 ounce of Spyder Extra herbicide per acre 1 to 2 weeks following an initial spring mowing for enhanced control of weeds listed on the Spyder Extra herbicide label in actively growing bahiagrass. Make this application only once per year.

**PRECAUTIONS:** Apply these tank mixtures only on well-established bahiagrass where some temporary injury or discoloration can be tolerated.

#### **Turf Renovation**

This product controls most existing vegetation prior to renovating turfgrass areas or establishing turfgrass grown for seed or sod. For maximum control of existing vegetation, delay planting or sodding until after determining if any re-growth of underground plant parts will occur. Where repeat applications are necessary, sufficient re-growth must be attained prior to re-application of this product. Summer or fall application provides enhanced control of warm-season grasses, such as bermudagrass. For managed turfgrass, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray solution.

This product has no residual soil activity and will not affect plants, seed or sod planted back into the area after application.

A handheld sprayer may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast application or spot treatment using a handheld sprayer may be used to control sod remnants or other unwanted vegetation after sod is harvested.

**PRECAUTIONS:** Do not disturb soil or underground plant parts before application of this product. Delay tillage and renovation techniques, such as vertical mowing, coring or slicing, a minimum of 7 days after application to allow translocation of this product into underground plant parts.

**RESTRICTIONS:** If application rates total 2 quarts of this product per acre or less, no waiting period between application and feeding or livestock grazing is required. If the rate is greater than 2 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### **Chemical Mowing**

This product may be used to suppress growth of perennial and annual grasses listed in this section to serve as a substitute for mowing.

**Perennial Grasses** – apply 4 fluid ounces of this product per acre to suppress growth of Kentucky bluegrass, or 5 fluid ounces to suppress tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass in 10 to 40 gallons of spray solution per acre after grasses have greened up to at least 75 percent green color in the spring, or 7 to 10 days after mowing when sufficient re-growth has occurred to provide a desirable height for growth regulation. Use chemical mowing only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

**Annual Grasses** – apply 3 to 4 fluid ounces of this product in 10 to 40 gallons of spray solution per acre to suppress growth of some annual grasses, such as annual ryegrass, wild barley and wild oats when actively growing in coarse turf on roadsides or other industrial areas and before the seedheads are in the boot stage of development. This application could injure the desired annual grasses.

**PRECAUTIONS:** Use this product for chemical mowing only in areas where some temporary injury or discoloration of perennial and annual grasses can be tolerated.

## 10.2 Annual Weeds

Annual weeds are easiest to control when they are small and actively growing. New leaf development indicates active growth.

To control or partially control the annual weeds listed in this section when they are less than 6 inches in height or runner length and actively growing, apply 22 fluid ounces of this product per acre. If they are over 6 inches in height or runner length, or slowly growing under stressed conditions, increase the application rate to 1 to 2.7 quarts per acre, depending on weed height and severity of the poor growing conditions.

For application using a handheld sprayer with a spray-to-wet technique, apply a 0.4-percent solution of this product to annual weeds less than 6 inches in height or runner length prior to seedhead formation in grasses or bud formation in broadleaf weeds. To control annual weeds over 6 inches tall, or even smaller weeds growing under stressed conditions, apply a 0.7- to 1.5-percent solution. Apply the maximum concentration of this product within this range for hard-to-control weeds or weeds over 24 inches tall.

For the control of annual weeds using a handheld controlled droplet applicator (CDA), apply a 15-percent solution of this product (19 to 20 fluid ounces of this product per gallon of spray solution) at a flow rate of 2 fluid ounces of spray solution per minute and a walking speed of 1.5 miles per hour (1 quart of spray solution per acre). When using a vehicle-mounted CDA, apply the appropriate amount of this product in 2 to 15 gallons of water per acre.

For enhanced control, do not mow, cut, till, burn or disturb vegetation in the application area for a minimum of 3 days after application.

This product has no residual soil activity and does not control emergence of new annual weeds from seed. Subsequent applications of this product will be needed to control weeds that continue to emerge.

### ANNUAL WEED SPECIES

Anoda, spurred	Foxtail	Ragweed, common
Balsam apple <sup>1</sup>	Foxtail, Carolina	Ragweed, giant
Barley	Geranium, Carolina	Rice, red
Barley, little	Goatgrass, jointed	Rocket, London
Barnyardgrass	Goosegrass	Rocket, yellow
Bassia, fivehook	Groundsel, common	Rye
Bittercress	Henbit	Ryegrass
Bluegrass, annual	Horseweed/Marestail ( <i>Conyza canadensis</i> )	Sandbur, field
Bluegrass, bulbous	Itchgrass	Sesbania, hemp
Brome, downy	Johnsongrass, seedling	Shattercane
Brome, Japanese	Junglerice	Shepherd's-purse
Broomsedge	Knotweed	Sicklepod
Buttercup	Kochia	Signalgrass, broadleaf
Castor bean <sup>2</sup>	Lambsquarters	Smartweed, ladysthumb
Cheatgrass	Lettuce, prickly	Smartweed, Pennsylvania
Cheeseweed ( <i>Malva parviflora</i> )	Mannagrass, eastern	Sorghum, grain (milo)
Chervil	Mayweed	Sowthistle, annual
Chickweed	Medusahead	Spanish needles <sup>3</sup>
Cocklebur	Morningglory ( <i>Ipomoea</i> spp.)	Speedwell, corn
Copperleaf, hophornbeam	Mustard, blue	Speedwell, purslane
Copperleaf, Virginia	Mustard, tansy	Sprangletop
Coreopsis, plains/tickseed	Mustard, tumble	Spurge, annual
Corn	Mustard, wild	Spurge, prostrate
Crabgrass	Nightshade, black	Spurge, spotted
Cupgrass, woolly	Oats	Spurry, umbrella
Dwarf dandelion	Panicum, browntop	Starthistle, yellow
Eclipta	Panicum, fall	Stinkgrass
False dandelion	Panicum, Texas	Sunflower
Falseflax, smallseed	Pennycress, field	Teaweed / Prickly sida
Fiddleneck	Pepperweed, Virginia	Thistle, Russian

(continued)

Filaree	Pigweed	Velvetleaf
Fleabane, annual	Puncturevine	Wheat
Fleabane, hairy ( <i>Conyza bonariensis</i> )	Purslane, common	Wild oats
Fleabane, rough	Pusley, Florida	Witchgrass

<sup>1</sup> For control of balsam apple, apply this product using handheld equipment only.

<sup>2</sup> Control of castor bean can also be achieved by injecting 4 milliliters of this concentrated (undiluted) product per plant into the lower portion of the main stem.

<sup>3</sup> For control of Spanish needles, apply 44 fluid ounces of this product per acre.

### 10.3 Perennial Weeds

Enhanced control of perennial weeds can be obtained when this product is applied when target weeds are small and actively growing. New leaf development indicates active growth. If application of this product must be made to larger weeds or to weeds that are slowly growing under stressful conditions, apply at a rate or spray solution concentration towards the upper end of the specified range.

If weeds have been mowed or tilled, do not apply this product until plants have resumed active growth and have reached the specified stage of growth, or sufficient growth has been achieved to allow for good interception of the spray solution. For enhanced control, do not mow, cut, till, burn or disturb vegetation in the application area for a minimum of 7 days after application.

For control of perennial weeds listed on this label using backpack or handheld equipment and a low-volume application technique, apply a 4- to 7-percent solution of this product over the crown of the target plant to cover 50 percent of the upper plant foliage.

For control of perennial weeds with a handheld controlled droplet applicator (CDA), apply a 15- to 30percent solution of this product (19 to 38 fluid ounces of this product per gallon of spray solution) at a flow rate of 2 fluid ounces of spray solution per minute and a walking speed of 0.75 mile per hour (2 to 4 quarts of spray solution per acre). When using a vehicle-mounted CDA, apply the required amount of this product, as indicated in the following table, in 2 to 15 gallons of water per acre.

Application of this product in the fall must be made before a killing frost.

This product has no soil activity and does not control emergence of perennial weeds from seed and dormant underground roots, rhizomes or tubers present in the soil at the time of application. More than one application of this product will be necessary for continued control of weeds that emerge following application.

**PERENNIAL WEEDS RATE TABLE**

Perennial Weed Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
<b>Alfalfa*</b>	1 – 1.5	1.5%
<b>Alligatorweed*</b>	3	1%
Apply this product when most of the target plants are in bloom. More than one application will be needed to achieve control.		
<b>Anise (fennel)</b>	1.3 – 2.7	1 – 1.5%
<b>Bahiagrass</b>	2 – 3.3	1.5%
<b>Beachgrass, European</b> ( <i>Ammophila arenaria</i> )	-	3.5
Apply a 3.5-percent solution of this product using a spray-to-wet technique or an 8-percent solution using a low-volume application technique. Enhanced results are obtained when application is made onto target weeds that are actively growing at the boot through the full-heading stage of development. Make application prior to the loss of more than 50 percent of green leaf color in the fall. Monitor application site and re-apply this product to any target weeds that were missed, if necessary, before re-seeding the area with desirable vegetation.		
For selective control of European beachgrass, apply a 33.3-percent solution of this product during period of active growth using a wiper applicator. Maximizing the amount of individual leaf tissue contacted by the wiper applicator or making a second pass in the opposite direction will improve control. Avoid contact of the herbicide solution with desirable vegetation.		
<b>Bentgrass</b>	1	1.5%
This product alone will provide only partial control of bentgrass ( <i>Agrostis</i> spp.). For enhanced control, apply 1.6 to 2.2 quarts of this product in a tank-mix with an appropriate rate of Envoy, Fusilade II, Fusion, or Vantage herbicide in a spray volume of 20 to 40 gallons per acre using broadcast application equipment. For enhanced control using a handheld sprayer, apply this product at a concentration of 1.5 fluid ounces per gallon of a spray solution in a tank mix with an appropriate amount of Envoy, Fusilade, Fusion, or Vantage herbicide. More than one application might be needed for complete control.		
<b>Bermudagrass</b>	3.3	1.5%
Make application when seedheads are present.		
<b>Bermudagrass, water (knotgrass)</b>	1	1.5%

(continued)



<b>Perennial Weed Species</b>	<b>Broadcast Rate (quarts/acre)</b>	<b>Handheld Sprayer Concentration (%Solution)</b>
<b>Bindweed, field</b>	2 – 3.3	1.5%
For control, apply 2.7 to 3.3 quarts of this product per acre as a broadcast application west of the Mississippi River and 2 to 2.7 quarts per acre east of the Mississippi River when bindweed is at or beyond full bloom. For enhanced results, apply in late-summer or fall.		
<b>Bittersweet, Oriental</b>	2	1.5%
For control of oriental bittersweet, apply this product as a broadcast spray in 30 to 40 gallons of spray solution per acre. For enhanced results, ensure complete coverage of the target plant with the spray solution.		
<b>Bluegrass, Kentucky</b>	1.5	1.5%
Apply when most target plants have reached the boot to head stage of development. When application is made prior to the boot stage, reduced control can result. In the fall, make application before plants have turned brown.		
<b>Blueweed, Texas</b>	2.7 – 3.3	1.5%
Apply 2.7 to 3.3 quarts of this product per acre west of the Mississippi River and 2.3 to 3 quarts per acre east of the Mississippi River when most target plants are at or beyond full bloom. For enhanced results, apply in late-summer or fall.		
<b>Brackenfern</b>	2 – 3	1%
Apply to fully expanded fronds that are at least 18 inches long.		
<b>Bromegrass, smooth</b>	1.5	1%
Apply this product when most target plants have reached the boot to head stage of development. When application is made prior to the boot stage, reduced control can result. In the fall, make application before plants have turned brown.		
<b>Bursage, woolly-leaf</b>	-	1.5%
<b>Canarygrass, reed</b>	1.5 – 2	1.5%
Apply this product when most target plants have reached the boot to head stage of development. When application is made prior to the boot stage, reduced control can result. In the fall, make application before plants have turned brown.		
<b>Cattail</b>	2 – 3.3	1.5%
Apply this product when target plants are actively growing and are at or beyond the early to full bloom stage of development. Enhanced results are achieved when application is made during the summer or fall months.		
<b>Clover; red, white</b>	2 – 3.3	1.5%
<b>Cogongrass</b>	2 – 3.3	1.5%
Apply this product in late-summer or fall when cogongrass is at least 18 inches tall and actively growing. Due to uneven stages of growth and the dense nature of cogongrass vegetation, more than one application might be necessary to achieve control.		
<b>Dallisgrass</b>	2 – 3.3	1.5%
<b>Dandelion</b>	2 – 3.3	1.5%
<b>Dock, curly</b>	2 – 3.3	1.5%
<b>Dogbane, hemp</b>	2.5	1.5%
Apply this product when most target plants have reached the late-bud to flower stage of growth. For enhanced results, make application in late-summer or fall.		
<b>Fescue (except tall)</b>	3	1.5%
<b>Fescue, tall</b>	2	1.5%
Apply this product when most target plants have reached the boot to head stage of growth. If applied prior to the boot stage, less than desirable control might be obtained.		
<b>Guineagrass</b>	2	1%
Apply this product when most target plants have at least reached the 7-leaf growth stage.		
<b>Hemlock, poison</b>	1.3 – 2.7	1 – 1.5%
Control can also be achieved by injecting 5 milliliters of a 5-percent solution of this product using a handheld injection device in one leaf cane per plant, 12 inches above the root crown. <sup>1</sup>		
<b>Hogweed, giant</b>	-	-
Inject 5 milliliters of a 5-percent solution of this product into one leaf cane per plant, 12 inches above the root crown. <sup>1</sup>		
<b>Horsenettle</b>	2 – 3.3	1.5%

(continued)



Perennial Weed Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
<b>Horseradish</b>	3	1.5%
Apply this product when most target plants have reached the late-bud to flower stage of development. For enhanced results, apply in late-summer or fall.		
<b>Horsetail, field</b>	-	-
Inject 0.5 milliliter of this product per stem directly into the plant stem, one segment above the root crown. <sup>1</sup>		
<b>Iceplant</b>	1.3	1.5 – 2%
<b>Ivy; cape, German</b>	1.3 – 2.7	1 – 1.5%
<b>Jerusalem artichoke</b>	2 – 3.3	1.5%
<b>Johnsongrass</b>	1.3 – 2	1%
Apply this product when most target plants have reached the boot to head stage of development or before plants have turned brown in the fall. When applied prior to the boot stage, reduced control can result.		
<b>Kikuyugrass</b>	1.5 – 2	1.5%
<b>Knapweed</b>	3	1.5%
Apply this product when most target plants have reached the late-bud to flower stage of growth. For enhanced results, apply in late-summer or fall.		
<b>Knotweed; Bohemian, giant, Japanese</b>	2.75	2%
Apply 2.7 quarts of this product per acre as a broadcast application in 3 to 40 gallons of spray solution. For application using a backpack sprayer and a spray-to-wet technique, apply a 2-percent solution of this product. For enhanced control, do not disturb vegetation in the application area for a minimum of 7 days after application. Control can also be achieved by cutting stems cleanly just below the 2nd or 3rd node above the ground and immediately apply 0.36 fluid ounce (10 milliliters) of a 50-percent solution of this product in water into the "well" or remaining internode. Ensure that the upper plant material that was removed is gathered and properly discarded to prevent new plants from propagating from sprouting buds. Use of a bio-barrier, such as cardboard, plywood or plastic sheeting, will help guard against the spread of plant material. The combined total application rate of this product must not exceed 6 quarts per acre. <sup>1</sup> Control can also be achieved by injecting 5 milliliters of this product per stem into the second or third internode using a handheld injection device. <sup>1</sup>		
<b>Lantana</b>	-	1%
Apply this product when most target plants are at or beyond the bloom stage of growth. Use the higher spray solution concentration on plants that have reached the woody stage of growth.		
<b>Lespedeza</b>	2 – 3.3	1.5%
<b>Loosestrife, purple</b>	1.75	1 – 1.5%
Apply this product when most target plants are at or beyond the bloom stage of growth. Enhanced results are achieved when application is made during summer or fall months. Fall application must be made before a killing frost.		
<b>Lotus, American</b>	1.75	0.75%
Apply this product when most target plants are at or beyond the bloom stage of growth. Enhanced results are achieved when application is made during summer or fall months. Fall application must be made before a killing frost. More than one application of this product might be necessary to control re-growth of underground plant parts and seeds.		
<b>Milkweed, common</b>	2	1.5%
Apply this product when most target plants have reached the late-bud to flower stage of growth.		
<b>Muhly, wirestem</b>	1.5	1.5%
Make application when most target plants are at least 8 inches in height (3- to 4-leaf stage of development) and actively growing.		
<b>Mullein, common</b>	2 – 3.3	1.5%
<b>Napiergrass</b>	2 – 3.3	1.5%
<b>Nightshade, silverleaf</b>	2 – 3.3	1.5%
Apply 2.7 to 3.3 quarts of this product per acre as a broadcast application west of the Mississippi River and 2 to 2.7 quarts per acre east of the Mississippi River when most target plants are at or beyond full bloom. Enhanced results can be obtained when application is made in late-summer or fall after berries have formed.		
<b>Nutsedge; purple, yellow</b>	2	1 – 1.5%
Apply this product to control existing nutsedge plants and attached immature nutlets when target plants are in flower or when new nutlets can be found at rhizome tips. Nutlets that have not germinated will not be controlled and will require repeated application of this product for long-term control.		

(continued)

<b>Perennial Weed Species</b>	<b>Broadcast Rate (quarts/acre)</b>	<b>Handheld Sprayer Concentration (%Solution)</b>
<b>Orchardgrass</b>	1.5	1.5%
Make application when most target plants have reached the boot to head stage of development. When applied prior to the boot stage, less than desirable control could be obtained. In the fall, make application before plants have turned brown.		
<b>Pampasgrass</b>	2 – 3.3	1 – 1.5%
<b>Para grass</b>	2 – 3.3	1.5%
More than one application of this product will be needed to achieve complete control. Allow plants to re-grow to the 7- to 10-leaf stage before making next application.		
<b>Pepperweed, perennial</b>	2.7	1.5%
<b>Phragmites*</b>	2 – 3.3	1 – 1.5%
For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 3.3 quarts of this product per acre as a broadcast application or a 1.5-percent solution using a handheld sprayer. In other areas of the U.S., apply 1.75 to 2.7 quarts per acre as a broadcast application or, for partial control, apply a 0.75-percent solution using a handheld sprayer. For enhanced results, make application in late-summer or fall when plants are actively growing and in full bloom. Due to the dense nature of this vegetation (which can prevent good spray coverage) and uneven stages of growth, more than one application of this product might be necessary to achieve control. Visual symptoms of control will be slow to develop.		
<b>Quackgrass</b>	1.3 – 2	1.5%
Apply this product when most target plants are at least 8 inches in height (3- to 4-leaf stage of development) and actively growing.		
<b>Redvine*</b>	1.5	1.5%
<b>Reed; common, giant</b>	2.7 – 3.3	1.5%
For enhanced results make application in late-summer or fall. Control can also be achieved by injecting 5 milliliters of this concentrated (undiluted) product directly into the second or third internode using a handheld injection device. <sup>1</sup>		
<b>Ryegrass, perennial</b>	1.5 – 2	1%
Apply this product when most target plants have reached the boot to head stage of growth. When applied prior to the boot stage, reduced control can result. In the fall, make application before ryegrass turns brown.		
<b>Smartweed, swamp</b>	2 – 3.3	1.5%
<b>Spatterdock</b>	2.7	0.75%
Make application when most target plants are in full bloom. For enhanced results, apply in the summer or fall.		
<b>Sowthistle, perennial</b>	1.5 – 2	1.5%
<b>Spurge, leafy*</b>	-	1.5%
<b>Starthistle, yellow</b>	1.5	1.5%
<b>Sweet potato, wild*</b>	-	1.5%
Make application when most target plants are at or beyond the bloom stage of growth. More than one application will be needed to achieve control.		
<b>Thistle, artichoke</b>	1.3 – 2	1 – 1.5%
Make application when target plants are at or beyond the bud stage of growth.		
<b>Thistle, Canada</b>	1.5 – 2	1.5%
Make application when target plants are at or beyond the bud stage of growth. Control can also be achieved by stem-injection. Cut 8 to 9 of tallest plants in a clump at bud stage. Push a cavity needle into the stem center and then slowly remove it as you inject 0.5 milliliter of this concentrated (undiluted) product into the stem. <sup>1</sup>		
<b>Timothy</b>	1.5 – 2	1.5%
Make application when most target plants have reached the boot to head stage of development. If application is made prior to the boot stage, reduced control can result. In the fall, make application before plants turn brown.		
<b>Torpedograss*</b>	2.7 – 3.3	1.5%
<b>Trumpetcreeper*</b>	1.5 – 2	1.5%

(continued)

Perennial Weed Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
<b>Tules, common</b>	-	1.5%
Make application to target plants at or beyond the seedhead stage of development. Visual symptoms will be slow to appear and might not appear for 3 or more weeks after application.		
<b>Vaseygrass</b>	2 – 3.3	1.5%
<b>Velvetgrass</b>	2 – 3.3	1.5%
<b>Wheatgrass, western</b>	1.5 – 2	1.5%
Make application when most target plants have reached the boot to head stage of development. Application made prior to the boot stage could result in reduced control. In the fall, make application before plants turn brown.		

\* Partial control

<sup>1</sup> When using stem injection, the combined total use of this product must not exceed 7 quarts per acre per year. At 5 milliliters of concentrated (undiluted) product per stem, 7 quarts will treat approximately 1300 stems per acre per year. The number of stems that can be treated per acre will vary depending on the injection volume and the concentration of this product in the application solution.

## 10.4 Woody Brush, Trees and Vines

Apply this product to brush and trees that are actively growing after full leaf expansion, unless otherwise directed. Use the higher application rates within a given range for larger brush and trees and/or application in areas of dense vegetative growth. For control of vines, apply this product at the higher application rate or spray solution concentration within the given range when target plants have reached the woody stage of growth.

Enhanced control of woody brush and trees is obtained when application is made in late-summer or fall after fruit formation; however, in arid areas, enhanced control can be obtained when application is made in the spring to early-summer when brush and trees are at high moisture content and flowering. Poor control can be expected when this product is applied to drought-stressed brush and trees.

Some autumn color on undesirable deciduous species is acceptable when applying this product to brush and trees in the fall, provided no major leaf drop has occurred. Reduced performance of this product could result if application is made following a frost. Symptoms might not appear prior to frost or senescence following a fall application.

For enhanced results, allow 7 or more days after application before mowing, cutting, tilling, burning or removal of woody brush, trees and vines from the application site. Additional applications of this product will be required to control brush and trees regenerating from underground parts or seed.

**TANK MIXTURES:** This product may be applied at any rate stated on this label in a tank mixture with the following products to increase the spectrum of control of herbaceous weeds, woody brush, trees and vines. For control of herbaceous weeds, apply the tank-mix product at the lower end of the given application rate or spray solution concentration range. For control of dense stands or hard-to-control woody brush, trees and vines, increase the application rate or spray solution concentration of the tank-mix product towards the higher end of the range. Refer to the individual product labels for approved uses and application rates.

imazapyr; metsulfuron methyl; triclopyr

Patriot; Polaris; Tahoe

Ensure that the proper amount of Tahoe is thoroughly mixed with water in the spray tank before adding this product.

### Cut Stump Application

This product may be used to control re-growth and re-sprouting of woody brush and trees on any site listed on this label.

Cut the woody brush or tree close to the soil surface and immediately apply a 50- to 100-percent (undiluted) solution of this product to the freshly-cut surface using an applicator capable of applying this product to the entire cambium. A delay in application could result in reduced performance. For enhanced results, cut the woody brush or tree during period of active growth and full leaf expansion and apply this product.

For control of the Tree of Heaven (*Ailanthus altissima*), cut the tree close to the soil surface and immediately apply a 50-percent solution of this product (16 fluid ounces per quart of solution) and 10 percent Polaris herbicide (3 to 4 fluid ounces per quart of solution) in water to the freshly-cut surface.

**DO NOT MAKE A CUT STUMP APPLICATION WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MIGHT BE GRAFTED TO THE ROOTS OF THE CUT STUMP, AS INJURY COULD OCCUR IN THE ADJACENT TREES.** Some sprouts, stems, or trees can share a common root system. Adjacent trees having a similar age, height and spacing could be an indicator of a shared root system. Whether grafted or shared, injury is likely to occur to adjacent stems or trees when this product is applied to one or more trees sharing a common root system.

### Woody Brush and Tree Injection and Frill Application

This product may be used to control woody brush and trees listed in this section by injection or frill application on any site listed on this label.

Inject or apply the equivalent of 1 milliliter (0.04 fluid ounce) of this product for every 2 to 3 inches of trunk diameter at breast height (DBH). If injecting this product into the woody brush or tree, use equipment capable of penetrating into the living plant tissue under the bark.

For frill application, apply a 50- to 100-percent (undiluted) solution of this product in water to either a continuous frill around the tree or to cuts evenly spaced around the tree below all branches. As tree diameter increases, enhanced results can be achieved by applying this product to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff of this product to occur from frilled or cut areas. In species that freely exude sap, make the frill or cuts at an oblique angle to produce a cupping effect and apply this concentrated product undiluted. For enhanced results, make this application during period of active growth and after full leaf expansion.

### Modified High-Volume and Low-Volume Backpack Application

For control and partial control of woody brush, trees and vines listed on this label when using a backpack sprayer or other handheld equipment and a directed low-volume foliar application technique, apply a 4- to 8-percent solution of this product evenly over the plant crown to cover 50 percent of the upper foliage of undesirable woody brush, trees and vines.

**WOODY BRUSH, TREES AND VINES RATE TABLE**

Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
Alder	2 – 3	1%
Ash *	1.5 – 3.3	1 – 1.5%
Aspen, quaking	1.5 – 2	1%
Bearmat (Bearclover) *	1.5 – 3.3	1 – 1.5%
Beech *	1.5 – 3.3	1 – 1.5%
Birch	1.5 – 2	1%
Blackberry	2 – 3	1%
Blackgum	1.5 – 3.3	1 – 1.5%
Bracken	1.5 – 3.3	1 – 1.5%
Broom; French, Scotch	1.3 – 3.3	1 – 1.5%
Buckwheat, California *	1.3 – 3.3	1 – 1.5%
Cascara *	1.5 – 3.3	1 – 1.5%
Castorbean		
Also for control, inject 4 milliliters of this concentrated (undiluted) product per plant directly into the lower portion of the main stem using a handheld injection device. <sup>1</sup>		
Catsclaw <sup>1</sup>	-	1%
Ceanothus *	1.5 – 3.3	1 – 1.5%
Chamise *	1.3 – 3.3	1%
Cherry; bitter, black, pin	1.5 – 2	1%
Coyote brush	2 – 2.7	1 – 1.5%
For control, apply this product when at least 50 percent of the new leaves are fully developed.		
Deerweed	1.3 – 3.3	1%
Dogwood *	1.5 – 3.3	1 – 1.5%
Elderberry	1.5 – 2	1%
Elm *	1.5 – 3.3	1 – 1.5%
Eucalyptus	-	1.5%
For control of eucalyptus re-sprouts, apply this product using a handheld sprayer when re-sprouts are 6 to 12 feet tall. Ensure complete coverage.		
Gallberry	1.5 – 3.3	1 – 1.5%
Gorse *	1.5 – 3.3	1 – 1.5%
Hackberry, western	1.5 – 3.3	1 – 1.5%

(continued)

Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
Hasardia*	1.3 – 2.5	1 – 1.5%
Hawthorn	1.5 – 2	1%
Hazel	1.5 – 2	1%
Hickory *	1.5 – 3.3	1 – 1.5%
Honeysuckle	2 – 3	1%
Hornbeam, American *	1.5 – 3.3	1 – 1.5%
Ivy, poison	2.5 – 3.3	1.5%
Kudzu	2.5 – 3.3	1.5%
Locust, black *	1.5 – 3	1 – 1.5%
Madrone re-sprouts *	-	1.5%
Manzanita *	1.5 – 3.3	1 – 1.5%
Maple, red	1.5 – 3	1%
For control, apply a 1-percent solution of this product using a handheld sprayer when leaves are fully developed. For partial control, apply 1.5 to 3 quarts per acre as a broadcast application.		
Maple, sugar	-	1%
For control, apply this product using a handheld sprayer when at least 50 percent of the new leaves are fully developed.		
Maple, vine*	1.5 – 3.3	1 – 1.5
Monkey flower *	1.3 – 2.7	1 – 1.5%
Oak; black, white *	1.5 - 3	1 – 1.5%
Oak; northern, pin	1.3 – 2.7	1%
For control, apply this product when at least 50 percent of the new leaves are fully developed.		
Oak, poison	2.5 – 3.3	1.5%
Repeat applications might be required to maintain control. Application in the fall must be made before leaves lose green color.		
Oak, post	2 – 3	1%
Oak, red	-	1%
For control, apply this product using a handheld sprayer when at least 50 percent of the new leaves are fully developed.		
Oak, scrub*	1.3 – 2.7	1%
Oak, southern red	1.5 – 2	1%
Orange, Osage	1.2 – 3.3	1 – 1.5%
Peppertree, Brazilian (Florida holly)*	1.3 – 3.3	1 – 1.5%
Persimmon *	1.5 – 3.3	1 – 1.5%
Pine	1.5 – 3.3	1 – 1.5%
Poplar, yellow *	1.5 – 3.3	1 – 1.5%
Redbud, eastern	1.5 – 3.3	1 – 1.5%
Rose, multiflora	1.5	1%
Make application prior to leaf deterioration by leaf-eating insects.		
Russian olive *	1.5 – 3.3	1 – 1.5%
Sage, black	1.3 – 2.7	1%
Sage, white *	1.5 – 2.7	1 – 1.5%
Sagebrush, California	1.3 – 2.7	1 – 1.5%
Salmonberry	1.5 – 2	1%

(continued)

Species	Broadcast Rate (quarts/acre)	Handheld Sprayer Concentration (%Solution)
<b>Saltcedar *</b>	1.5 – 3.3	1 – 1.5%
For partial control, apply a 1- to 1.5-percent solution of this product using a handheld sprayer or 1.5 to 3.3 quarts per acre as a broadcast application. For control, apply a 1- to 1.5-percent solution of this product with 0.25 percent by volume Arsenal herbicide (one-third of an ounce per gallon) using a handheld sprayer. For control using broadcast application, apply 1.3 quarts of this product per acre in a tank-mix with 16 fluid ounces of Arsenal herbicide to plants less than 6 feet tall. To control saltcedar greater than 6 feet tall using broadcast application, apply 2.75 quarts of this product per acre in a tank-mix with 1 quart of Arsenal herbicide.		
<b>Sassafras *</b>	1.5 – 3.3	1 – 1.5%
<b>Sourwood *</b>	1.5 – 3.3	1 – 1.5%
<b>Sumac; laurel, poison, smooth, sugarbrush, winged *</b>	1.5 – 3	1 – 1.5%
<b>Sweetgum</b>	1.5 – 2	1%
<b>Swordfern *</b>	1.5 – 3.3	1 – 1.5%
<b>Tallowtree, Chinese</b>	-	1%
<b>Tan oak re-sprouts *</b>	-	1.5%
<b>Thimbleberry</b>	1.5 – 2	1%
<b>Tobacco, tree *</b>	1.5 – 2.5	1 – 1.5%
<b>Toyon*</b>	-	1.5%
<b>Trumpetcreeper</b>	1.5 – 2	1%
<b>Virginia creeper</b>	1.5 – 3.3	1 – 1.5%
<b>Waxmyrtle, southern *</b>	1.5 – 3.3	1 – 1.5%
<b>Willow</b>	2 – 3	1%
<b>Yerba santa, California*</b>	-	1.5%

\* Partial control



## 11.0 STORAGE AND DISPOSAL

Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

**PESTICIDE STORAGE:** STORE ABOVE 10°F (-12°C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and shake or roll to mix well before using.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all label safeguards until container is destroyed.

### CONTAINER HANDLING:

**NOTE:** This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "No refillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type / size.

**Nonrefillable Containers 5 Gallons or Less:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 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 or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

**Nonrefillable Containers Larger than 5 Gallons:** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. If recycling or reconditioning not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Triple rinse or pressure 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 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable Containers Larger than 5 Gallons:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container.

Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## 12.0 WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

### LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR RISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT.

If you do not agree with or do not accept any of the directions for use, the warranty disclaimers, or limitations on liability, do not use the product, and return it unopened to the Seller, and the purchase price will be refunded.

RV061317

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