



## Complete Directions for Use

EPA Reg. No. 80967-5

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.

This product is a complete broad spectrum post emergence herbicide for aquatic, crop, non-agricultural crop, industrial, turf, ornamental, forestry, roadside, and utility rights-of-way weed control.

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

### 1.0 INGREDIENTS

#### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt ----- 53.8%

OTHER INGREDIENTS: ----- 46.2%

100.0%

\*Contains 648 grams per litre or 5.4 pounds per U.S. gallon of the active ingredient Glyphosate, in the form of its isopropylamine salt. Equivalent to 480 grams per litre or 4 pounds per U.S. gallon of the acid, glyphosate.

## KEEP OUT OF REACH OF CHILDREN CAUTION

### 2.0 IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CALL TOLL-FREE, (800-613-0427)
2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL , DAY OR NIGHT, ( 800-262-8200).

Manufactured for:  
MEY Corporation  
121 S. Estes Drive, Suite 101  
Chapel Hill, NC 27514U.S.A.

## 3.0 PRECAUTIONARY STATEMENTS

### 3.1 HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**Caution.** Remove and wash contaminated clothing before reuse.

**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 may 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):** Applicators and other handlers must wear: long-sleeved shirt and long pants, and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining Personal Protective Equipment (PPE). If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**Engineering Controls Statements:** 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 break-down.

#### USER SAFETY RECOMMENDATIONS

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash before reuse.

### 3.2 ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters and rinsate. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation. In case of spill or leak, soak up and remove to a landfill.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

### 3.3 PHYSICAL OR CHEMICAL HAZARDS

Spray solutions of this product must be mixed, stored and applied using only stainless steel, aluminum, 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 may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

### 3.4 DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published MEY Corporation Supplemental labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

#### AGRICULTURAL USE REQUIREMENTS

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

Do not allow worker entry into treated areas during the restricted entry interval (REI) of four (4) hours or until solution has dried.

Exception: If the product is soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter treated area if there is no contact with anything that has been treated.

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 the 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 unprotected persons out of treated areas until sprays have dried.

### 4.0 STORAGE AND DISPOSAL

#### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Keep container closed to prevent spills and contamination. Store above 5°F (-15°C) to keep product from crystallizing. Crystals will settle to the bottom. If allowed to crystallize, place in warm room 68°F (20°C) for several days to redissolve and roll or shake container or recirculate in mini-bulk containers to mix well before using.

**Pesticide Disposal:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal Facility.

**Container Handling:** Non-refillable container. Do not reuse or refill this container.

*For non-refillable plastic containers (≤5 gallons) small enough to shake:* Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

*For non-refillable plastic containers (>5 gallons) too large to shake:* Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. 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 rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Once properly rinsed, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. Then offer this container for recycling, if available. If recycling is not available, dispose of this container in accordance with federal, state, and local regulations and procedures, which may include puncturing and disposing in a sanitary landfill, incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## 5.0 INFORMATION (HOW THIS PRODUCT WORKS)

**Product Description:** This product is a postemergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid and may be applied through standard equipment after dilution and mixing with water or other carriers according to label instructions.

**Time to Symptoms:** This product moves through the plant from the point of foliage contact to and into the root system. Visible effects on most annual weeds occur within 2 to 4 days, but on most perennial weeds may not occur for 7 days or more. Extremely cool or cloudy weather following treatment may slow activity of this product and delay development of visual symptoms. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts.

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

**Stage of Weeds:** Annual weeds are easiest to control when they are small. Best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity. See the WEEDS CONTROLLED section of this label for specific weed rates. Always use the higher product application rate in the range when weed growth is heavy or dense, or when weeds are growing in an undisturbed (non-cultivated) area. Reduced weed control may result from treating weeds with disease or insect damage, weeds heavily covered with dust, or weeds under poor growing conditions. For best results, spray coverage must be uniform and complete. Do not spray foliage to the point of run-off.

**Cultural Considerations:** Reduced control may result when applications are made to annual or perennial weeds that have been mowed, grazed or cut, and have not been allowed to regrow to the listed stage for treatment.

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

**No Soil Activity:** Weeds must be emerged at the time of application to be controlled by this product. Weeds germinating from seed after application will not be controlled. Unemerged plants arising from unattached underground rhizomes or rootstocks of perennials will not be affected by the herbicide and will continue to grow.

**Tank Mixing:** This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all

other information appearing on the labels of all herbicides used. Use according to the most restrictive label directions for each product in the mixture.

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

**Grazing Restrictions:** This product may be used to treat undesirable vegetation in rights-of-way that pass through pastures, rangeland and forestry sites that are being grazed. For tank mix applications, comply with all restrictions appearing on the tank mix product label.

There are no grazing restrictions for the following labeled applications of this product:

- Where the spray can be directed onto undesirable woody brush and trees, such as in handgun spray-to-wet or low volume directed spray treatments.
- For tree injection or frill applications and for cut stump treatments.

For broadcast applications, observe the following restrictions:

- For application rates of greater than 6 but not to exceed 10 quarts per acre, no more than 15 percent of the available grazing area may be treated.
- For application rates that do not exceed 6 quarts per acre, no more than 25 percent of the available grazing area may be treated.
- All restrictions outlined above apply to lactating dairy animals. No other restrictions apply to lactating dairy animals.

These directions do not apply to rangeland outside of rights-of-way

**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 allowed 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 as tank mixtures, 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. The combined total of all treatments must not exceed 8 quarts of this product (8 pounds of glyphosate acid) per acre per year. See the INGREDIENTS section of this label for necessary product information.

### **ATTENTION**

**AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.**

**AVOID DRIFT, EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.**

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of injury occurring from the use of 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 combination of pressure and nozzle type that will result in splatter or fine particles (mist) that are likely to drift. **AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.**

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

## 5.1 Weed Resistance Management

Based on the mode of action classification system of the Weed Science Society of America, Glyphosate (active ingredient) is a Group 9 herbicide. Group 9 herbicides may contain plants from any weed population that can be naturally resistant to glyphosate. These weed resistant plants can be effectively controlled using a different Group herbicide or by using other means such as cultural or mechanical practices. Glyphosate resistant biotypes can be minimized by utilizing the following weed resistance management recommendations:

- 1) Scout your application site before and after herbicide applications.
- 2) Control weeds early when they are relatively small.
- 3) Incorporate other herbicides and cultural practices or mechanical practices as part of your weed control system where appropriate.
- 4) Use the labeled rate for the most difficult to control weed in the site. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism) or with tank mixtures that encourage rates of this product below those specified on this label.
- 5) Control weed escapes and prevent weeds from setting seeds.
- 6) Clean equipment before moving from site to site to minimize spread of weed seed.
- 7) Use new commercial seed as free of weed seed as possible
- 8) Any incidence of repeated non-performance of this product on a particular weed must be reported to any MEY Corporation representative, your county extension agent, or to the local retailer.

## 5.2 Management of Glyphosate Resistant Weed Biotypes

NOTE: Appropriate testing is critical in order to confirm weed resistance to glyphosate. Contact your MEY Corporation representative, county extension agent, or local retailer to determine if resistance has been confirmed to any particular weed biotype in your area.

Since the occurrence of new glyphosate resistant weeds cannot be determined until after product use and scientific confirmation, MEY Corporation is not responsible for any losses that may result from the failure of this product to control glyphosate-resistant weed biotypes.

The following good weed management practices are recommended to reduce the spread of confirmed glyphosate resistant biotypes:

- 1) If a naturally occurring resistant biotype is present at your site, this product may be tank mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- 2) Cultural and mechanical control practices may also be used as appropriate.
- 3) Scout treated sites after herbicide applications and control escapes of resistant biotypes before they set seed.
- 4) Thoroughly clean equipment before leaving sites known to contain resistant biotypes.

## 6.0 MIXING

Spray solutions of this product must be mixed, stored, and applied using only stainless steel, aluminum, 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.

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes. Do not apply when wind or other conditions favor drift. Hand-held applications must be properly directed to avoid spraying desirable plants.

NOTE: Reduced results may occur if water containing soil is used, such as water from ponds and unlined ditches that is not clear.

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 authorities.

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

### 6.1 Mixing with Water

This product mixes readily with water. Mix spray solutions of this product as follows:

For hand held or backpack sprayers (less than or equal to 5 gal. capacity): Add the listed amount of this product to the spray tank. If adding Ammonium Sulfate, pre-dissolve in water before adding. Fill the spray tank with water and ensure thorough mixing. Alternatively, the listed amount of this product can be mixed with water in a large container. Fill sprayer with the mixed solution.

For larger tank sprayers (greater than 5 gal. capacity): Fill the mixing or spray tank one-half full with water and start agitation. If adding Ammonium Sulfate, ensure that it is completely dissolved before proceeding. Add the listed amount of this product using a circular motion while pouring. Continue filling the spray tank with water and ensure thorough mixing.

Use caution to avoid siphoning back into the carrier source. Use approved anti-back-siphoning devices where required by state or local regulations. During mixing and application, foaming of the spray solution may occur. To prevent or minimize foam, avoid the use of mechanical agitators, terminate by-pass and return lines at the bottom of the tank and, if needed, use an approved anti-foam or defoaming agent.

### 6.2 Tank Mixtures

This product does not provide residual weed control. This product can be tank-mixed with other herbicides to provide residual weed control, a broader weed control spectrum, or an alternate mode of action. Always read the label directions for all products in the tank mixture.

When this product is tank-mixed with other products, refer to these product labels for approved sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture. Any labeled rate of this product may be used in a tank mix.

When this label lists a tank mixture with a generic active ingredient including diuron, 2,4-D, or dicamba, the user is responsible for ensuring the mixture product label allows the specific application.

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

This product provides control of the emerged weeds listed on this label. When applied as a tank mixture, the following herbicides will provide preemergence and/or postemergence control of the weeds listed in the individual product labels.

This product can be tank-mixed with the following products. Any labeled rate of this product can be used in a tank mixture with these products. User is responsible for ensuring that the specific product is registered for use on the target site. Refer to these product labels for approved application sites and application rates. Read and carefully observe the cautionary statements and all other information on the labels of all the herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

## Tank-mix Products

Arsenal  
Banvel  
Barricade 65WG  
Certainty  
2,4-D  
Garlon 3A Garlon 4 diuron  
diuron + 2,4-D diuron + Garlon 3A  
diuron + Garlon 4  
Endurance  
Escort  
Garlon 3A  
Garlon 4  
Hyvar X  
Hyvar X + 2,4-D  
Hyvar X + Garlon 3A Hyvar X + Garlon 4  
Karmex DF  
Krovar I DF  
Krovar I DF+ 2,4-D  
Krovar I DF + Garlon 3A Krovar I DF + Garlon 4  
Oust XP  
Oust XP + 2,4-D  
Oust XP + Garlon 3A Oust XP + Garlon 4  
Outrider  
Pendulum 3.3EC  
Pendulum WDG  
Plateau  
Princep DF  
Princep Liquid  
Ronstar  
Ronstar 50 WP  
Sahara  
Simazine  
Spike SOW  
Spike SOW+ 2,4-D  
Spike SOW + Garlon 3A Spike SOW + Garlon 4  
Surflan  
Telar



## 6.3 Tank Mixing Procedure

When tank mixing, read and carefully observe label directions, cautionary statements, and all information on the labels of all products used. Add the tank-mix product to the tank as directed by the label. Maintain agitation and add the specified amount of this product. Mix labeled tank mixtures of this product with water as follows:

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid, and nonionic surfactant.
4. Add remaining quantity of water and continue agitation.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed.

Keep by-pass line on or near the bottom of the tank to minimize foaming. Screen size in nozzle or line strainers must be no finer than 50 mesh.

Always predetermine the compatibility of labeled tank mixtures of this product with water carrier by mixing small proportional quantities in advance.

## 6.4 Mixing Percent Solutions

Prepare the desired volume of spray solution by mixing the amount of this product in water as shown in the following table.

Spray Solution

Desired Volume	AMOUNT OF PRODUCT					
	0.5%	0.75%	1.0%	1.5%	4.0%	8.0%
1Gal	0.7 oz	1.0 oz	1.3 oz	2.0 oz	5.0 oz	10.0 oz
25 Gal	1.0 pt	1.5 pt	1.0 qt	1.5 qt	4.0 qt	2.0 gal
100 Gal	2.0 qt	3.0 qt	1.0 gal	1.5 gal	4.0 gal	8.0 gal

2 tablespoons = 1 fluid ounce

Above percentages are on a weight-to-weight basis with water as an 8.34 pound gallon.

For use in knapsack sprayers, direct mix the appropriate amount of product with water in a larger container. Fill sprayer with the mixed solution.

## 6.5 Surfactant

This product requires the use of a nonionic surfactant. Except when prohibited by this label, mix two or more quarts of a nonionic surfactant per 100 gallons of spray solution. Increasing the rate of surfactant may enhance performance. Examples of when to use the higher surfactant rate include, but are not limited to: high water volumes, hard to control woody brush, trees, and vines, adverse environmental conditions, tough to control weeds, weeds under stress, surfactants with less than 70 percent active ingredient, tank mixes, etc. These surfactants must not be used in excess of 1 quart per acre when making broadcast applications.

Always read and follow the surfactant manufacturer's label instructions for best results. Carefully observe all cautionary statements and other information in the surfactant label. When applied as directed under the conditions described, this product controls annual and perennial weeds listed in the label booklet.

## **6.6 Colorants or Dyes**

Approved colorants or marking dyes may be added to this product. At lower rates or dilution, colorants or dyes used in spray solutions of this product may reduce performance. Use colorants or dyes according to the manufacturer's instructions.

## **6.7 Drift Reduction Additives**

Drift reduction additives may be used with all equipment types, except wiper applicators, sponge bars and Controlled Droplet applicator (CDA) equipment. When a drift reduction additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label. The use of drift reduction additives can affect spray coverage which may result in reduce performance.

## **7.0 APPLICATION EQUIPMENT AND TECHNIQUES**

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

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES.

### **SPRAY DRIFT MANAGEMENT**

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

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

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

## **7.1 Aerial Equipment**

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

Use the listed rates of this herbicide in 3 to 15 gallons of water per acre unless otherwise specified on this label. Unless otherwise specified, do not exceed 1.5 pints per acre. Refer to the individual use area sections of this label for volumes, application rates, and further instructions.

This product plus dicamba and/or 2,4-D tank mixtures may not be applied by air in California.

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

## AERIAL SPRAY DRIFT MANAGEMENT

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

1. The distance of the outermost nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

### Importance of droplet size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see the "Wind", "Temperature and Humidity", and "Temperature Inversions" sections of this label).

### Controlling droplet size

- **Volume:** Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with the higher rated flows produce large droplets.
- **Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of nozzles:** Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- **Nozzle type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.
- **Boom Length:** For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height:** Application must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces the exposure of the droplets to evaporate and wind.

### Swath Adjustment

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

## **Wind**

Drift potential is lowest between wind speeds of 2 to 10 miles per hour. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application must be avoided below 2 miles per hour due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator must be familiar with local wind patterns and how they affect drift.

## **Temperature and Humidity**

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

## **Temperature Inversions**

Applications must not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sunsets 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**

This product must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## **Aircraft Maintenance**

PROLONGED EXPOSURE OF THIS PRODUCT TO UNCOATED STEEL SURFACES MAY RESULT IN CORROSION AND POSSIBLE FAILURE OF THE PART. The maintenance of an organic coating (paint) which meets aerospace specification MIL-C-38413 may prevent corrosion. To prevent corrosion of exposed parts, thoroughly wash aircraft after each day of spraying to remove residues of this product accumulated during spraying or from spills. Landing gear is most susceptible.

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

## ***FOR AERIAL APPLICATIONS IN CALIFORNIA ONLY, Including Fresno County, CA***

When applied as directed under the conditions described, this product controls annual and perennial weeds and woody brush and trees listed in this product label. See the WEEDS CONTROLLED section of the label for specific rates.

## Aquatic and Other Sites

Do not spray open bodies of water where woody brush, trees, and herbaceous weeds do not exist. The maximum application rate of 7.5 pints per acre must not be exceeded in a single over-water broadcast application except as follows, where any labeled rate may be applied:

- Stream crossings in utility rights-of-way
- Where applications will result in less than 20 percent of the total water area being treated. Aerial applications of this product are allowed in the following situations:
  - Forestry sites
  - Prior to the emergence or transplanting of labeled crops
  - Aid to burning for establishment and maintenance of fuel breaks
  - Establishing fire perimeters and black lines
  - Aid to prescribed burning
  - Along fire roads
  - Range conservation
  - Habitat restoration and management
  - Wildlife food plots
  - Chaparral areas

## 7.2 Ground Broadcast Equipment

For broadcast ground applications, unless otherwise specified use this product at the rate of 1.5 to 3 pints per acre for annual weeds, 3 to 7.5 pints per acre for perennial weeds and 3 to 7.5 pints per acre for woody brush and trees. Use the listed rates of this product in 3 to 40 gallons of water per acre as a broadcast spray unless otherwise specified. As density of weeds increases, spray volume must be increased within the listed range to ensure complete coverage. Carefully select proper nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat spray nozzles. Check for even distribution of spray droplets.

## 7.3 Hand-Held Equipment

Apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage must be uniform and complete. Do not spray to the point of runoff. Use coarse sprays only.

For control of weeds listed in the “ANNUAL WEEDS” section of “WEEDS CONTROLLED”, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. For annual weeds over 6 inches tall, or unless otherwise specified, use a 1 percent solution. For best results, use a 1.5 percent solution on harder to control perennials, woody vines, brush and trees. Make applications to annuals prior to seedhead emergence in grasses or bud formation in broadleaf weeds.

For low volume directed spray applications, use a 4 to 8 percent solution of this product for control or partial control of annual weeds, perennial weeds, or woody brush and trees. Spray coverage must be uniform with at least 50 to 75 percent of the foliage contacted. Coverage of the top one half of the plant is important for best results. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zig-zag motion. For flat-fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. To ensure adequate spray coverage, spray both sides of large or tall woody brush and trees, when foliage is thick and dense, or where there are multiple sprouts. For best results, apply to actively growing woody brush and trees after full leaf expansion and before fall color and leaf drop.

Unless otherwise specified, use the rates listed in the following "APPLICATION RATES" table for various methods of foliar application using high volume, backpack, knapsack and similar types of hand-held equipment. When used according to label directions this product will give control or partial control of herbaceous weeds, woody brush and trees listed in the "WEEDS CONTROLLED" section of this label.

## APPLICATION RATES

APPLICATION	AMOUNT OF PRODUCT	SPRAY VOLUME Gallons/Acre
SPRAY-TO-WET		
Handgun, or Backpack	0.5 to 1.5% by volume	Spray-to-wet*
LOW VOLUME DIRECTED SPRAY		
Backpack	4.0 to 8.0% by volume	15 to 25**
Modified High Volume	1.5 to 3.0% by volume	40 to 60**

\*For applications made on a spray-to-wet basis, spray coverage must be uniform and complete. Do not spray to the point of runoff.

\*\*Low-volume directed spray applications with backpacks work best when treating weeds and brush less than 10 feet tall. For taller weeds and brush, high volume handguns can be modified by reducing nozzle size and spray pressure to produce a low volume directed spray.

## 7.4 Selective Equipment

This product may be applied through recirculating spray systems, shielded applicators, hooded sprayers, wiper applicators or sponge bars, after dilution and thorough mixing with water, to listed weeds growing in any non-crop site specified on this label.

A recirculating spray system directs the spray solution onto weeds growing above desirable vegetation, while spray solution not intercepted by weeds is collected and returned to the spray tank for reuse.

**AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION, AS SERIOUS INJURY OR DEATH IS LIKELY TO OCCUR.**

Applicators used above desired vegetation must be adjusted so that the lowest spray stream or wiper contact point is at least 2 inches above the desirable vegetation. Droplets, mist, foam or splatter of the herbicide solution settling on desirable vegetation is likely to result in discoloration, stunting or destruction.

Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

### Shielded and Hooded Applicators

A shielded or hooded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide. Use nozzles that provide uniform coverage within the treated area. Keep shields on these sprayers adjusted to protect desirable vegetation. **EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF HERBICIDE WITH DESIRABLE VEGETATION.**

## Wiper Applicators and Sponge Bar

Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 miles per hour. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if two applications are made in opposite directions.

Avoid leakage or dripping onto desirable vegetation. Adjust height of applicator to ensure adequate contact with weeds. Keep wiping surfaces clean. Be aware that, on sloping ground, the herbicide solution may migrate, causing dripping on the lower end and drying of the wicks on the upper end of a wiper applicator.

Do not use wiper equipment when weeds are wet.

Mix only the amount of solution to be used during a 1-day period, as reduced activity may result from use leftover solutions. Clean wiper parts immediately after using this product by thoroughly flushing with water.

Use a nonionic surfactant at a rate of 10 percent by volume of total herbicide solution with all wiper applications.

**For Rope or Sponge Wick Applicators** – Prepare solutions by dissolving 33 to 75 percent of this product per gallon of water.

**For Panel Applicators and pressure-feed systems** – Prepare solutions by dissolving 33 to 100 percent of this product per gallon of water.

Note: In preparing these concentrated solutions always allow adequate time for product to dissolve. Use of warm water will shorten dissolution time.

## 7.5 Injection Systems

This product may be used in aerial or ground injection spray systems. This product may be injected into the spray stream after dilution and thorough mixing with water. Do not mix this product with the undiluted concentrate of other products when using injection systems unless specifically directed.

## 7.6 CDA Equipment

The rate of this product applied per acre by controlled droplet application (CDA) equipment must not be less than the amount listed in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 2 to 15 gallons of water per acre.

For the control of annual weeds with hand-held CDA units – Apply an 15 percent solution of this product (19.25 oz of product per gallon) at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 miles per hour (1 quart per acre). For the control of perennial weeds, apply a 15 to 30 percent solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 0.75 miles per hour (2 to 4 quarts per acre).

CDA equipment produces a spray pattern that is not easily visible. Extreme care must be exercised to avoid spray or drift contacting the foliage or any other green tissue of desirable vegetation, as damage or destruction is likely to result.

## 8.0 SITE AND USE INSTRUCTIONS

This product can be used to control weeds, woody brush and trees in aquatic sites, non-agricultural crop sites, and crop sites listed on this label.

Non-agricultural crop sites include airports, apartment complexes, commercial sites, ditch banks, dry ditches, dry canals, fence rows, forestry sites, golf courses, habitat restoration and management areas, industrial sites, lumber yards, manufacturing sites, municipal sites, natural areas, office complexes, public areas, parks, parking areas, pastures, petroleum tank farms and pumping installations, railroads, rangeland, recreational areas, residential areas, roadsides, schools, storage areas, substations, utility rights-of-way, utility sites, warehouse areas, and wildlife management areas.

Crop sites include citrus, sugarcane, turf, sod, and vegetable fallow.

Detailed instructions follow alphabetically, by site.

Unless otherwise specified, applications may be made to control any weeds listed in the Annual Weeds, Perennial Weeds, and Woody Brush and Trees rate tables. Refer also to the "SELECTIVE EQUIPMENT" section.

### 8.1 Aquatic Sites

This product can be applied to emerged weeds in all bodies of fresh and brackish water which may be flowing, non-flowing, or transient. This includes lakes, rivers, streams, ponds, estuaries, rice levees, seeps, irrigation and drainage ditches, canals, reservoirs, wastewater treatment facilities, wildlife habitat restoration and management areas.

If aquatic sites are present in the area and are part of the intended treatment, read and observe the following directions:

**This product does not control plants which are completely submerged or have a majority of their foliage under water.**

There is no restriction on the use of treated water for irrigation, recreation, or domestic purposes.

Consult your local state fish and game agency and water control authorities before applying this product to public water. Permits may be required to treat such water.

**NOTE:** Do not apply this product directly to water within 0.5 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 0.5 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 0.5 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does NOT apply to intermittent inadvertent overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds.



Floating mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not retreat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7.5 pints per acre must not be exceeded in any single broadcast application that is being made over water except as follows, where any labeled rate may be applied:

- Stream crossings in utility rights-of-way
- Where applications will result in less than 20 percent of the total water area being treated.

When emerged infestations require treatment of the total surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in fish kill.

### ***For Control of Cordgrass (Spartina spp.)***

The presence of debris and silt on the surface of cordgrass plants will reduce product performance. It may be necessary to wash targeted plants prior to application to improve herbicide uptake. Where cordgrass has been cut or mowed prior to application, allow significant regrowth before application to ensure adequate interception and uptake of the herbicide solution. Rainfall within 2 hours or immersion within 4 hours after application may reduce effectiveness.

Prior to application, survey the areas to be treated to determine if shellfish beds exist within the intended treatment area. Wait either until shellfish have been harvested before application is made or do not harvest shellfish for 14 days following treatment.

Add 1 to 2 quarts or more of nonionic surfactant or other adjuvant approved for use on aquatic sites and compatible with this product per 100 gallons of spray solution for broadcast applications (ground or air) and when using optical sensing application equipment.

Do not apply this product through any type of irrigation system

## **APPLICATION**

Under ideal application conditions, that is, where silt and debris are not present on plant surfaces, good spray coverage is achievable, target plants are actively growing and labeled rates and application volumes are used, allow at least 4 hours drying time before plants are covered by tidewater. Where one or more of these conditions are not met, schedule applications to allow at least 5 hours drying time before plants are covered by tidewater. Do not apply when wind speed at the application site exceed 10 miles per hour.

**Broadcast Application (Ground):** Apply 2 to 8 quarts of this herbicide in 5 to 100 gallons of spray solution per acre. For best results, complete coverage of cordgrass clumps is required.

**Broadcast Application (Ground/Optical Sensing Application Equipment):** Apply 2 to 8 quarts of this product in 5 to 100 gallons of spray solution per acre using equipment designed and calibrated to deliver spray solution only when cordgrass plants are present and detected by optical sensors. For best results, complete coverage of cordgrass clumps is required.

Hand-Held Backpack or High-volume Equipment: Apply a 5 to 8 percent solution of this product. Ensure that complete coverage of cordgrass clumps is achieved. Do not spray to the point of runoff.

Broadcast Application (Air): Apply 2 to 8 quarts of this product in 5 to 10 gallons of spray solution per acre. Maintain at least a 50-foot buffer between commercial shellfish beds and treated areas. The potential for spray drift is dependent upon weather- and equipment-related factors. The applicator must be familiar with local wind patterns and monitor and record temperature and wind speed prior to and periodically during application. Schedule application in order to allow at least 5 hours before treated plants are covered by tidewater.

### ***For Foliar and Broadcast Treatment of Japanese Knotweed***

For control of Japanese knotweed (*Polygonum cuspidatum*), apply this product as a 2.0% v/v spray-to-wet solution with 0.5 to 2.0% v/v of a nonionic surfactant containing at least 70 percent active ingredient. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast applications, apply 3 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment.

Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage under water.

### ***For Foliar and Broadcast Treatment of Oriental Bittersweet***

For control of Oriental bittersweet (*Celastrus orbiculatus*), apply this product as a 2.0% v/v spray-to-wet solution with 0.5 to 2.0% v/v of a nonionic surfactant containing at least 70 percent active ingredient. Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.

For broadcast application, apply 2.25 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment.

Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage under water.

TANK MIXTURES: Tank mixtures of this product plus 2,4-D amine may be used to increase the spectrum of vegetation controlled in aquatic sites. Use 1.5 to 2 pints of this product plus 1 to 2 quarts of 2,4-D amine (4 pounds active ingredient per gallon, labeled for aquatic sites) for control of annual weeds. Use 3 to 7.5 pints of this product plus 2 to 4 quarts of 2,4-D amine (4 pounds active ingredient per gallon, labeled for aquatic sites) for control or partial control of perennial weeds, woody brush and trees.

When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Mix in the following sequence: Fill sprayer tank one-half full with water, add this product, then 2,4-D amine, and finally surfactant. Fill sprayer tank to final volume of water.

**NOTE:** DO NOT MIX THIS PRODUCT AND 2,4-D AMINE CONCENTRATES WITHOUT WATER CARRIER DO NOT MIX THIS PRODUCT AND 2,4-D AMINE IN BYPASS INJECTOR-TYPE SPRAY EQUIPMENT.

## 8.2 Cut Stump

Cut stump treatments may be made on any site listed on this label. This product will control many types of woody brush and tree species. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut trees or resprouts close to the soil surface. Apply a 50 to 100 percent solution of this product per gallon of water to the freshly cut surface immediately after cutting. Delays in application may result in reduced performance. For best results, applications must be made during periods of active growth and full leaf expansion.

For control of *Ailanthus altissima* (Tree-of-heaven), make a cut stump treatment according to the directions in this section using a spray mixture of 50% of this product and 10% Arsenal.

**DO NOT MAKE CUT STUMP APPLICATIONS WHEN THE ROOTS OF DESIRABLE WOODY BRUSH OR TREES MAY BE GRAFTED TO THE ROOTS OF THE CUT STUMP.** Some sprouts, stems, or trees may share the same root system. Adjacent trees having a similar age, height and spacing may signal shared roots. Whether grafted or shared, injury is likely to occur to non-treated stems/trees when one or more trees sharing common roots are treated.

## 8.3 Conifer and Herbaceous Release Sites

This product can be used for conifer release as a broadcast spray for control, partial control or suppression of herbaceous weeds and hardwoods listed in the WEEDS CONTROLLED section of this label. Use only where conifers have been established for more than one year unless otherwise stated below. This product can be applied as a directed spray or by using selective equipment in forestry hardwood and conifer sites, including Christmas tree plantations, and silvicultural nurseries.

Use a nonionic surfactant that is labeled for use in over-the-top conifer release applications. Refer to the surfactant manufacturer's label for surfactant use rates and other precautionary statements. Use of this product without a surfactant will result in reduced herbicide performance.

**APPLICATION MUST BE MADE AFTER FORMATION OF FINAL CONIFER RESTING BUDS IN THE FALL OR PRIOR TO INITIAL BUD SWELLING IN THE SPRING.**

Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied. Damage can be accentuated if applications are made when conifers are actively growing, or are under stress from drought, flood water, improper planting, insects, animal damage or diseases.

**For release of the following conifer species outside the Southeastern United States:** Douglas fir, Fir, Hemlock, Pines (all pine species except loblolly pine, longleaf pine, shortleaf pine or slash pine), California Redwood, Spruce

Use 1.5 to 3 pints of this product per acre as a broadcast spray.

To release Douglas fir, and pine and spruce species at the end of the first growing season (except in California), use this product at the lower labeled rates of 1.5 to 2.5 pints per acre. Ensure that the conifers are well hardened off before application. Make sure that the nonionic surfactant has been adequately tested for safety to Douglas fir before use.

For release of Spruce (*Picea spp.*) in Maine, Michigan, Minnesota, New Hampshire and Wisconsin, use up to 4.5 pints per acre of this product for the control of difficult woody brush and tree species and application must be made after formation of final conifer resting buds in the fall.

Do not use a surfactant for release of hemlock species or California redwood. In mix conifer stands, injury to these species may result if a surfactant is used.

**For release of the following conifer species in the Southeastern United States:**

*Loblolly pine, Slash pine, Eastern white pine, Virginia pine, Shortleaf pine, Longleaf pine*

Apply 2.25 to 3.75 pints of this product per acre as a broadcast spray during late summer or early fall after the pines have hardened off.

For applications made at the end of the first growing season, use 1.5 pints per acre of this product.

**TANK MIXTURES:** This product can be tank-mixed with the following products for conifer or herbaceous release. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements and label uses for each product in the mixture.

When applied as directed, this product plus listed residual herbicides provide postemergence control of the annual weeds and control or suppression of the perennial weeds listed in this label, and residual control of the weeds listed in the residual herbicide label. Use only on conifer species that are labeled for over-the top sprays for both products.

Atrazine  
Arsenal Applicator Concentrate  
Oust XP

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

For release of jack pine, white pine and white spruce, apply 1.5 to 3 pints of this product plus 1 to 3 ounces of Oust XP per acre. For white pine tank mix a maximum of 1 to 1.5 ounces of Oust XP per acre.

For conifer release of Douglas fir, use 1.5 to 2.25 pints of this product plus 2 to 6 ounces of Arsenal Applicator Concentrate per acre. For conifer release of balsam fir and red spruce, apply 3 pints of this product plus 1 to 2.5 ounces of Arsenal Applicator Concentrate per acre.

***Herbaceous Release***

For spring and early summer herbaceous release of loblolly pine, Virginia and longleaf pine apply 12 to 18 fluid ounces of this product with 2 to 4 ounces of Oust XP.

For early spring release of Douglas fir, prior to bud swell, apply 1.5 pints of this product plus 4 pounds active ingredient of atrazine per acre. Allow one full growing season before application. Do not add surfactant to this treatment.

## **8.4. Forestry Site Preparation**

Use this product for the control or partial control of woody brush, trees and herbaceous weeds in forestry. This product can also be used in preparing or establishing wildlife openings within these sites and maintaining logging roads.

Use this product in site preparation prior to planting any tree species, including Christmas trees, eucalyptus, hybrid tree cultivars and silvicultural nursery sites.

For applications using different types of equipment, see “APPLICATION RATES” table in “HAND-HELD EQUIPMENT” section of this label.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of vegetation controlled. When tank mixing, read and carefully observe the label claims, cautionary statements of all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture.

**NOTE:** For forestry site preparation, ensure tank-mix product is approved for use prior to planting the desired species. Observe planting interval restrictions.

Any listed rate of this product may be used in a tank mix with the following products for forestry site preparation.

Arsenal Applicator Concentrate	Garlon 3A
Chopper	Garlon 4
Chopper GEN2	Oust XP
Escort	

For control of herbaceous weeds, use the lower tank mixture rate. For control of dense stands or tough-to-control woody brush and trees, use the higher rate.

**Unless otherwise directed, do not apply this product as an over-the-top broadcast spray for forest-  
conifer or hardwood release.**

## 8.5 Non-crop Areas and Industrial Sites

Use in areas including airports, apartment complexes, commercial sites, ditch banks, dry ditches, dry canals, fencerows, forestry sites, golf courses, industrial sites, lumber yards, manufacturing sites, office complexes, parks, parking areas, petroleum tank farms and pumping installations, railroads, recreational areas, residential areas, roadsides, sod or turf seed farms, schools, storage areas, substations, utility sites, warehouse areas, wildlife management areas, other public areas.

### ***Weed control, Trim-and-edge and Bare ground***

This product may be used in non-crop areas. It may be applied with any application equipment described in this label. This product may be used to trim-and-edge around objects in non-crop sites, for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plantings. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

**TANK MIXTURES:** This product may be tank mixed with the following products. Refer to these products labels for approved non-crop sites and application rates.

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A**
Garlon 4	Goal 2XL
Krovlar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	simazine*
Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

This product plus dicamba tank mixtures may not be applied by air in California. Only 2,4-D amine formulations can be applied by air in California.

### ***Brush Control Tank Mixtures***

TANK MIXTURES: Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all products used. Use according to the most restrictive precautionary statements for each product in the mixture. Any listed rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower tank mixture rate. For control of dense stands or tough-to-control woody brush and trees, use the higher rate.

**NOTE:** For side trimming treatments, use this product alone or in tank mixture with Garlon 4.

Arsenal  
Escort XP  
Garlon 3A\*  
Garlon 4

\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

### ***Chemical Mowing – Perennials***

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 6 ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass, quackgrass or reed canarygrass covers. Use 5 ounces of this product per acre when treating Kentucky bluegrass. Apply

treatments in 10 to 40 gallons of spray solution per acre. Apply after grasses have greened up to at least 75 percent green color in the spring, or 8 to 10 days after mowing when sufficient regrowth has occurred to provide a desirable height for growth regulation.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

### ***Chemical Mowing – Annuals***

For growth suppression of some annual grasses, including annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Applications must be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

### ***Dormant Turfgrass***

Use this product to control or suppress many winter annual weeds and tall fescue for effective release of dormant Bermudagrass and bahiagrass turf. Treat only when turf is dormant and prior to spring greenup.

Apply 6 to 48 ounces of this product per acre. Apply the listed rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated.

Treatments in excess of 12 ounces per acre may result in injury or delayed greenup in highly maintained areas, including golf courses and lawns. DO NOT apply tank mixtures of this product plus Oust XP or Outrider in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for dormant Bermudagrass and bahiagrass treatments.

### ***Actively Growing Bermudagrass***

Use this product to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. DO NOT apply more than 12 ounces of this product per acre in highly maintained turfgrass areas. DO NOT apply tank mixtures of this product plus Oust XP or Outrider in highly maintained turfgrass areas. For further uses, refer to the "ROADSIDES" section of this label, which gives rates for actively growing Bermudagrass treatments. Use only in areas where some temporary injury or discoloration can be tolerated.

### ***Turfgrass Renovation, Seed, or Sod Production***

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 to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses including Bermudagrass, summer or fall applications provide the best control. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing must be delayed for 7 days after application to allow translocation into underground plant parts.

Desirable turfgrasses may be planted following the above procedures.

Hand-held equipment may be used for spot treatment of unwanted vegetation growing in existing turfgrass. Broadcast or hand-held equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not feed or graze turfgrass grown for seed or sod production for 8 weeks following application.

### ***Wiper Applications***

This product can be used through wick or other suitable wiper applications to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the SELECTIVE EQUIPMENT section of this label for further information about the proper use of wiper applicators.

### ***Greenhouse/Shadehouse***

This product can be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## **8.6 Habitat Management**

### ***Habitat Restoration and Management***

Use this product to control exotic and other undesirable vegetation in habitat management and natural areas, including riparian and estuarine areas, rangeland and wildlife refuges. Applications can be made to allow recovery of native plant species, prior to planting desirable native species, and for similar broad-spectrum vegetation control requirements. Spot treatments can be made to selectively remove unwanted plants for habitat management and enhancement.

### ***Wildlife Food Plots***

Use this product as a site preparation treatment 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 7 days after application before tillage to allow translocation into underground plant parts.

## **8.7 Hollow Stem Injection**

Apply this product through hand-held injection devices that deliver specified amounts of this product into targeted hollow-stem plants growing in any aquatic or non-crop site specified on this label. For control of the following hollow-stem plants, follow the use instructions below:

### **Castorbean (*Ricinus communis*)**

Inject 4 mL per plant of this product into the lower portion of the main stem.

### **Hemlock, Poison (*Conium maculatum*)**

Inject one leaf cane per plant 10 to 12 inches above root crown with 5 mL of a 5% v/v solution of this product.

### **Hogweed, Giant (*Heracleum mantegazzianum*)**

Inject one leaf cane per plant 12 inches above root crown with 5 mL of a 5% v/v solution of this product.

### **Horsetail, Field (*Equisetum arvense*)**

Inject one segment above the root crown with 0.5 mL per stem of this product. Use a small syringe that calibrates to this rate.



**Iris, Yellow Flag** (*Iris pseudocorus*)

Cut flower stems with clippers 8 to 9 inches above the root crown. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 mL per stem of this product is injected into the stem.

**Knotweed, Bohemian** (*Polygonum bohemicum*),

**Knotweed, Giant** (*Polygonum sachalinense*), and

**Knotweed, Japanese** (*Polygonum cuspidatum*)

Inject 5 mL per stem of this product into the second or third internode.

**Reed, Common** (*Phragmites australis*)

Inject 5 mL per stem of a 50% solution of this product into the second or third internode or into freshly cut stems.

**Reed, Giant** (*Arundo donax*)

Inject 6 mL per stem of this product into the second or third internode.

**Thistle, Canada** (*Cirsium arvense*)

Cut 8 to 9 of the tallest plants at bud stage in a clump with clippers. Use a cavity needle that is pushed into the stem center and then slowly removed as 0.5 mL per stem of this product is injected into the stem.

**NOTE:** Based on the maximum annual use rate of glyphosate for these non-crop sites, the combined total for all treatments must not exceed 8 quarts of this product per acre. At 5 mL per stem, 8 quarts should treat approximately 1500 stems.

## 8.8 Injection and Frill (Woody Bush and Trees)

This product can be used to control woody brush and trees by injection or frill applications. Apply using suitable equipment that must penetrate into the living tissue. Apply the equivalent of 1 mL of this product per each 2 to 3 inches of trunk diameter at breast height (DBH). This is best achieved by applying a 50- to 100-percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frilled or cut areas in species that exude sap freely. In species such as this, make the frill or cuts at an oblique angle to produce a cupping effect and use a 100-percent (undiluted) concentration of this product. For best results, application must be made during periods of active growth and after full leaf expansion.

## 8.9 Ornamentals, Plant Nurseries, and Christmas Trees

### **Post-directed, Trim-and-edge**

This product may be used as a post-directed spray around established woody ornamental species including 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 trees, buildings, sidewalks and roads, potted plants and other objects in a nursery setting.

Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material. THIS PRODUCT IS NOT FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

### Site Preparation

This product may be used prior to planting any ornamental, nursery or Christmas tree species.

### Wiper Applications

This product can be used through wick or other suitable wiper applications to control or partially control undesirable vegetation around established eucalyptus or poplar trees. See the SELECTIVE EQUIPMENT section of this label for further information about the proper use of wiper applicators.

### Greenhouse/Shadehouse

This product can be used to control weeds growing in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

## 8.10 Parks, Recreational, Residential Areas

All of the instructions in the **Non-crop Areas and Industrial Sites** section apply to park and recreational areas.

This product may be used in parks, recreational areas, and residential areas. It may be applied with any application equipment described in this label to trim-and-edge around trees, fences, paths, around buildings, sidewalks, and other objects in these areas. This product may be used for spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plants. This product may be used prior to planting an area to ornamentals, flowers, turfgrass (sod or seed), or prior to laying asphalt or beginning construction projects.

## 8.11 Railroads

All of the instructions in the **Non-crop Areas and Industrial Sites** section apply to railroads.

Bare Ground, Ballast and Shoulders, Crossings, Spot Treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. Repeat applications of this product may be used, as weeds emerge, to maintain bare ground. This product may be used to control tall-growing weeds to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way. For crossing applications, up to 80 gallons of spray solution per acre may be used.

TANK MIXTURES: This product may be tank mixed with the following products for ballast, shoulder, spot, bare ground and crossing treatments, provided that the specific product is registered for use on such sites:

Arsenal	atrazine*
dicamba*	Escort XP
Garlon 3A	Garlon 4
Hyvar X	Hyvar XL
Krovar DF	Oust XP
Outrider	Sahara DG
simazine*	Spike 80 DF
Telar DF	Transline
Velpar DF	Velpar L
2,4-D*	

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

### Brush Control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 3 to 8 quarts of this product per acre as a broadcast spray, using boom-type or boomless nozzles. Up to 80 gallons of spray solution per acre may be used. Apply a 0.75 to 1.5 percent solution of this product when using low volume directed sprays for spot treatment.

TANK MIXTURES: This product may be mixed with the following products for enhanced control of woody brush and trees provided that the specific product is registered for use on such sites:

Arsenal	Escort XP
Garlon 3A	Garlon 4
Krenite	Telar DF
Tordon K	Tordon 22 K
Transline	Vanquish
Velpar DF	Velpar L

Additional instructions are located in the Non-crop Areas and Industrial Sites section under Brush Control Tank Mixtures.

### Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 12 to 36 ounces of this product in up to 80 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

TANK MIXTURES: This product may be tank-mixed with Oust XP. If tank-mixed, use no more than 12 to 36 ounces of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Bahiagrass	Fescue, tall
Blackberry	Johnsongrass
Bluestem, silver	Poorjoe
Broomsedge	Raspberry
Dallisgrass	Trumpetcreeper
Dewberry	Vaseygrass
Dock, curly	Vervain, blue
Dogfennel	

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications in the same season are not needed, since severe injury may occur.

## 8.12 Roadsides

All of the instructions in the **Non-crop Areas and Industrial Sites** section apply to roadsides.

### **Shoulder Treatments**

Use this product on road shoulders. It may be applied with boom sprayers, shielded boom sprayers, high-volume off-center nozzles, hand-held equipment, and similar equipment.

### **Guardrails and Other Obstacles to Mowing**

Use this product to control weeds growing under guardrails and around signposts and other objects along the roadside.

### **Spot Treatment**

Use this product as a spot treatment to control unwanted vegetation growing along roadsides.

TANK MIXTURES: This product may be tank-mixed with the following products for shoulder, guardrail, spot and bare ground treatments, provided that the specific tank mixture product is registered for use on such sites. Refer to these product labels and observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

atrazine*	Crossbow L
dicamba*	diuron*
Endurance	Escort XP
Gallery 75DF	Krovar DF
Landmark II MP	Landmark II
Landmark XP	Oust XP
Outrider	Pendimethalin*
Plateau	Plateau DG
Poast	Ronstar 50 WSP
Sahara DG	simazine*
Surflan AS	Surflan WDG
Telar DF	Velpar DF
Velpar L	2,4-D

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

See the **Non-crop Areas and Industrial Sites** section of this label for instructions for tank mixing.

## Release of Bermudagrass or Bahiagrass

### Dormant Applications

Use this product to control or partially control many winter annual weeds and tall fescue for effective release of dormant Bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Outrider or Oust XP for residual control. Tank mixtures of this product with Oust XP may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 6-leaf stage.

Apply 6 to 48 ounces of this product per acre alone or in a tank mixture with 0.75 to 1.33 ounces per acre of Outrider. Apply the listed rates in 10 to 40 gallons of water per acre. Use only in areas where Bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in green up and minimize injury, add no more than 1.0 ounce of Oust XP per acre on Bermudagrass and no more than ½ ounce of Oust XP per acre on bahiagrass and avoid treatments when these grasses are in a semi-dormant condition.

### Actively Growing Bermudagrass

Use this product to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 12 to 36 ounces of this product in 10 to 40 gallons of spray solution per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

Bahiagrass	Johnsongrass
Bluestem, silver	Trumpetcreeper
Fescue, tall	Vaseygrass

This product may be tank-mixed with Outrider for control or partial control of Johnsongrass and other weeds listed in the Outrider label. Use 6 to 24 ounces of this product with 1 to 2 ounces of Outrider. Use the higher rates of both products for control of perennial weeds or annual weeds greater than 6 inches in height. This product can be tank-mixed with Oust XP. If tank-mixed, use no more than 12 to 24 ounces of this product with 1 to 2 ounces of Oust XP per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Oust XP label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A**
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau

Poast	Ronstar 50 WP
Sahara DG	Simazine*
Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

Use only on well-established Bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Repeat applications of the tank mix in the same season are not needed. Since severe injury may occur.

### Actively Growing Bahiagrass

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

For suppression up to 120 days, apply 3 ounces of this product per acre, followed by an application of 2 to 3 ounces per acre about 45 days later. Make no more than 2 applications per year.

Use this product for control or partial control of Johnsongrass and other weeds listed on the Outrider label in actively growing bahiagrass. Apply 1.5 to 3.5 fluid ounces of this product with 0.75 to 1.33 ounces of Outrider per acre. Use the higher rates for control of perennial weeds or annual weeds greater than 6 inches in height. Use only on well-established bahiagrass.

A tank mixture of this product plus Oust XP may be used. Apply 4 ounces of this product plus ¼ ounce of Oust XP per acre 1 to 2 weeks following an initial spring mowing. Make only one application per year.

## 8.13 Utility Sites

In utilities, this product is for use along electrical power, pipeline and telephone rights-of-way, and in other sites associated with these rights-of-way, including substations, roadsides, railroads or similar rights-of-way that run in conjunction with utilities. Use in preparing or establishing wildlife openings within these sites, maintaining access roads and for side trimming along utility rights-of-way.

**TANK MIXTURES:** Tank mixtures of this product may be used to increase the spectrum of control for herbaceous weeds, woody brush and trees. When tank mixing, read and carefully observe the label claims, cautionary statements and all information on the labels of all product used. Use according to the most restrictive precautionary statements for each product in the mixture. Any listed rate of this product may be used in a tank mix.

For control of herbaceous weeds, use the lower tank mixture rate. For control of dense stands or tough-to-control woody brush and trees, use the higher rate.

This product may be tank mixed with the following products. Refer to these products' labels for approved non-crop sites and application rates.

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance

Escort XP	Gallery 75DF
Garlon	Garlon 3A
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	Simazine*
Surflan AS	Surflan WDG
Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

NOTE: For side trimming treatments, use this product alone or in tank mixture with Garlon 4.

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

\*\*Ensure that Garlon 3A is thoroughly mixed with water according to label directions before adding this product. Have spray mixture agitating at the time this product is added to avoid spray compatibility problems.

### **Bare Ground and Trim-and-edge**

This product may be used in utility sites and substations for bare ground, trim-and-edge around objects, spot treatment of unwanted vegetation and to eliminate unwanted weeds growing in established shrub beds or ornamental plants. This product may be used prior to planting a utility site to ornamentals, flowers, turfgrass (sod or seed), or beginning construction projects. Repeated applications of this product may be used, as weeds emerge, to maintain bare ground.

TANK MIXTURES: Tank mix with the following products. Refer to the specific product labels for approved sites and application rates. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Use according to the most restrictive precautionary statements for each product in the mixture.

Arsenal	atrazine*
Barricade 65WG	Certainty
Crossbow L	dicamba*
diuron*	Endurance
Escort XP	Gallery 75DF
Garlon	Garlon 3A
Garlon 4	Goal 2XL
Krovar DF	Krenite
Landmark II MP	Landmark II
Outrider	Oust XP
pendimethalin*	Plateau
Poast	Ronstar 50 WP
Sahara DG	Simazine*
Surflan AS	Surflan WDG

Telar DF	Transline
Vanquish	Velpar DF
Velpar L	2,4-D*

\*Tank mixtures with products containing this generic active ingredient can be made provided the specific product is registered for this use. User is responsible for ensuring the mixture allows the specific application.

## 9.0 PASTURES AND RANGELANDS

### 9.1 Pastures

LABELED GRASSES: Bahiagrass, Bermudagrass, Bluegrass, Brome, Fescue, Guineagrass, Kikuyugrass, Orchardgrass, Pangola grass, Ryegrass, Timothy, Wheatgrass.

#### ***Preplant, Preemergence, Pasture Renovation***

This product can be applied prior to planting or emergence of forage grasses. In addition, this product can be used to control perennial pasture species listed on this label prior to re-planting.

If application rates total 4.5 pints per acre or less, no waiting period between treatment and feeding or live-stock grazing is required. If the rate is greater than 4.5 pints per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

#### ***Spot Treatment, Over-the-Top Wiper Applications***

This product can be applied as a spot treatment or with wiper applicators in pastures. Applications may be made in the same area at 30-day intervals.

For spot treatments or wiper application methods using rates of 4.5 pints per acre or less, the entire field or any portion of it may be treated. When spot treatments or wiper application are made using rates above 4.5 pints per acre, no more than 10 percent of the total pasture may be treated at any one time. To achieve maximum performance, remove domestic livestock before application and wait 7 days after application before grazing livestock or harvesting.

#### **Postemergent Weed Control (Broadcast Treatments)**

Use this product to suppress competitive growth and seed production of annual weeds and undesirable vegetation in pastures. For selective applications with broadcast spray equipment, apply 9 to 12 fluid ounces of this product per acre in early spring before desirable perennial grasses break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy.

Some stunting of perennial grasses will occur if broadcast applications are made when plants are not dormant. No waiting period is required between application and grazing or harvesting for feed. Use of higher application rates will cause stand reductions. Do not apply more than 4.5 pints per acre per year onto pasture grasses except for renovation uses. If replanting is needed due to severe stand reduction, applications must be made at least 30 days prior to planting any grass not listed for treatment in this label.



## 9.2 Rangelands

Postemergence application of this product will control or suppress many annual weeds growing in perennial cool- and warm-season grass rangelands.

Preventing viable seed production is key to the successful control and invasion of annual grassy weeds in rangelands. Follow-up applications in sequential years should eliminate most of the viable seeds.

Grazing of treated areas must be delayed to encourage growth of desirable perennials. Allowing desirable perennials to flower and reseed in the treated area will encourage successful transition.

Apply 9 to 12 fluid ounces of this product per acre to control or suppress many weeds, including downy brome, cheatgrass, cereal rye and jointed goatgrass in rangelands. Apply when most brome plants are in early flower and before the plants, including seedheads, turn color. Allowing for secondary weed flushes to occur in the spring following rain events further depletes the seed reserve and encourages perennial grass conversion on weedy sites. Fall applications are possible, where spring moisture is usually limited and fall germination allows for good weed growth.

For medusahead, apply 12 fluid ounces of this product per acre at the 3-leaf stage. Delaying applications beyond this stage will result in reduced or unacceptable control. Controlled burning may be useful in eliminating the thatch layer produced by slowly decaying culms prior to application. Allow new growth to occur before spraying after a burn. Repeat applications in subsequent years may be necessary to eliminate the seedbank before reestablishing desirable perennial grasses in medusahead-dominated rangelands.

Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use ammonium sulfate when spraying rangeland grasses with this product. No waiting period between treatment and feeding of livestock grazing is required.

## 10.0 CROP USES

### 10.1 Chemical Fallow Treatments

Apply this product during fallow intervals preceding planting, prior to planting or transplanting, at-planting, or preemergent to vegetable crops.

When applying this product prior to transplanting or direct-seeding vegetable crops into plastic mulch, care must be taken to remove residues of this product, which could cause crop injury, from the plastic prior to planting. Residues can be removed by a single 0.5-inch application of water, either by natural rainfall or via a sprinkler system. Ensure that the wash water flushes off the plastic mulch and does not enter the transplant holes. Applications made at emergence will result in injury or death to emerged seedlings.

Avoid contact of herbicide with foliage, shoots or stems, green bark, exposed roots (including those emerging from plastic mulch), or fruit of crops because severe injury or destruction may result. Post-harvest or fallow applications must be made at least 30 days prior to planting any non-labeled crop.

### 10.2 Sod or Commercial Sod Production

Preplant, Preemergence, At-Planting, Renovation, Site Preparation

This product controls most existing vegetation prior to renovating turf or forage grass seed areas or establishing turf grass grown for sod. Make applications before, during, or after planting or for renovation. For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where existing vegetation is growing under mowed turfgrass management, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, including Bermudagrass, summer or fall applications provide best control. Broadcast equipment may be used to control sod remnants or other unwanted vegetation after sod is harvested.

Do not disturb soil or underground plant parts before treatment. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts. If application rates total 72 fluid ounces per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 4.5 pints per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting. For any crop not listed for treatment in this label, applications must be made at least 30 days prior to planting. Applications must be made prior to the emergence of the crop to avoid crop injury.

### **Shielded Sprayers**

Apply 1.5 to 4.5 pints of this product in 10 to 20 gallons of water per acre to control weeds between grass seed rows. Uniform planting in straight rows aid in shielded sprayer applications. Best results are obtained when the grass seed crop is small enough to easily pass by the protective shields. For additional instructions, see Hooded and Shielded Applicators in the Selective Equipment section.

Contact of this product in any manner to any vegetation to which treatment is not intended can cause damage. Such damage shall be the sole responsibility of the applicator.

### **Over-the-Top Wiper Applications**

Adjust applicators so that the wiper contact point is at least 2 inches above the desirable vegetation. Weeds must be a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations, or when height of weeds varies so that not all weeds are contacted. In these instances, repeat treatments may be necessary. For additional instructions, see WIPER APPLICATORS in the SELECTIVE EQUIPMENT section.

Contact of the herbicide solution with desirable vegetation can result in damage or destruction.

### **Spot Treatment**

Apply this product as a 1.0-percent solution prior to heading of grasses grown for seed. The crop receiving the spray in the treated area will be killed. Take care to avoid drift or spray outside the target area for the same reason. Use hand-held equipment to control sod remnants or other unwanted vegetation after sod is harvested.

### **Creating Rows in Annual Ryegrass**

Use 12 to 24 fluid ounces of this product per acre. Use the higher rate when the ryegrass is greater than 6 inches tall. Best results are obtained when applications are made before the ryegrass reaches 6 inches in height.

Set nozzle heights to allow the establishment of the desired row spacing while preventing spray droplets, fine sprays, or drift to contact the ryegrass plants not treated. Use low-pressure nozzles or drop nozzles designed to target the application over a narrow band.

To the extent consistent with applicable law, grower assumes all responsibility for crop losses from misapplication.

## 11.0 USES AROUND THE FARMSTEAD

### 11.1 Weed Control and Trim-and-Edge

This product may be used to control annual weeds, perennial weeds and woody brush which are found in any part of the farmstead, including building foundations, along and in fences, in dry ditches and canals, along ditchbanks, farm roads, shelterbelts, prior to landscape plantings and equipment storage areas.

This product may be tank mixed with the following products. Refer to these product labels for approved farmstead sites and application rates. For annual weeds, use 1.5 pints per acre of this product when weeds are less than 6 inches tall, 2.25 pints per acre when weeds are 6 to 12 inches tall and 3 pints per acre when weeds are greater than 12 inches tall. For perennial weeds, apply 3 to 7.5 pints per acre in these tank mixes. For tank mixtures with these products through backpack sprayers, handguns or other high-volume spray-to-wet applications, see the "ANNUAL WEEDS" section of this label for listed rates.

Arsenal	Plateau
Banvel/Clarity	Princep DF
Barricade 65WG	Princep Liquid
diuron	Ronstar 50 WP
Endurance	Sahara
Escort	simazine
Karmex DF	Surflan
Krovar I DF	Telar
Oust XP	Vanquish
Pendulum 3.3 EC	2,4-D
Pendulum WDG	

This product plus dicamba tank mixtures may not be applied by air in California.

### 11.2 Greenhouse/Shadehouse

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

### 11.3 Chemical Mowing

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 4.5 ounces of this product per acre when treating Kentucky bluegrass. Use 6 ounces of this product when treating tall fescue, fine fescue, orchardgrass, bahiagrass or quackgrass covers. Use 12 ounces of this product per acre when treating bermudagrass. Use 48 ounces of this product per acre when treating topodgrass or paragrass. Apply treatments in 10 to 20 gallons of spray solution per acre. Chemical mowing applications may be made along farm ditches and other parts of farmsteads.

Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

## 12.0 WEEDS CONTROLLED

Always use the higher rate of this product per acre within the listed range when weed growth is heavy or dense or weeds are growing in an undisturbed (noncultivated) area.

Reduced results may occur when treating weeds heavily covered with dust. For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.

Refer to the following label sections for application rates for the control of annual and perennial weeds and woody brush and trees. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions, or where infestations are dense, this product may be used at 4.5 to 8 quarts per acre for enhanced results.

### 12.1 Annual Weeds

Apply to actively growing annual grasses and broadleaf weeds. Allow at least 3 days after application before disturbing treated vegetation. After this period, weeds may be mowed, tilled, or burned. Use 1.5 pints per acre if weeds are less than 6 inches in height or runner length and 1 to 4 quarts per acre if weeds are over 6 inches in height or runner length or when weeds are growing under stressed conditions.

For spay-to-wet applications, apply a 0.5 percent solution of this product to weeds less than 6 inches in height or runner length. Apply prior to seedhead emergence in grass or bud formation in broadleaf weeds. For annual weeds over 6 inches tall, or for smaller weeds growing under stressed conditions, use a 0.75 to 1.5 percent solution. Use the higher rate for tough-to-control species or for weeds over 24 inches tall.

#### WEED SPECIES

Annoda, spurred	Mannagrass, eastern*
Balsamapple**	Mayweed
Barley*	Medusahead*
Barley, little*	Morningglory ( <i>Ipomoea spp</i> )
Barnyardgrass*	Mustard, blue*
Bassia, fivehook	Mustard, tansy*
Bittercress*	Mustard, tumble*
Black nightshade*	Mustard, wild*
Bluegrass, annual*	Nightshade, black*
Bluegrass, bulbous*	Oats
Bassia, fivehook	Panicum, browntop*
Brome, downy*	Panicum, fall*
Brome, Japanese*	Panicum, Texas*
Browntop panicum*	Pennycress, field*
Broomsedge	Pepperweed, Virginia*
Buttercup*	Pigweed*
Carolina foxtail*	Plains/Tickseed coreopsis*
Carolina geranium	Prickly lettuce*
Castor bean	Puncturevine
Cheatgrass*	Purslane, common
Cheeseweed ( <i>Malva parviflora</i> )	Ragweed, common*
Chervil*	Ragweed, giant
Chickweed*	Red rice

Cocklebur*	Rocket, London*
Copperleaf, hophornbeam	Rocket, Yellow Rye*
Corn*	Russian thistle
Corn speedwell*	Rye*
Crabgrass*	Ryegrass*
Cupgrass, woolly*	Sandbur, field*
Dwarf dandelion*	Sesbania, hemp
Eastern mannagrass*	Shattercane*
Eclipta*	Shepherd's-purse*
Fall panicum*	Sicklepod
Falsedandelion*	Signalgrass, broadleaf*
Falseflax, smallseed*	Smartweed, ladythumb*
Fiddleneck	Smartweed, Pennsylvania*
Field pennycress*	Sorghum, grain (milo)*
Filaree	Sowthistle, annual
Fleabane, annual*	Spanishneedles
Fleabane, hairy ( <i>Conyza bonariensis</i> )*	Speedwell, purslane*
Fleabane, rough*	Sprangletop*
Florida pusley	Spurge, annual
Foxtail*	Spurge, prostrate*
Goatgrass, jointed*	Spurge, spotted*
Goosegrass	Spurry, umbrella*
Grain sorghum (milo)*	Starthistle, yellow
Groundsel, common*	Stinkgrass*
Hemp sesbania	Sunflower*
Henbit	Teaweed/Prickly sida
Horseweed/Marestail ( <i>Conyza Canadensis</i> )	Texas panicum*
Itchgrass*	Velvetleaf Wheat*
Johnsongrass, seedling	Virginia copperleaf
Junglerice	Virginia pepperweed*
Knotweed	Wheat*
Kochia	Wild oats*
Lamb's-quarters*	Witchgrass*
Lettuce, prickly*	Woolly cupgrass*
Little barley*	Yellow rocket
London rocket*	

\*When using field broadcast equipment (aerial applications or boom sprayers using flat-fan nozzles) these species will be controlled or partially controlled using 12 ounces of this product per acre. Applications must be made using 3 to 10 gallons of carrier volume per acre. Use nozzles that ensure thorough coverage of foliage and treat when weeds are in an early growth stage.

\*\* Apply with hand-held equipment only.

\*\*\* Apply 3 pints of this product per acre.

## 12.2 Perennial Weeds

Best results are obtained when perennial weeds are treated after they reach the reproductive stage of growth (boot stage in grasses and bud information in broadleaves). For non-flowering plants, best results are obtained when the plants reach a mature stage of growth. In many situations, treatments are required prior to these growth stages. Under these conditions, use the higher application rate within the listed range.

- Apply when target plants are actively growing. Do not treat when target plants are under drought stress.
- Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment.
- When using hand-held equipment for low volume directed spot treatments, apply a 4 to 8 percent solution of this product.
- Allow 7 or more days after application before tillage or mowing. If weeds have been mowed or tilled, do not treat until regrowth had reached the specified stages.
- Fall treatments must be applied before a killing frost.
- Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds.

WEED SPECIES	RATE (QT/A)	HAND-HELD % SOLUTION
Alfalfa*	0.7	1.5%
Alligatorweed*	3.0	1.3%
Anise (fennel)	1.5 – 3.0	1.0 – 1.5%
Bahiagrass	2.3 – 3.75	1.5%
Beachgrass, European ( <i>Ammophila arenaria</i> )	--	3.5%
Bentgrass*	1.0	1.5%
Bermudagrass	4.0	1.5%
Bermudagrass, water (knotgrass)	1.0	1.5%
Bindweed, field	2.3 – 3.75	1.5%
Bluegrass, Kentucky	1.5 – 2.3	0.75%
Blueweed, Texas	2.3 – 3.75	1.5%
Brackenfern	2.3 – 3.0	0.75 – 1.0%
Bromegrass, smooth	1.5 – 2.3	0.75%
Bursage, woolly-leaf	--	1.5%
Canarygrass, reed	1.5 – 2.3	0.75%
Cattail	2.3 – 3.75	0.75%
Clover; red, white	2.3 – 3.75	1.5%
Cogongrass	2.3 – 3.75	1.5%
Cordgrass	See Sect. 8.1	2.0 – 8.0%
Cutgrass, giant*	3.0	1.0%
Dallisgrass	2.3 – 3.75	1.5%
Dandelion	2.3 – 3.75	1.5%
Dock, curly	2.3 – 3.75	1.5%
Dogbane, hemp	3.0	1.5%
Fescue (except tall)	2.3 – 3.75	1.5%
Fescue tall	2.3	1.0%
German ivy	1.5 – 2.3	0.75 – 1.5%
Guineagrass	2.3	0.75%
Horsenettle	2.3 – 3.75	1.5%

Horseradish	3.0	1.5%
Iceplant	1.5	1.5%
Jerusalem artichoke	2.3 – 3.75	1.5%
Johnsongrass	1.5 – 2.3	0.75%
Kikuyugrass	1.5 – 2.3	0.75%
Knapweed	3.0	1.5%
Knotweed; Bohemian, Giant, Japanese ( <i>Polygonum bohemicum</i> , <i>P. sachalinense</i> , and <i>P. cuspidatum</i> )	See below	
Lantana	---	0.75 – 1.0%
Lespedeza	2.3 – 3.75	1.5%
Loosestrife, purple	2.0	1.0 – 1.5%
Lotus, American	2.0	0.75%
Maidencane	3.0	0.75%
Milkweed, common	2.3	1.5%
Muhly, wirestem	1.5 – 2.3	0.75%
Mullein, common	2.3 – 3.75	1.5%
Napiergrass	2.3 – 3.75	1.5%
Nightshade, silverleaf	2.3 – 3.75	1.5%
Nutsedge; purple, yellow	2.3	0.75%
Orchardgrass	1.5 – 2.3	0.75%
Pampasgrass	2.3 – 3.75	1.5%
Paragrass	3.0	0.75%
Pepperweed, perennial	3.0	1.5%
Phragmites*	2.0 – 3.75	0.75 – 1.5%
Poison hemlock	1.5 – 3.0	0.75 – 1.5%
Quackgrass	1.5 – 2.3	0.75%
Redvine*	1.5	1.5%
Reed, giant	3.0 – 3.75	1.5%
Ryegrass, perennial	1.5 – 2.3	0.75%
Salvinia, giant	3.0 – 3.75	2.0%
Smartweed, swamp	2.3 – 3.75	1.5%
Spatterdock	3.0	0.75%
Spurge, leafy*	---	1.5%
Starthistle, yellow	---	1.5%
Sweet potato, wild*	---	1.5%
Thistle, artichoke	1.5 – 2.3	2.0%
Thistle, Canada	1.5 – 2.3	1.5%
Timothy	1.5 – 2.3	1.5%
Torpedograss*	3.0 – 3.75	0.75 – 1.5%
Trumpetcreeper*	1.5 – 2.3	1.5%
Tules, common	---	1.5%
Vaseygrass	2.3 – 3.75	1.5%
Velvetgrass	2.3 – 3.75	1.5%
Waterhyacinth	2.5 – 3.0	0.75 – 1.0%
Waterlettuce	---	0.75 – 1.0%
Waterprimrose	---	0.75%
Wheatgrass, western	1.5 – 2.3	0.75%

\*Partial control

Alligatorweed – Apply 3 quarts of this product per acre as a broadcast spray or as a 1.3 percent solution with a hand-held equipment to provide partial control of Alligatorweed. Apply when most of the target plants are in bloom. Repeat applications with be required to maintain such control.

Beachgrass, European (*Ammophila arenaria*) – Apply an 8-percent solution of this product plus 0.5 to 1.5 percent nonionic surfactant on a low-volume spray-to-wet basis. Best results are obtained when applications are made when European beachgrass is actively growing through the boot to the full heading stages of growth. Make applications prior to the loss of more than 50% green leaf color in the fall. Repeat applications may be necessary to treat skips. Monitor treated areas prior to reseeding of desirable vegetation. For selective control of European beachgrass with wiper application, apply a 33.3-percent solution of this product plus 1 to 2.5-percent nonionic surfactant during active growth. Avoid contact of herbicide solution with desirable vegetation. Wiping the plants in opposite directions may improve performance. Maximizing the amount of individual leaf tissue contact with the wiping equipment will result in optimal performance.

Bermudagrass – Apply 3.75 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand –held equipment. Apply when target plants are actively growing and when seedheads appear.

Bindweed, field / Silverleaf Nightshade / Texas Blueweed – Apply 3 to 3.75 quarts of this product per acre as a broadcast spray west of the Mississippi River and 2.3 to 3 quarts of this product per acre east of the Mississippi River. With hand-held equipment, use a 1.5 percent solution. Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

Bluegrass, Kentucky – Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Brackenfern – Apply 2.3 to 3 quarts of this product per acre as a broadcast spray or as a 0.75 to 1 percent solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

Cattail – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

Cogongrass – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

Cordgrass – Refer to Section 8.1 of this label for additional instructions. Apply as a 2 to 8- percent solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. The presence of debris and silt on the cordgrass plants will reduce performance. It may be necessary to wash targeted plants prior to application to improve uptake of this product into the plant. Ensure complete coverage of clumps but do not spray to the point of run-off.

Cutgrass, giant – Apply 3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain such control, especially where vegetation is partially submerged in water. Allow for substantial



regrowth to the 7 to 10 leaf stage prior to retreatment.

Dogbane, hemp / Knapweed / Horseradish – Apply 3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth. For best results, apply in late summer or fall.

Fescue, tall – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained.

Guineagrass – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and when most have reached at least the 7-leaf stage of growth.

Johnsongrass / Bromegrass, smooth / Canarygrass, red / Orchardgrass – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Knotweed: Bohemian, Giant, Japanese (*Polygonum bohemicum*, *P. sachalinense*, and *P. cuspidatum*) – For stem injections, see the Hollow Stem Injection section of this label. For cut stem treatment, cut stems cleanly just below the 2nd or 3rd node above the ground. Immediately apply 0.36 fluid ounce (10 mL) of a 50-percent solution of this product into the “well” or remaining internode. Ensure that removed upper plant material is carefully gathered and discarded so that it will not contact soil and regenerate plants from sprouting buds. Use a bio-barrier such as cardboard, plywood, or plastic sheeting to shield treatment of desirable foliage. The combined total for all treatments must not exceed 8 quarts per acre. At 10 mL of a 50-percent solution, approximately 1500 stems per acre may be treated.

Lantana – Apply this product as a 0.75 to 1 percent solution with hand-held equipment. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth.

Loosestrife, purple – Apply 2 quarts of this product per acre as a broadcast spray or as a 1 to 1.5 percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

Lotus, American – Apply 2 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

Maidencane / Paragrass – Apply 3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution using hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7- to 10- leaf stage prior to retreatment.

Milkweed, common – Apply 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution using hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth.

Nutsedge: purple, yellow – Apply 2.3 quarts of this product per acre as a broadcast spray, or as a 0.75 percent solution using hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.

Phragmites – For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 3.75 quarts per acre as a broadcast spray or apply as a 1.5 percent solution with hand-held equipment. In other areas of the U.S., apply 2 to 3 quarts per acre as a broadcast spray or apply a 0.75 percent solution with hand-held equipment for partial control. For best results, treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

Poison Hemlock – Apply 1.5 to 3 quarts per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment. Also see the Hollow Stem Injection section of this label.

Quackgrass / Kikuyugrass / Muhly, wirestem – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches in height (3 to 4 leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage.

Reed, giant – Apply 3 to 3.75 quarts per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment when plants are actively growing. Best results are obtained when applications are made in late summer to fall. Also see Hollow Stem Injection section of this label.

Ryegrass, perennial – Apply 1.5 to 2.3 quarts per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Salvinia, giant – Apply as a 2.0-percent v/v spray-to-wet solution with 0.5 to 2.0 percent v/v of a nonionic surfactant containing at least 70% active ingredient. For broadcast applications, apply 3 to 3.75 quarts of this product with an aquatic approved surfactant system containing 0.1% v/v nonionic organosilicone and 0.25% v/v nonionic spreader sticker surfactant in 3 to 40 gallons per acre as a broadcast treatment. Allow at least 3 days after application before disturbing treated vegetation. This product does not control plants which are completely submerged or have a majority of their foliage underwater.

Spatterdock – Apply 3 quarts of this product per acre as a broadcast spray or as a 0.75 percent solution with hand-held equipment. Apply when most plants are in full bloom. For best results, apply during the summer or fall months.

Sweet potato, wild – Apply this product as a 1.5 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment.

Thistle: Canada, artichoke – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2 percent solution as a spray-to-wet application. Apply when target plants are actively growing and are at or beyond the bud stage of growth. Also see Hollow Stem Injection section of this label.

Timothy – Apply 1.5 to 2.3 quarts of this product per acre as a broadcast spray or as a 1.5 percent solution with hand-held equipment. Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Torpedograss – Apply 3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

Tules, common – Apply this product as a 1.5 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

Waterhyacinth – Apply 2.5 to 3 quarts of this product per acre as a broadcast spray or apply a 0.75 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.

Waterlettuce – For control, apply a 0.75 to 1 percent solution of this product with hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

Waterprimrose – Apply this product as a 0.75 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

Wheatgrass, western – Apply when most target plants have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

Other perennials listed in this label – Apply 2.3 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

## **12.3 Woody Brush and Trees**

Apply this product after full leaf expansion, unless otherwise directed. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late summer or fall after fruit formation.

In arid areas, best results are obtained when applications are made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using spray-to-wet treatments using hand-held equipment. When using hand-held equipment for low volume directed-spray spot treatments, apply a 4 to 8 percent solution of this product.

Symptoms may not appear prior to frost or senescence with fall treatments.

Allow 7 or more days after application before tillage, mowing or removal. Repeat treatments may be necessary to control plants regenerating from underground parts or seed. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Reduced performance may result if fall treatments are made following a frost.

<b>WEED SPECIES</b>	<b>BROADCAST RATE (QT/A)</b>	<b>HAND-HELD SPRAY-TO-WET % SOLUTION</b>
Alder	2.3 – 3.0	0.75 – 1.2%
Ash*	1.5 – 3.75	0.75 – 1.5%
Aspen, quaking	1.5 – 2.3	0.75 – 1.2%
Bearclover (Bearmat)*	1.5 – 3.75	0.75 – 1.5%
Beech*	1.5 – 3.75	0.75 – 1.5%
Birch	1.5	0.75%
Blackberry	2.3 – 3.0	0.75 – 1.2%
Blackgum	1.5 – 3.75	0.75 – 1.2%
Bracken	1.5 – 3.75	0.75 – 1.5%
Broom; French, Scotch	1.5 – 3.75	1.2 – 1.5%
Buckwheat, California*	1.5 – 3.0	0.75 – 1.5%
Cascara*	1.5 – 3.75	0.75 – 1.5%
Castorbean	1.5 – 3.75	1.5%
Catsclaw*	---	1.2 – 1.5%
Ceanothus*	1.5 – 3.75	0.75 – 1.5%
Chamise*	1.5 – 3.75	0.75%
Cherry; bitter, black pin	1.5 – 3.75	1.0 – 1.5%
Cottonwood, eastern	1.5 – 3.75	0.75 – 1.5%
Coyote brush	2.3 – 3.0	1.2 – 1.5%
Cypress, swamp, bald	1.5 – 3.75	0.75 – 1.5%
Deerweed	1.5 – 3.75	0.75 – 1.5%
Dewberry	2.3 – 3.0	
Dogwood*	3.0 – 3.75	0.75 – 1.5%
Elderberry	1.5	0.75 – 1.5%
Elm*	1.5 – 3.75	0.75 – 1.5%
Eucalyptus	---	0.75 – 1.5%
Gallberry	1.5 – 3.75	0.75 – 1.5%
Hackberry, western	1.5 – 3.75	0.75 – 1.5%
Gorse*	1.5 – 3.75	0.75 – 1.5%
Hasardia*	1.5 – 3.0	0.75 – 1.5%
Hawthorn	1.5 – 2.3	0.75 – 1.2%
Hazel	1.5	0.75%
Hickory*	3.0 – 3.75	1.0 – 2.0%
Honeysuckle	2.3 – 3.0	0.75 – 1.2%
Hornbeam, American*	1.5 – 3.75	0.75 – 1.5%
Huckleberry	1.5 – 3.75	0.75 – 1.5%
Ivy, Poison	3.0 – 3.75	1.5%
Kudzu	3.0	1.5%
Locust, black*	1.5 – 3.0	0.75 – 1.5%
Madrone resprouts*	---	1.5%

Magnolia, sweetbay	1.5 – 3.75	0.75 – 1.5%
Manzanita*	1.5 – 3.75	0.75 – 1.5%
Maple, red	1.0 – 3.75	0.75 – 1.2%
Maple, sugar	---	0.75 – 1.2%
Maple, vine*	1.5 – 3.75	0.75 – 1.5%
Monkey flower*	1.5 – 3.0	0.75 – 1.5%
Oak; black, white*	1.5 – 3.0	0.75 – 1.5%
Oak, post	1.5 – 3.0	0.75 – 1.5%
Oak; red	---	0.75 – 1.2%
Oak; northern, pin	1.5 – 3.0	0.75 – 1.2%
Oak, Poison	3.0 – 3.75	1.5%
Oak, Scrub*	1.5 – 3.0	0.75 – 1.5%
Oak; southern red	1.5 – 3.75	1.0 – 1.5%
Orange, Osage	1.5 – 3.75	0.75 – 1.5%
Peppertree, Brazilian (Florida holly)*	1.5 – 3.75	1.5%
Persimmon*	1.5 – 3.75	0.75 – 1.5%
Pine	1.5 – 3.75	0.75 – 1.5%
Poplar, yellow*	1.5 – 3.75	0.75 – 1.5%
Prunus	1.5 – 3.75	1.0 – 1.5%
Raspberry	2.3 – 3.0	0.75 – 1.2%
Redbud, eastern	1.5 – 3.75	0.75 – 1.5%
Redcedar, eastern	1.5 – 3.75	0.75 – 1.5%
Rose, multiflora	1.5	0.75%
Russian olive*	1.5 – 3.75	0.75 – 1.5%
Sage, black	1.5 – 3.0	0.75%
Sage, white*	1.5 – 3.0	0.75 – 1.5%
Sage brush, California	1.5 – 3.0	0.75%
Salmonberry	1.5	0.75%
Saltbush	---	1.0%
Salt-cedar	3.0 – 3.75	0.75 – 1.5%
Sassafras*	1.5 – 3.75	0.75 – 1.5%
Sea Myrtle	---	1.0%
Sourwood*	1.5 – 3.75	0.75 – 1.5%
Sumac; laurel, poison, smooth, Sugarbush, winged*	1.5 – 3.0	0.75 – 1.5%
Sweetgum	1.5 – 2.3	0.75 – 1.5%
Swordfern*	1.5 – 3.75	0.75 – 1.5%
Tallowtree, Chinese	---	0.75%
Tan oak resprouts*	---	1.5%
Thimbleberry	1.5	0.75%
Tobacco, tree*	1.5 – 3.0	0.75 – 1.5%
Toyon*	---	1.5%
Trumpetcreeper	1.5 – 2.3	0.75 – 1.2%
Virginia creeper	1.5 – 3.75	0.75 – 1.5%
Waxmyrtle, southern*	1.5 – 3.75	1.5%
Willow	2.3	0.75%
Yerba Santa, California*	---	1.5%

\*Partial control

Other woody brush and trees listed in this label – For partial control, apply 1.5 to 3.75 quarts of this product per acre as a broadcast spray or as a 0.75 to 1.5 percent solution with hand-held equipment.

## **13.0 LIMIT OF WARRANTY AND LIABILITY**

To the extent consistent with applicable law, MEY Corporation warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes set forth in the Complete Directions for Use label booklet (“Directions”) when used in accordance with those Directions under the conditions described therein. NO OTHER EXPRESSED WARRANTY OR IMPLIED WARRANTY OF FITNESS FOR PARTICULAR PURPOSE OR MERCHANTABILITY IS MADE. This warranty is also subject to the conditions and limitations stated herein.

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

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

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

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