

# **GLYFOS® AQUATIC** HERBICIDE

## For Use in Aquatic and Other Non-Crop Sites

**Avoid herbicide contact with foliage, green stems, exposed non-woody roots or fruit of crops, desirable plants and trees, because severe injury or destruction may result.**

<b>ACTIVE INGREDIENT:</b>		
"Glyphosate [N-(phosphonomethyl) glycine] in the form of its isopropylamine salt.....	53.8%	
<b>INERT INGREDIENTS:</b> .....	46.2%	
<b>TOTAL:</b> .....	100.0%	

  
Department of Agriculture  
STATE OF HAWAII

**LICENSED**

PERIOD **2015-2017** LIC. NO.

**8003.11**

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

  
Department of Agriculture  
STATE OF HAWAII

**LICENSED**

PERIOD **2012-2014** LIC. NO.

**IN CASE OF A MEDICAL EMERGENCY INVOLVING THIS PRODUCT,  
CALL TOLL-FREE, DAY OR NIGHT 1-866-303-6950**

Read the entire label before using this product. Use only according to label instructions.  
Read "DISCLAIMER" before buying or using. If terms are not acceptable, return product unopened without delay.

**SEE BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND USE DIRECTIONS.**

EPA Reg. No. 4787-34

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 **CHEMINOVA**  
HELPING YOU GROW

0/B21/9 03/09

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Department of Agriculture  
STATE OF HAWAII

JOB #40213

**LICENSED**

**FRONT COVER**

PERIOD **2009-2011** LIC. NO.

## DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Cheminova. All such risks shall be assumed by the user.

Cheminova warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use set forth in the label booklet, subject to the risks referred to above.

Any damage arising from a breach of this warranty shall be limited to direct damages and shall not include consequential commercial damages such as loss of profits or values or any other special or indirect damages.

Cheminova makes no other express or implied warranty including any other express or implied warranty of FITNESS or MERCHANTABILITY.

The sale of this product does not include a license under any patent owned by Cheminova.

## PRECAUTIONARY STATEMENTS Hazard to Humans and Domestic Animals

### KEEP OUT OF REACH OF CHILDREN CAUTION

Harmful if absorbed through the skin. Avoid contact with eyes, skin or clothing. Avoid breathing spray mist or vapors. Remove contaminated clothing and wash before reuse. Wash thoroughly with soap and water after handling.

#### FIRST AID

**IF INHALED:** Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

**IF ON SKIN OR CLOTHING:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Have the product label or container with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-866-303-6950 for emergency medical treatment information.

**DOMESTIC ANIMALS:** This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation 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.

#### ENVIRONMENTAL HAZARDS

Do not contaminate water when cleaning equipment or disposing of equipment washwaters. 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 with an absorbent and remove to a landfill.

#### PHYSICAL OR CHEMICAL HAZARDS

Spray solution of this product should 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.

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or tribe, consult the agency responsible for pesticide regulations. FOR MORE INFORMATION, CALL TOLL-FREE 1-800-548-6113.

## STORAGE AND DISPOSAL

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

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

**DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, State, or local procedures.

Emptied container retains vapor and product residue. Observe all labeled safeguards until container is destroyed. Do not reuse container.

### CONTAINER DISPOSAL:

#### Nonrefillable containers 5 gallons or less:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

#### Nonrefillable containers 5 gallons or larger:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank and store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

## GENERAL INFORMATION

This product, a water-soluble liquid, mixes readily with water to be applied as a foliar spray for the control or destruction of many herbaceous or woody plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions. 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 visual effects of control. Visible effects are a gradual wilting and yellowing of the plant which advances to complete browning of aboveground growth and deterioration of underground plant parts. Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the **WEEDS CONTROLLED** section of this label. Unemerged plants arising from unattached underground rhizomes or root stocks of perennials will not be affected by the herbicide and will continue to grow. For this reason, best control of most perennial weeds is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the recommended range when weed growth is heavy or dense.

Do not treat weeds under poor growing conditions such as drought stress, disease or insect damage, as reduced weed control may result. Reduced results may also occur when treating weeds heavily covered with dust.

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 recommended stage for treatment. Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness.

Heavy rainfall or irrigation within 2 hours after application may wash the chemical off the foliage and a repeat treatment may be required.

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.

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 recommended in this labeling. Mixing this product with herbicides or other materials not recommended on this label may result in reduced performance.

For best results, spray coverage should be uniform and complete. Do not spray weed foliage to the point of runoff.

The maximum use rates stated throughout this product's labeling apply to this product combined with the use of all other herbicides containing glyphosate or sulfosate as the active ingredient, whether applied as mixtures or separately. Calculate the application rates and ensure that the total use of this and other glyphosate- or sulfosate-containing products does not exceed stated maximum use rate(s).

### ATTENTION

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 is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift.

AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

**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. Keep container closed to prevent spills and contamination.

### MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

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-GUN APPLICATIONS SHOULD 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.

#### MIXING

This product mixes readily with water. Mix spray solutions of this product as follows: Fill the mixing or spray tank with the required amount of water. Add the recommended amount of this product (see the **DIRECTIONS FOR USE** and **WEEDS CONTROLLED** sections of this label) near the end of the filling process and mix well. Remove hose from tank immediately after filling to avoid siphoning back into the carrier source. 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.

Keep by-pass line on or near bottom of tank to minimize foaming. Screen size in in-line strainer or nozzles should be 50 mesh or larger. Use correct nozzles to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

When using this product, add 2 or more quarts of nonionic surfactant per 100 gallons of spray solution. Use a nonionic surfactant labeled for use with herbicides. The surfactant must contain 50% or more of active ingredient. Always read and follow the surfactant manufacturer's label instructions. Surfactants should not be used in excess of 1 quart/A in broadcast application. Colorants or marking dyes approved for use with herbicides may be added to spray mixtures of this product, but may reduce performance, especially at low rates. Always read and follow the colorant manufacturer's label directions.

Clean sprayer and parts immediately after using this product by thoroughly flushing with water. Dispose of rinsate according to labeled use or disposal instructions.

Carefully observe all cautionary statements and other information on the surfactant label.

## APPLICATION EQUIPMENT AND TECHNIQUES

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

This product may be applied with the following application equipment:

**Aerial** – Fixed wing and helicopter

### Broadcast spray

**Controlled droplet application (CDA)** – Hand-held or boom-mounted applicators which produce a spray consisting of a narrow range of droplet sizes.

**Hand-held and high-volume spray equipment** – Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage. **Use only coarse sprays.**

See the appropriate part of this section for specific instructions and rates of application.

## AERIAL EQUIPMENT

Use the recommended rates of this herbicide in 3 to 20 gallons of water per acre unless otherwise specified on this label. See the **WEEDS CONTROLLED** section of this label for specific rates. Aerial applications of this product may be made as specifically stated on this label. Refer to the individual use area sections of this label for recommended volumes and application rates.

**AVOID DRIFT – DO NOT APPLY DURING INVERSION CONDITIONS, WHEN WINDS ARE GUSTY OR UNDER ANY OTHER CONDITION WHICH FAVORS DRIFT. DRIFT MAY CAUSE DAMAGE TO ANY VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Coarse sprays are less likely to drift; therefore, do not use nozzles or nozzle configurations which dispense spray as fine spray droplets. Do not angle nozzles forward into the airstream and do not increase spray volume by increasing nozzle pressure.

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

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

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

## SPRAY DRIFT MANAGEMENT

**DRIFT MAY CAUSE DAMAGE TO ANY OTHER VEGETATION CONTACTED TO WHICH TREATMENT IS NOT INTENDED. TO PREVENT INJURY TO ADJACENT DESIRABLE VEGETATION, APPROPRIATE BUFFER ZONES MUST BE MAINTAINED.**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed 3/4 the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the airstream and never be pointed downwards more than 45 degrees. Where States have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the [Aerial Drift Reduction Advisory Information](#).

**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 Wind, Temperature and Humidity, and Temperature Inversion sections of this label).

### Controlling droplet size

**Volume:** Use high flow rate nozzles to apply the highest practical spray volume.

Nozzles with higher rated flows produce larger droplets.

**Pressure:** Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. When higher flow rates are needed, use higher flow-rate nozzles instead of increasing pressure.

**Number of Nozzles:** Use the minimum number of nozzles that provide uniform coverage.

**Nozzle Orientation:** Orienting nozzles so that the spray is released backwards, parallel to the airstream, will produce larger droplets than other orientations. Significant deflection from the horizontal will reduce droplet size and increase drift potential.

**Nozzle Type:** Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce larger droplets than other nozzle types.

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

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

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

**Wind:** Drift potential is lowest between wind speeds of 2-10 MPH. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 MPH due to variable wind direction and high inversion potential. Note: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect 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 Inversion:** Applications should not occur during a temperature inversion, because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a connected cloud (under low wind conditions) indicates an inversion, while smoke that moves upwards and rapidly dissipates indicates good vertical air mixing.

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

### BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment – Use the recommended rates of this product in 3 to 30 gallons of water per acre as a broadcast spray unless otherwise specified on this label. See the **WEEDS CONTROLLED** section of this label for specific rates. As density of weeds increases, spray volume should be increased within the recommended range to ensure complete coverage. Carefully select proper nozzle to avoid spraying a fine mist. For better results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

### CONTROLLED DROPLET APPLICATION (CDA)

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount recommended in this label when applied by conventional broadcast equipment. For vehicle-mounted CDA equipment, apply 3 to 15 gallons of water per acre. **Do not apply as a fine mist. Use coarse sprays only.**

For the control of labeled annual weeds with hand-held CDA units, apply a 20% solution of this product at a flow rate of 2 fluid ounces per minute and a walking speed of 1.5 MPH (1 quart per acre). For the control of labeled perennial weeds, apply a 20% to 40% solution of this product at a flow rate of 2 fluid ounces per minute and walking speed of 0.75 MPH (2 to 4 quarts per acre).

Controlled droplet application equipment produces a spray pattern which 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 may result.

### HAND-HELD and HIGH-VOLUME EQUIPMENT

#### Use coarse sprays only.

Mix this product in clean water and apply to foliage of vegetation to be controlled. Applications should be made on a spray-to-wet basis; spray coverage should be uniform and complete. Do not spray to the point of runoff. For use in knapsack sprayers, it is suggested that the recommended amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution and add the correct amount of surfactant.

For control of annual weeds listed on this label, apply a 3/4 to 2% solution of this product plus nonionic surfactant and apply to foliage of vegetation to be controlled.

When using application methods which result in less than complete coverage, use a 5% solution for annual and perennial weeds and a 5 to 8% solution for woody brush and trees. If a straight-stream nozzle is used, start the application at the top of the target vegetation and spray from top to bottom in a "zig-zag" motion. Ensure that at least 50% of the leaf surface is contacted by the spray.

Small open-branched trees need only be treated from one side. If foliage is thick or there are multiple root sprouts, application must be made from several sides to ensure adequate coverage.

Recommended mixtures are shown in the following table:

	Amount of Glyphos Aquatic Herbicide					
Concentration	3/4%	1%	1-1/4%	1-1/2%	5%	8%
Volume						
1 gallon	1 oz	1-1/3 oz	1-2/3 oz	2 oz	6-2/3 oz	10-1/4 oz
25 gallons	1-1/2 pt	1 qt	1-1/4 qt	1-1/2 qt	5 qt	2 gal
100 gallons	3 qt	1 gal	1-1/4 gal	1-1/2 gal	5 gal	8 gal
2 tablespoons = 1 fluid ounce						

## WEEDS CONTROLLED

### Annual weeds

Apply to actively growing grass and broadleaf weeds. Allow at least 3 days after treatment before disturbing vegetation. After this period, weeds may be mowed, tilled or burned. To prevent seed production, applications should be made prior to seedhead formation.

**Broadcast application:** Use 1-1/2 pints of this product per acre plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution when weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 2-1/2 pints of this product per acre plus 2 or more quarts of nonionic surfactant per 100 gallons of spray solution.

**Hand-held high-volume application:** Use a 3/4% solution of this product in water plus 2 or more quarts of nonionic surfactant per 100 gallons of spray solution and apply to foliage of vegetation to be controlled. This product will control the following annual weeds when applied as directed. Annual weeds will continue to germinate from seed throughout the growing season.

Repeat treatments will be necessary to control later germinating seeds.

Balsamapple *Momordica charantia*\*\*

Barley *Hordeum vulgare*

Barnyardgrass *Echinochloa crus-galli*

Bassia, fivehook *Bassia hyssopifolia*

Bluegrass, annual *Poa annua*

Bluegrass, bulbous *Poa bulbosa*

Bromegrass *Bromus* spp.

Buttercup *Ranunculus* spp.

Cheat *Bromus secalinus*

Chickweed, mouseear *Cerastium vulgatum*

Cocklebur *Xanthium strumarium*

Corn *Zea mays*†

Crabgrass *Digitaria* spp.

Dwarfandelion *Krigia cespitosa*

Falseflax, smallseed *Camelina microcarpa*

Fiddleneck *Amsinckia* spp.

Flaxleaf fleabane *Conyza bonariensis*

Fleabane *Erigeron* spp.

Foxtail *Setaria* spp.

Foxtail, Carolina *Alopecurus carolinianus*

Groundsel, common *Senecio vulgaris*

Horseweed/marestail *Conyza canadensis*

Kochia *Kochia scoparia*

Lambsquarters, common *Chenopodium album*

Lettuce, prickly *Lactuca seriola*

Morningglory *Ipomoea* spp.

Mustard, blue *Chorispora tenella*

\* Apply 3 pints of this product per acre

\*\* Apply with hand-held equipment only

† Except glyphosate-tolerant varieties and hybrids

Mustard, tansy *Descurainia pinnata*

Mustard, tumble *Sisymbrium altissimum*

Mustard, wild *Brassica kaber*

Oats, wild *Avena fatua*

Panicum *Panicum* spp.

Pennycress, field *Thlaspi arvensis*

Pigweed, redroot *Amaranthus retroflexus*

Pigweed, smooth *Amaranthus hybridus*

Ragweed, common *Ambrosia artimisiifolia*

Ragweed, giant *Ambrosia trifida*

Rocket, London *Sisymbrium irio*

Rye *Secale cereale*

Ryegrass, Italian *Lolium multiflorum*\*

Sandbur, field *Cenchrus* spp.

Shattercane *Sorghum bicolor*

Shepherdspurse *Capsella bursa-pastoris*

Signalgrass, broadleaf *Bracharia platyphylla*

Smartweed, Pennsylvania *Polygonum pennsylvanicum*

Sowthistle, annual *Sonchus oleraceus*

Spanishneedles *Bidens bipinnata*\*

Spurry, umbrella *Holosteum umbellatum*

Stinkgrass *Eragrostis ciliaris canadensis*

Sunflower *Helianthus annuus*

Thistle, Russian *Salsola kali*

Velvetleaf *Abutilon theophrasti*

Wheat *Triticum aestivum*

Witchgrass *Panicum capillare*

## PERENNIAL WEEDS

Apply this product as follows to control or destroy most vigorously growing perennial weeds. Unless otherwise directed, allow at least 7 days after application before disturbing vegetation.

**NOTE:** If weeds have been mowed or tilled, do not treat until plants have resumed active growth and have reached the recommended stages. Fall treatments must be applied before a killing frost.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seed.

Add 2 or more quarts of nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. Refer to the **MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS** section of this label for specific uses and application instructions.

When applied as recommended under the conditions described, this product will CONTROL the following PERENNIAL WEEDS:

Alfalfa *Medicago sativa*  
 Alligatorweed *Alternanthera philoxeroides*\*  
 Anise/Fennel *Foeniculum vulgare*  
 Artichoke, Jerusalem *Helianthus tuberosus*  
 Bahiagrass *Paspalum notatum*  
 Bermudagrass *Cynodon dactylon*  
 Bermudagrass, water (knotgrass)  
   *Paspalum distichum*  
 Bindweed, field *Convolvulus arvensis*  
 Bluegrass, Kentucky *Poa pratensis*  
 Blueweed, Texas *Helianthus ciliaris*  
 Brackenfern *Pteridium aquilinum*  
 Bromegrass, smooth *Bromus inermis*  
 Canarygrass, reed *Phalaris arundinacea*  
 Cattail *Typha* spp.  
 Clover, red *Trifolium pratense*  
 Clover, white *Trifolium repens*  
 Cogongrass *Imperata cylindrica*  
 Cordgrass *Spartina* spp.  
 Cutgrass, giant *Zizaniopsis miliacea*\*  
 Dallisgrass *Paspalum dilatatum*  
 Dandelion *Taraxacum officinale*  
 Dock, curly *Rumex crispus*  
 Dogbane, hemp *Apocynum cannabinum*  
 Fescues *Festuca* spp.  
 Fescue, tall *Festuca arundinacea*  
 Guineagrass *Panicum maximum*  
 Hemlock, poison *Conium maculatum*  
 Horsenettle *Solanum carolinense*  
 Horseradish *Armoracia rusticana*  
 Ice plant *Mesembryanthemum crystallinum*  
 Johnsongrass *Sorghum halepense*  
 Kikuyugrass *Pennisetum clandestinum*  
 Knapweed *Centaurea repens*

Lantana *Lantana camara*  
 Lespedeza, common, serices *Lespedeza striata*,  
   *Lespedeza cuneata*  
 Loosetrife, purple *Lythrum salicaria*  
 Lotus, America *Nelumbo lutea*  
 Maidencane *Panicum hematomon*  
 Milkweed *Asclepias* spp.  
 Muhly, wirestem *Muhlenbergia frondosa*  
 Mullein, common *Verbascum thapsus*  
 Napiergrass *Pennisetum purpureum*  
 Nightshade, silverleaf *Solanum elaeagnifolium*  
 Nutsedge, purple, yellow *Cyperus rotundus*,  
   *Cyperus esculentus*  
 Orchardgrass *Dactylis glomerata*  
 Pampasgrass *Cortaderia jubata*  
 Paragrass *Brachiaria mutica*  
 Phragmites *Phragmites* spp.\*\*  
 Quackgrass *Elytrigia repens*  
 Reed, giant *Arundo donax*  
 Ryegrass, perennial *Lolium perenne*  
 Smartweed, swamp *Polygonum coccineum*  
 Spatterdock *Nuphar luteum*  
 Starthistle, yellow *Centaurea solstitialis*  
 Sweet potato, wild *Ipomoea pandurata*\*  
 Thistle, artichoke *Cynara cardunculus*  
 Thistle, Canada *Cirsium arvense*  
 Timothy *Phleum pratense*  
 Torpedograss *Panicum repens*\*  
 Tules, common *Scirpus acutus*  
 Vaseygrass *Paspalum urvillei*  
 Velvetgrass *Holcus* spp.  
 Waterhyacinth *Eichornia crassipes*  
 Waterlettuce *Pistia stratiotes*  
 Waterprimrose *Ludwigia* spp.  
 Wheatgrass, western *Agropyron smithii*

\* Partial control

\*\* Partial control, Southeastern States, see specifics below.

See **DIRECTIONS FOR USE** and **MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS** sections of this label for labeled uses and specific application instructions.

**Alligatorweed:** Apply 6 pints of this product per acre or apply a 1-1/4% solution with hand-held equipment to provide partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control.

**Bermudagrass:** Apply 7-1/2 pints of this product per acre as a broadcast spray, or as a 1-1/2% solution with hand-held equipment. Treat when bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control.

**Bindweed, field; silverleaf nightshade; Texas blueweed:** Apply 6 to 7-1/2 pints of this product per acre as a broadcast spray west of the Mississippi River and 4-1/2 to 6 pints per acre east of the Mississippi River. With hand-held equipment, use a 1-1/2% 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.

**Brackenfern:** Apply 4-1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 to 1% solution with hand-held equipment. Apply to fully expanded fronds which are at least 18 inches long.

**Cattail:** Apply 4-1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment. Apply when the 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 4-1/2 to 7-1/2 pints 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:** Apply 4-1/2 to 7-1/2 pints of this product per acre as a broadcast spray or as a 1 to 2% solution with hand-held equipment. Schedule applications in order to allow 6 hours before treated plants are covered by tidewater. The presence of silt or debris on the cordgrass will reduce performance. It may be necessary to wash target plants before application to improve uptake.

**Cutgrass, giant:** Apply 6 pints of this product per acre as a broadcast spray or as a 1% solution with hand-held equipment to provide partial control of giant cutgrass. Repeat applications will be required to maintain control, especially where vegetation is partially submerged. Allow regrowth to the 7- to 10-leaf stage before retreatment.

**Dogbane, hemp; knapweed; horseradish:** Apply 6 pints of this product per acre as a broadcast spray or as a 1-1/2% 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 4-1/2 pints of this product per acre as a broadcast spray or as a 1% solution with hand-held equipment. Apply when the plants are actively growing, and most have reached the boot to head stage of growth. When applied prior to boot stage, control may be reduced.

**Guineagrass:** Apply 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment. Apply when plants are actively growing and most have reached at least the 7-leaf stage of growth.

**Johnsongrass; Kentucky bluegrass; smooth bromegrass; reed canarygrass; orchardgrass; perennial ryegrass; timothy; western wheatgrass:** Apply 3 to 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% 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 boot stage, control may be reduced. In fall, apply before plants have turned brown.

**Lantana:** Apply this product as a 3/4 to 1% solution with hand-held equipment. Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher rate for plants that have reached the woody stage of growth.

**Loosestrife, purple:** Apply 4 pints of this product per acre as a broadcast spray or as a 1 to 1-1/2% 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.

**Lotus, American:** Apply 4 pints of this product as a broadcast spray or as a 3/4% solution with hand-held equipment. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatments may be required to control regrowth from seeds or underground parts of plants.

**Maidencane; paragrass:** Apply 6 pints of this product as a broadcast spray or as a 3/4% solution with hand-held equipment. Repeat treatments will be required, especially with plants that are partially submerged in water. Under these conditions, allow regrowth to the 7- to 10-leaf stage of growth before retreatment.

**Milkweed, common:** Apply 4-1/2 pints of this product per acre as a broadcast spray or as a 1-1/2% solution with hand-held equipment. Apply when plants are actively growing and have reached the late bud to flower stage of growth.

**Nutsedge, purple, yellow:** Apply 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment to control existing plants or 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.

**Pampasgrass:** Apply a 1-1/2% solution of this product with hand-held equipment when plants are actively growing.

**Phragmites:** For partial control of phragmites in Florida and the counties of other States bordering on the Gulf of Mexico, apply 7-1/2 pints per acre of this product as a broadcast spray or as a 1-1/2% solution with hand-held equipment. In other areas of the U.S., apply 4 to 6 pints per acre as a broadcast spray or as a 3/4% 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 symptoms will be slow to develop.

**Quackgrass; Kikuyugrass; wirestem muhly:** Apply 3 to 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment when most quackgrass or wirestem muhly is at least 8 inches high (3- to 4-leaf stage of growth) and actively growing. Allow 3 or 4 more days after application before tillage.

**Giant reed; iceplant:** For control of giant reed and iceplant, apply a 1-1/2% solution of this product with hand-held equipment when plants are actively growing. For giant reeds, best results are obtained when application is made in late summer to fall.

**Spatterdock:** Apply 6 pints per acre of this product as a broadcast spray or as a 3/4% solution with hand-held equipment. Apply when most of the plants are in full bloom. For best results, apply in late summer or fall.

**Wild sweet potato:** Apply as a 1-1/2% solution with hand-held equipment. Apply to actively growing weeds 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 3 to 4-1/2 pints of this product per acre as a broadcast spray or as a 1-1/2% solution with hand-held equipment for Canada thistle. To control artichoke thistle, apply a 2% solution as a spray-to-wet application. Apply when plants are actively growing and are at or beyond the bud stage of growth.

**Torpedograss:** Apply 6 to 7-1/2 pints per acre of this product as a broadcast spray or as a 3/4 to 1-1/2% 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 floating-mat conditions. Repeat treatment will be required to maintain control.

**Tules, common:** Apply this product as a 1-1/2% 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 appear for 3 or more weeks.

**Waterhyacinth:** Apply 5 to 6 pints of this product per acre as a broadcast spray or as a 3/4 to 1% solution with hand-held equipment. Apply when 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, with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are required.

**Waterlettuce:** For control, apply a 3/4 to 1% solution of this product with hand-held equipment to actively growing plants. Use the higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring application may require retreatment.

**Waterprimrose:** Apply this product as a 3/4% solution using hand-held equipment 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.

**Other perennials listed on this label:** Apply 4-1/2 to 7-1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/2% solution with hand-held equipment. Apply when target plants are actively growing, and most have reached early head or early bud stage of growth.

## WOODY BRUSH AND TREES

When applied as recommended under the conditions described, this product CONTROLS or PARTIALLY CONTROLS the following woody brush, plants and trees:

Alder *Alnus spp.*

Ash *Fraxinus spp.\**

Aspen, quaking *Populus tremuloides*

Bearmat (Bearclover) *Chamaebatia foliolosa*

Birch *Betula spp.*

Blackberry *Rubus spp.*

Broom:

French *Cytisus monspessulanus*

Scotch *Cytisus scoparius*

Buckwheat, California *Eriogonum fasciculatum\**

Cascara *Rhamnus purshiana\**

Catsclaw *Acacia greggi\**

Ceanothus *Ceanothus spp.*

Chamise *Adenostoma fasciculatum*

Cherry:

Bitter *Prunus emarginata*

Black *Prunus serotina*

Pin *Prunus pensylvanica*

Coyote brush *Baccharis consanguinea*

Creepers, Virginia *Parthenocissus quinquefolia\**

Dewberry *Rubus trivialis*

Dogwood *Cornus spp.*

Elderberry *Sambucus spp.*

Elm *Ulmus spp.\**

Eucalyptus, bluegum *Eucalyptus spp.*

Hasardia *Haplopappus squamosus\**

Hawthorn *Crataegus spp.*

Hazel *Corylus spp.*

Hickory *Carya spp.*

Holly, Florida/Brazilian peppertree

*Schinus terebinthifolius*

Honeysuckle *Lonicera spp.*

Hornbeam, American *Carpinus caroliniana*

Kudzu *Pueraria lobata*

Locust, black *Robinia pseudoacacia\**

Manzanita *Arctostaphylos spp.*

Maple:

Red *Acer rubrum\*\**

Sugar *Acer saccharum*

Vine *Acer circinatum\**

\* Partial control

\*\* See below for control or partial control instructions.

NOTE: If brush has been mowed or tilled or trees have been cut, do not treat until regrowth has reached the recommended stages of growth.

Monkey Flower *Mimulus guttatus\**

Oak:

Black *Quercus yelutina\**

Northern Pin *Quercus palustris*

Post *Quercus stellata*

Red *Quercus rubra*

Southern Red *Quercus falcata*

White *Quercus alba\**

Persimmon *Diospyros spp.\**

Poison Ivy *Rhus radicans*

Poison Oak *Rhus toxicodendron*

Poplar, yellow (Tulip tree) *Liriodendron tulipifera\**

Prunus *Prunus spp.*

Raspberry *Rubus spp.*

Redbud, eastern *Cercis canadensis*

Rose, multiflora *Rosa multiflora*

Russian olive *Elaeagnus angustifolia*

Sage, black, white *Salvia spp.*

Sagebrush, California *Artemisia californica*

Salmonberry *Rubus spectabilis*

Saltcedar *Tamarix spp.*

Saltbush, sea myrtle *Baccharis halimifolia*

Sassafras *Sassafras spp.*

Sourwood *Oxydendrum arboreum\**

Sumac:

Poison *Rhus vernix\**

Smooth *Rhus glabra\**

Winged *Rhus copallina\**

Sweetgum *Liquidambar styraciflua*

Swordfern *Polystichum munitum\**

Tallowtree, Chinese *Sapium sebiferum*

Thimbleberry *Rubus parviflorus*

Tobacco, tree *Nicotiana glauca\**

Trumpet creeper *Campsis radicans*

Waxmyrtle, southern *Myrica cerifera\**

Willow *Salix spp.*

Apply this product when plants are actively growing and, unless otherwise directed, after full leaf expansion. 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 application is made in the spring to early summer when brush species are at high moisture content and are flowering.

Ensure thorough coverage when using hand-held equipment. 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.

See **DIRECTIONS FOR USE** and **MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS** sections of this label for labeled uses and specific application instructions.

Applied as a 5 to 8% solution as a directed application as described in the **hand-held and high-volume spray equipment** section, this product will control or partially control all the species listed in this section of this label. Use the higher rate for dense stands and larger woody brush and trees.

Apply this product as follows to control or partially control the following woody brush and trees:

**Alder; blackberry; dewberry; honeysuckle; post oak; raspberry:** For control, apply 4-1/2 to 6 pints per acre of this product as a broadcast spray or as a 3/4 to 1-1/4% solution with hand-held equipment.

**Aspen, quaking; hawthorn; trumpet creeper:** For control, apply 3 to 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment.

**Birch; elderberry; hazel; salmonberry; thimbleberry:** For control, apply 3 pints per acre of this product as a broadcast spray or as a 3/4% solution with hand-held equipment.

**Broom, French, Scotch:** For control, apply a 1-1/4 to 1-1/2% solution with hand-held equipment.

**Buckwheat, California; hasardia; monkeyflower; tobacco, tree:** For partial control of these species, apply a 3/4 to 1-1/2% solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Catsclaw:** For partial control, apply as a 1-1/4 to 1-1/2% solution with hand-held equipment when at least 50% of the new leaves are fully developed.

**Cherry, bitter, black, pin; oak, southern red; sweetgum; prunus:** For control, apply 3 to 7-1/2 pints of this product per acre as a broadcast spray or as a 1 to 1-1/2% solution with hand-held equipment.

**Coyote brush:** For control, apply a 1-1/4 to 1-1/2% solution with hand-held equipment when at least 50% of the new leaves are fully developed.

**Dogwood; hickory; saltcedar:** For partial control, apply a 1 to 2% solution of this product with hand-held equipment or 6 to 7-1/2 pints per acre as a broadcast spray.

**Eucalyptus, bluegum:** For control of eucalyptus resprouts, apply a 1-1/2% solution of this product with hand-held equipment when resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.

**Holly, Florida; waxmyrtle, southern:** For partial control, apply this product as a 1-1/2% solution with hand-held equipment.

**Kudzu:** For control, apply 6 pints of this product per acre as a broadcast spray or as a 1-1/2% solution with hand-held equipment. Repeat applications will be required to maintain control.

**Maple, red:** For control, apply as a 3/4 to 1-1/4% solution with hand-held equipment when at least 50% of the new leaves are fully developed. For partial control, apply 2 to 7-1/2 pints of this product per acre as a broadcast spray.

**Maple, sugar; oak, northern pin; oak, red:** For control, apply as a 3/4 to 1-1/4% solution with hand-held equipment when at least 50% of the new leaves are fully developed.

**Poison ivy; poison oak:** For control, apply 6 to 7-1/2 pints of this product per acre as a broadcast spray or as a 1-1/2% solution with hand-held equipment. Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

**Rose, multiflora:** For control, apply 3 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

**Sage, black; sagebrush, California; chamise; tallowtree, Chinese:** For control of these species, apply a 3/4% solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

**Saltbush, sea myrtle:** For control, apply this product as a 1% solution with hand-held equipment.

**Tanoak resprouts:** For suppression or partial control, apply a 2% solution of this product to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications.

**Willow:** For control, apply 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4% solution with hand-held equipment.

**Other woody brush and trees listed on this label:** For partial control, apply 3 to 7-1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/2% solution with hand-held equipment.

### AQUATIC AND OTHER NONCROP SITES

When applied as directed and under the conditions described in the **WEEDS CONTROLLED** section in this label, this product will control or partially control the labeled weeds growing in the following industrial, recreational, and public areas or other similar aquatic and terrestrial sites.

**Aquatic sites** – This product may 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, and similar sites.

If aquatic sites are present in the non-crop 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 foliage under water.**

There is no restriction on the use of treated water for irrigation, recreation, or domestic purposes. Consult local State fish and game agency and water control authorities before applying this product to public waters. Permits may be required to treat such water.

**NOTE:** Do not apply this product within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 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 1/2 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 re-treat 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 7-1/2 pints per acre must not be exceeded in any single broadcast application that is being made over water.

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.

**Other noncrop-type sites** – This product may be used to control the listed weeds in terrestrial noncrop sites and/or in aquatic sites within these areas:

Airports	Parks
Golf courses	Petroleum tank farms
Habitat restoration & management areas	Pipeline, power, telephone & utility rights-of-way
Highways & roadsides	Pumping installations
Industrial plant sites	Railroads
Lumberyards	Schools
Parking areas	Storage areas
	Similar sites

### WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS

This product is recommended for the restoration and/or maintenance of native habitat and in wildlife management areas.

**Habitat restoration and maintenance** – When applied as directed, exotic and other undesirable vegetation may be controlled in habitat management areas. Applications may be made to allow recovery of native plant species, to open up water to attract waterfowl, and for similar broad-spectrum vegetation control requirements in habitat management areas. Spot treatments may be made to selectively remove unwanted plants for habitat enhancement. For spot treatments, care should be exercised to keep spray off of desirable plants.

**Wildlife food plots** – This product may be used as a site preparation treatment prior to planting wildlife food plots. Apply as directed to control vegetation in the plot area. Any wildlife food species may be planted after applying this product, or native species may be allowed to reinfest the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling to allow for maximum effectiveness.

### WIPER APPLICATIONS

For wick or wiper applications, mix 1 gallon of this product with 2 gallons of clean water to make a 33% solution. Addition of a nonionic surfactant at a rate of 10% by volume of total herbicide solution is recommended.

Wiper applications can be used to control or suppress annual and perennial weeds listed on this label. In heavy weed stands, a double application in opposite directions may improve results. See the **WEEDS CONTROLLED** section in this label for recommended timing, growth stage and other instructions for achieving optimum results.

### CUT STUMP APPLICATION

Woody vegetation may be controlled by treating freshly cut stumps of trees and resprouts with this product. Apply this product using suitable equipment to ensure coverage of the entire cambium. Cut vegetation close to the soil surface. Apply a 50 to 100% solution of this product to freshly cut surface immediately after cutting. Delay in applying this product may result in reduced performance. For best results, trees should be cut during periods of active growth and full leaf expansion.

When used according to directions for cut stump application, this product will CONTROL, PARTIALLY CONTROL or SUPPRESS most woody brush and tree species, some of which are listed below:

Alder <i>Alnus spp.</i>	Poplar <i>Populus spp.*</i>
Coyote brush <i>Baccharis consanguinea*</i>	Reed, giant <i>Arundo donax</i>
Dogwood <i>Cornus spp.*</i>	Saltcedar <i>Tamarix spp.</i>
Eucalyptus <i>Eucalyptus spp.</i>	Sweetgum <i>Liquidambar styraciflua*</i>
Hickory <i>Carya spp.*</i>	Sycamore <i>Platanus occidentalis*</i>
Madrone <i>Arbutus menziesii</i>	Tanoak <i>Lithocarpus densiflorus</i>
Maple <i>Acer spp.*</i>	Willow <i>Salix spp.</i>
Oak <i>Quercus spp.</i>	

\*This product is not approved for this use on these species in the State of California.

### INJECT AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 ml of this product per 2 to 3 inches of trunk diameter. This is best achieved by applying 25 to 100% 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 dilute material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material.

For best results, applications should be made during periods of active growth and full leaf expansion.

This treatment will CONTROL the following woody species:

Oak *Quercus spp.*

Poplar *Populus spp.*

Sweetgum *Liquidambar styraciflua*

Sycamore *Platanus occidentalis*

This treatment will SUPPRESS the following woody species:

Black gum *Nyssa sylvatica\**

Dogwood *Cornus spp.*

Hickory *Carya spp.*

Maple, red *Acer rubrum*

\*This product is not approved for use on this species in the State of California.

### RELEASE OF BERMUDAGRASS OR BAHIAGRASS ON NONCROP SITES

#### Release of dormant bermudagrass and bahiagrass

When applied as directed, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Make applications to dormant bermudagrass or bahiagrass.

For best results on winter annuals, treat when weeds 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 in or beyond the 4- to 6-leaf stage.

#### Weeds controlled

Rate recommendations for control or suppression of winter annuals and tall fescue are listed below.

Apply the recommended rates of this product in 10 to 25 gallons of water per acre plus 2 quarts nonionic surfactant per 100 gallons of total spray volume.

For the best recommendation for the mixture of weeds within your geographic area, contact your sales representative.

**WEEDS CONTROLLED OR SUPPRESSED\***

Note: C = Control  
S = Suppression

WEED SPECIES	Glyphos Aquatic Herbicide FLUID OZ/ACRE					
	6	9	12	18	24	48
Barley, little ( <i>Hordeum pusillum</i> )	S	C	C	C	C	C
Bedstraw, catchweed ( <i>Galium aparine</i> )	S	C	C	C	C	C
Bluegrass, annual ( <i>Poa annua</i> )	S	C	C	C	C	C
Chervil ( <i>Chaerophyllum tainturieri</i> )	S	C	C	C	C	C
Chickweed, common ( <i>Stellaria media</i> )	S	C	C	C	C	C
Clover, crimson ( <i>Trifolium incarnatum</i> )	•	S	S	C	C	C
Clover, large hop ( <i>Trifolium campestre</i> )	•	S	S	C	C	C
Fescue, tall ( <i>Festuca arundinaceae</i> )	•	•	•	•	S	S
Geranium, Carolina ( <i>Geranium carolinanum</i> )	•	•	S	S	C	C
Henbit ( <i>Lamium amplexicaule</i> )	•	S	C	C	C	C
Ryegrass, Italian ( <i>Lolium multiflorum</i> )	•	•	S	C	C	C
Speedwell, corn ( <i>Veronica arvensis</i> )	S	C	C	C	C	C
Vetch, common ( <i>Vicia sativa</i> )	•	•	S	C	C	C

\*These rates apply only to sites where an established competitive turf is present.

**Release of actively growing bermudagrass**

NOTE: USE ONLY ON SITES WHERE BAHIAGRASS OR BERMUDAGRASS ARE DESIRED FOR GROUND COVER AND SOME TEMPORARY INJURY OR YELLOWING OF THE GRASSES CAN BE TOLERATED.

When applied as directed, this product will aid in the release of bermudagrass by providing control of annual species listed in the **WEEDS CONTROLLED** section in this label, and suppression or partial control of certain perennial weeds.

For control or suppression of those annual species listed in this label, use 3/4 to 2-1/4 pints of this product as a broadcast spray in 10 to 25 gallons of spray solution per acre, plus 2 quarts of nonionic surfactant per 100 gallons of total spray volume. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use higher rate as size of plants increases or as they approach seedhead formation.

Use the higher rate for partial control or longer-term suppression of the following perennial species. Use lower rates for shorter-term suppression of growth.

Bahiagrass	Fescue (tall)	Trumpetcreeper*
Dallisgrass	Johnsongrass**	Vaseygrass

\* Suppression at the higher rate only.

\*\* Johnsongrass is controlled at the higher rate.

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 recommended, since severe injury may result.

### **BAHIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION**

When applied as directed in the noncrop section in this label, this product will provide significant inhibition of seedhead emergence and will suppress vegetative growth for a period of approximately 45 days with single applications and approximately 120 days with sequential applications.

Apply this product 1 to 2 weeks after full greenup of bahiagrass or after the bahiagrass has been mowed to a uniform height of 3 to 4 inches. Applications must be made prior to seedhead emergence. Apply 5 fluid ounces per acre of this product plus 2 quarts of an approved nonionic surfactant per 100 gallons of total spray volume in 10 to 25 gallons of water per acre.

Sequential applications of this product plus nonionic surfactant by total spray volume may be made at approximately 45-day intervals to extend the period of seedhead and vegetative growth suppression. For continued seedhead suppression, sequential applications must be made prior to seedhead emergence.

Apply no more than 2 sequential applications per year. As a first sequential application, apply 3 fluid ounces of this product per acre plus nonionic surfactant. A second sequential application of 2 to 3 fluid ounces per acre plus nonionic surfactant may be made approximately 45 days after the last application.

### **ANNUAL GRASS GROWTH SUPPRESSION**

For growth suppression of some annual grasses, such as 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. Mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

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