

2217-850

9/23/2010

1/27



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

SEP 23 2010

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

James Kuntsman  
PBI/Gordon Corporation  
1217 West 12<sup>th</sup> Street  
P.O. Box 014090  
Kansas City, Missouri 64101-0090

Subject: EPA Reg. 2217-850 / EH 1389 Herbicide Notification

Dear Mr. Kuntsman:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 8-31-10 for the product EPA Reg. 2217-850 / EH 1389 Herbicide. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions please call Erik Kraft at 703-308-9358 or email at [Kraft.Erik@epa.gov](mailto:Kraft.Erik@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Tompkins".

Jim Tompkins  
Team Leader  
Herbicide Branch, Team 25  
Registration Division (7504P)

2/27



United States  
**Environmental Protection Agency**  
 Washington, DC 20460

- Registration
- Amendment
- Other

OPP Identifier Number

**Application for Pesticide - Section I**

1. Company/Product Number <p style="text-align: center;"><b>2217-850</b></p>	2. EPA Product Manager <p style="text-align: center;">James A. Tompkins</p>	3. Proposed Classification  <input checked="" type="checkbox"/> Non <input type="checkbox"/> Restricted
4. Company/Product (Name) <p style="text-align: center;"><b>EH 1389 Herbicide</b></p>	PM# <p style="text-align: center;">Product Manager—Team 25</p>	
5. Name and Address of Applicant (Include ZIP Code) PBI/Gordon Corporation Post Office Box 014090 Kansas City, Missouri 64101  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____  Product Name _____	

**Section - II**

- |  |  |
|--|--|
| <input type="checkbox"/> Amendment - Explain below.                            | <input type="checkbox"/> Final printed labels in response to Agency letter dated _____ |
| <input type="checkbox"/> Resubmission in response to Agency letter dated _____ | <input type="checkbox"/> "Me Too" Application.   |
| <input checked="" type="checkbox"/> Notification - Explain below.              | <input type="checkbox"/> Other - Explain below.  |

Explanation: Use additional page(s) if necessary. (For section I and Section II.)

**Notification Per Pesticide Registration Notice (PRN) 98-10:**

Please refer to cover letter for details and certification statement.

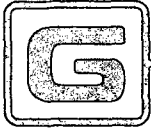
e-mail to [jkunstman@pbigordon.com](mailto:jkunstman@pbigordon.com) FAX: 816-421-2731

**Section - III**

1. Material This Product Will Be Packaged In:			
Child-Resistant Packaging <input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2. Type of Container <input checked="" type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* <b>Certification must be submitted</b> If "Yes" Unit Packaging wgt.    No. per container		If "Yes" Package wgt.    No. per container	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container <p style="text-align: center;">1 gallon, 2.5 gallons and 275 gallons</p>	
5. Location of Label Directions <input checked="" type="checkbox"/> On Label <input checked="" type="checkbox"/> On Labeling accompanying product			
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other _____ <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name James L. Kunstman, Ph.D.	Title Director of Regulatory Services	Telephone No. (Include Area Code) 816-460-6292
Certification <i>I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.</i>		6. Date Application Received <p style="text-align: center;"><b>(Stamped)</b></p>
2. Signature 	3. Title Director of Regulatory Services	
4. Typed Name James L. Kunstman, Ph.D.	5. Date August 31, 2010	



**pbi / GORDON**  
**CORPORATION**

An Employee-Owned Company

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3/  
27

August 31, 2010

Document Processing Desk (PRN)  
Office of Pesticide Programs (7504P)  
US Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501  
Attn: Mr. James A. Tompkins, (PM-25)

Dear Mr. Tompkins:

**Subject: Notification per Pesticide Registration Notice (PRN) 98-10:  
EH 1389 Herbicide (EPA Reg. No. 2217-850)**

***I. Labeling notification per Pesticide Registration Notice (PRN) 98-10:***

1. We propose to update the **Limited Warranty and Disclaimer** statement. The revised verbiage is presented as highlighted text on page **23** of the enclosed labeling.
2. We ask to eliminate a single species [toyon] from the list of target weeds entitled **WOODY BRUSH AND TREES**, page **15** of the enclosed labeling.
3. We ask to add two marketing claims to the Appendix, page **24** of the enclosed labeling.

**Certification:** This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or Confidential Statement of Formula of this product. I understand that it is a violation of 18 U.S.C Sec. 1001 to willfully make any false statement to the EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under Section 12 and 14 of FIFRA.

***II. Enclosures:***

1. Application for Pesticide Amendment (EPA Form 8570-1)
2. Certification with Respect to Label Integrity, and CD containing PDF copy of proposed label.
3. One (1) annotated (highlighted) copy of the draft labeling, and
4. One (1) clean copy of the draft labeling

If you have any questions, please call me at 816-460-6292 or contact me at [jkunstman@pbigordon.com](mailto:jkunstman@pbigordon.com).

Sincerely,

James L. Kunstman, Ph.D.  
Director of Regulatory Services

4/  
27

# EH-1389 HERBICIDE

**NOTIFICATION**

**SEP 23 2010**

**ACTIVE INGREDIENT:**

Isopropylamine salt of glyphosate .....	18.0%
INERT INGREDIENTS: .....	<u>82.0%</u>
<b>TOTAL</b>	<b>100.0%</b>

**THIS PRODUCT CONTAINS:**

1.61 lbs. per U.S. gallon of the active ingredient glyphosate in the form of its isopropylamine salt.  
Equivalent to 1.15 lbs. per U.S. gallon of the acid, glyphosate.

**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

See back (side) panels for additional Precautionary Statements, First Aid, and Use Directions..

**NET CONTENTS:** \_\_\_\_\_

AP083110  
EPA REG NO. 2217-850  
EPA EST NO 2217-KS-1  
MANUFACTURED BY:



## TABLE OF CONTENTS

<b>SECTION</b>	<b>Page No.</b>
<b>I. Precautionary Statements</b>	<b>3</b>
<b>II. Storage and Disposal</b>	<b>4</b>
<b>III. General Information</b>	<b>4</b>
<b>IV. Spray Preparation and Tank Mixtures</b>	<b>5</b>
<b>V. Application Equipment and Techniques</b> <ul style="list-style-type: none"><li>• Ground Equipment</li><li>• Hand Held High Volume</li></ul>	<b>6</b>
<b>VI. Weeds Controlled</b> <ul style="list-style-type: none"><li>• Annuals and Specific Use Recommendations</li><li>• Perennials and Specific Use Recommendations</li><li>• Woody Brush and Trees and Specific Use Recommendations</li></ul>	<b>7</b>
<b>VII. Aquatic Sites and Noncropland Sites</b>	<b>19</b>

6/27



**READ THE ENTIRE LABEL FIRST. OBSERVE ALL PRECAUTIONS AND FOLLOW DIRECTIONS CAREFULLY.**

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**CAUTION:** Causes moderate eye irritation. Harmful if absorbed through the skin. Harmful if swallowed. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

First Aid Statements	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 - 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor or going for treatment. In case of medical emergency involving this product, call toll-free 1-877-800-5556.	

**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 disposing of equipment washwater. 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:**

Combustible. Do not use or store near heat or open flame.

Spray solutions 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.

7/  
27

### DIRECTIONS FOR USE

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

#### STORAGE AND DISPOSAL

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

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility

**[For Plastic Containers – Nonrefillable with capacities equal to or less than 5 gallons:]**

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

Triple rinse [or pressure rinse] container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank 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.

[OR

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

**[For Plastic Containers – Nonrefillable with capacities greater than 5 gallons:]**

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

Triple rinse [or pressure rinse] container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

[OR

Pressure rinse as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.]

**[For Refillable Containers:]**

8/  
27

**CONTAINER HANDLING:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Container cleaning: Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller.

To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

**GENERAL INFORMATION:**

- This product mixes readily with water and is intended 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 gradual wilting and yellowing of the plant which advances to complete browning of above-ground growth and deterioration of underground plant parts. Unless otherwise specified on this label, delay application until vegetation has emerged and reached the growth stages described for control. 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.

**USE PRECAUTIONS:**

- 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 types that will result in splatter or fine particles (mist) which are likely to drift.



9/27

- 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.

**SPRAY PREPARATION [AND TANK MIXTURES]:**

EH-1389 Herbicide is a soluble concentrate that dissolves readily in clean water (free of mud or clay). Reduced results may occur if water containing soil is used, such as water from ponds or unlined ditches.

Additional surfactants are not required for this formulation.

**EH-1389 Herbicide Alone With Water As Diluent:**

1. Determine spray volume needed for the treated area. Add one-half the required amount of clean water to the spray tank.
2. Measure the recommended amount of product and add EH-1389 Herbicide slowly with agitation, and complete filling the tank with water.
3. Mix thoroughly and continue agitation while spraying.

**[Colorants or Dyes:** Colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's recommendations.

**Drift Control Additives:** Drift control additives may be used with all equipment types, except wiper applicators, sponge bars and CDA equipment. When a drift control additive is used, read and carefully observe the cautionary statements and all other information appearing on the additive label.

**Tank Mixtures of EH-1389 Herbicide:**

1. Always predetermine the compatibility of labeled tank mixtures of this herbicide with water carrier by mixing small proportional quantities in advance.
2. Fill the sprayer tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
6. Continue filling the sprayer tank with water and add the required amount of EH-1389 Herbicide near the end of the filling process.
7. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water-soluble liquid.
8. 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.]

**Sprayer Cleanup:** CLEAN THE ENTIRE SPRAYER AFTER APPLICATION OF THIS PRODUCT. Failure to clean the sprayer thoroughly may result in injury to desirable crops which are subsequently sprayed.

**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:

- **Hand-held and high-volume spray equipment** - pump-up pressure sprayers, knapsack and backpack sprayers, sprayguns, handwands, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage. Applications should be made on a spray-to-wet basis, spray coverage should be uniform and complete. Use only coarse sprays.

10/  
27

- **Ground equipment** - Power sprayers fitted with a boom or spray wand/gun may be used for broadcast applications and spot treatments. For best spray distribution and coverage, select a spray volume and delivery system that will ensure accurate and uniform coverage. Boom sprayers equipped with appropriate flat fan nozzles, tips, and screens are suitable for broadcast applications. Spray volumes of 3 - 30 gallons per acre with spray pressures adjusted to 20 - 40 psi are appropriate. Use higher spray volumes within the recommended range for dense weed populations.
- **Controlled droplet applicator (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.**  
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.
- **Selective equipment** - Recirculating sprayers, shielded and hooded sprayers, wiper applicators and sponge bars.
- **Wiper applicators and sponge bars** - Wiper applicators are devices that physically wipe appropriate amounts of this product directly onto the weed.
- **Rope or sponge wick applicators** - Apply this product undiluted (100% solution) to weeds listed on this label.
- **Porous-Plastic Applicators** - Apply this product undiluted (100% solution) in porous-plastic wiper applicators.

**SPRAY PREPARATION FOR APPLICATIONS WITH HAND-HELD HIGH VOLUME EQUIPMENT:**

Specific use recommendations for annuals, perennials, woody brush, and trees are presented in the section named WEEDS CONTROLLED. Identify the target weed species, note the weed growth stages and select the appropriate spray concentration presented in WEEDS CONTROLLED.

Spray concentrations for application with high volume equipment made on a spray-to-wet basis range from 2.75-7.00% vol/vol. Use the lower spray concentrations in the range for annual weeds and the higher spray concentration for perennial and hard-to-control species. The spray preparation chart for applications on a spray-to-wet basis is shown below in Table 1.

Table 1. Amounts of EH-1389 Herbicide for Spray Concentrations, % vol/vol					
Volume (gallons)	2.75%	3.50%	4.40%	5.25%	7.00%
1 gallon	3.50 fl.oz.	4.50 fl.oz.	5.60 fl.oz.	6.70 fl.oz.	9.00 fl.oz.
3 gallons	10.50 fl.oz.	13.50 fl.oz.	16.80 fl.oz.	20.10 fl.oz.	27.00 fl.oz.
25 gallons	0.69 gal.	0.88 gal.	1.10 gal.	1.31 gal.	1.75 gal.
50 gallons	1.38 gal.	1.75 gal.	2.20 gal.	2.63 gal.	3.50 gal.
100 gallons	2.75 gal.	3.50 gal.	4.40 gal.	5.25 gal.	7.00 gal.

When using application methods that result in less than complete coverage, use a 17.5% spray concentration for annual and perennial weeds and a 17.5 - 28.0% spray concentration 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.

The spray preparation chart for these applications is shown below in Table 2.

Volume (gallons)	17.50%	28.00%
1 gallon	22.40 fl.oz	35.80 fl.oz
25 gallons	4.38 gal.	7.00 gal.
50 gallons	8.75 gal.	14.00 gal.
100 gallons	17.50 gal.	28.00 gal.

**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.

This product may be used as a broadcast treatment or spot treatment for annual weeds with any of the application equipment listed on this label in noncropland sites.

Application	Recommendations for Annual Weeds Only	
	Spray Concentration, vol/vol%	Dosage rate, gallons/A
Spot treatments, hand held high volume equipment	2.75%	-----
Broadcast treatments	-----	0.7 - 1.1

**Hand-Held High-Volume Application:** Use a 2.75% vol/vol solution of this product in water and apply to foliage of vegetation to be controlled.

This product will provide full or partial control of 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.

**Broadcast Application:** Generally, the lower application rates within the specified range will provide satisfactory control of sensitive weed species. The higher application rates within the specified range will be required for dense infestations, for adverse/extreme environmental conditions, or for weeds beyond the appropriate growth stages.

Use 0.7 gallons of this product per acre when weeds are less than 6 inches tall. If weeds are greater than 6 inches tall, use 1.1 gallons of this product per acre per 100 gallons of spray solution.

Spray volumes of 3 to 10 gallons per acre for ground applications are recommended.

**WEED SPECIES:**

- |   |  |
|---|--|
| Anoda, spurred                              | Medusahead                                     |
| Barnyardgrass <i>Echinochloa crus-galli</i> | Morningglory, <i>Ipomoea spp.</i>              |
| Bassia, fivehook <i>Bassia hyssopifolia</i> | Mustard, blue <i>Chorispora tenella</i>        |
| Bittercress                                 | Mustard, tansy <i>Descurainia pinnata</i>      |
| Black nightshade                            | Mustard, tumble <i>Sisymbrium altissimum</i>   |
| Bluegrass, annual <i>Poa annua</i>          | Mustard, wild <i>Brassica kaber</i>            |
| Bluegrass, bulbous <i>Poa bulbosa</i>       | Oats, wild <i>Avena fatua</i>                  |
| Brome, downy                                | Panicum, <i>Panicum spp</i>                    |
| Brome, Japanese                             | Pennycress, field <i>Thlaspi arvensis</i>      |
| Buttercup <i>Ranunculus spp.</i>            | Pigweed, redroot <i>Amaranthus retroflexus</i> |
| Carolina geranium                           | Pigweed, smooth <i>Amaranthus hybridus</i>     |
| Carpetweed                                  | Plains/Tickseed coreopsis                      |
| Cheatgrass                                  | Puncturevine                                   |

Cheeseweed *Malva parviflora*  
 Chervil  
 Chickweed  
 Chickweed, mouseear *Cerastium vulgatum*  
 Cocklebur *Xanthium strumarium*  
 Copperleaf hophornbeam  
 Corn speedwell  
 Crabgrass *Digitaria spp.*  
 Dwarf dandelion *Krigia cespitosa*  
 Eclipta  
 Falsedandelion  
 Falseflax, smallseed *Camelina microcarpa*  
 Fiddleneck *Amsinckia spp.*  
 Filaree  
 Flaxleaf fleabane *Conyza bonariensis*  
 Fleabane *Erigeron spp.*  
 Florida pusley  
 Foxtail *Setaria spp.*  
 Foxtail, Carolina *Alopecurus carolinianus*  
 Goosegrass  
 Groundsel, common *Senecio vulgaris*  
 Henbit  
 Horseweed/marestail *Conyza canadensis*  
 Itchgrass  
 Johnsongrass, seedling  
 Knotweed  
 Kochia, *Kochia scoparia*  
 Lambsquarters, common *Chenopodium album*  
 Lettuce, prickly *Lactuca seriola*  
 Mayweed

Purslane, common  
 Ragweed, common *Ambrosia artemisiifolia*  
 Ragweed, giant *Ambrosia trifida*  
 Rocket, London *Sisymbrium irio*  
 Sandbur, field *Cenchrus spp.*  
 Shattercane *Sorghum bicolor*  
 Shepherdspurse *Capsella bursa-pastoris*  
 Sicklepod  
 Signalgrass, broadleaf *Brachiaria platyphylla*  
 Smartweed, ladysthumb  
 Smartweed, Pennsylvania *Polygonum pennsylvanicum*  
 Sowthistle, annual *Sonchus oleraceus*  
 Spanishneedles  
 Speedwell, purslane  
 Spurge, annual  
 Spurge, prostrate  
 Spurge, spotted  
 Spurry, umbrella *Holosteum umbellatum*  
 Starthistle, yellow  
 Stinkgrass *Eragrostis cilianensis*  
 Sunflower *Helianthus annuus*  
 Teaweed/Prickly sida  
 Texas panicum  
 Thistle, Russian *Salsola kali*  
 Velvetleaf *Abutilon theophrasti*  
 Virginia copperleaf  
 Virginia pepperweed  
 Witchgrass *Panicum capillare*  
 Woolly cupgrass  
 Yellow rocket

**PERENNIAL WEEDS:**

This product may be used as a broadcast treatment or spot treatment for perennial weeds with any of the application equipment listed on this label in noncropland and aquatic sites.

Application	Recommendations for Perennial Weeds Only	
	Spray Concentration, vol/vol%	Dosage rate, gallons/A
Spot treatments, hand held high volume equipment	2.75 - 5.25%	----
Broadcast treatments	----	2.0 - 3.3

Generally, the lower application rates within the specified range will provide satisfactory control of sensitive weed species. The higher application rates within the specified range will be required for dense infestations, for adverse/extreme environmental conditions, or for weeds beyond the appropriate growth stages.

Specific use recommendations for certain perennial weeds are presented in the following section and Table 3.

- Apply to actively growing perennial weeds.
- Best results are obtained when soil moisture is adequate for active weed growth.
- 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.

131  
/27

- Repeat treatments may be necessary to control weeds regenerating from underground parts or seed. When applied as recommended under the conditions described, this product will provide full or partial control for the following perennial weeds:

Alligatorweed <i>Alternanthera philoxeroides</i> *	Loosestrife, purple <i>Lythrum salicaria</i> †
Anise/Fennel <i>Foeniculum vulgare</i>	Lotus, American <i>Nelumbo lutea</i>
Artichoke, Jerusalem <i>Helianthus tuberosus</i>	Maidencane <i>Panicum hemitomon</i>
Bahiagrass, <i>Paspalum notatum</i>	Milkweed <i>Asclepias</i> spp.
Beachgrass, European	Muhly, wirestem <i>Muhlenbergia frondosa</i>
Bermudagrass, <i>Cynodon dactylon</i>	Mullein, common <i>Verbascum thapsus</i>
Bermudagrass, water (knotgrass) <i>Paspalum distichum</i>	Napiergrass <i>Pennisetum purpureum</i>
Bindweed, field <i>Convolvulus arvensis</i>	Nightshade, silverleaf <i>Solanum elaeagnifolium</i>
Bluegrass, Kentucky <i>Poa pratensis</i>	Nutsedge, purple, <i>Cyperus rotundus</i> ,
Blueweed, Texas <i>Helianthus ciliaris</i>	yellow, <i>Cyperus esculentus</i>
Brackenfern, <i>Pteridium aquilinum</i>	Orchardgrass, <i>Dactylis glomerata</i>
Bromegrass, smooth <i>Bromus inermis</i>	Pampasgrass, <i>Cortaderia jubata</i>
Bursage, woolly-leaf	Paragrass, <i>Brachiada mutica</i>
Canarygrass, reed <i>Phalaris arundinacea</i>	Pepperweed, perennial
Cattail, <i>Typha</i> spp.	Phragmites <i>Phragmites</i> spp.*
Clover, red <i>Trifolium pratense</i>	Quackgrass <i>Agropyron repens</i>
Clover, white <i>Trifolium repens</i>	Redvine*
Cogongrass, <i>Imperata cylindrica</i>	Reed, giant <i>Arundo donax</i>
Cordgrass, <i>Spartina</i> spp †	Ryegrass, perennial <i>Lolium perenne</i>
Cutgrass, giant <i>Zizaniopsis miliacea</i> *	Smartweed, swamp <i>Polygonum coccineum</i>
Dallisgrass, <i>Paspalum dilatatum</i>	Spatterdock, <i>Nuphar luteum</i> †
Dandelion <i>Taraxacum officinale</i>	Spurge, leafy*
Dock, curly <i>Rumex crispus</i>	Starthistle, yellow <i>Centaurea soistifialis</i>
Dogbane, hemp <i>Apocynum cannabinum</i>	Sweet potato, wild <i>Ipomoea pandurata</i> *
Fescue, <i>Festuca</i> spp.	Thistle, artichoke <i>Cynara cardunculus</i>
Fescue, tall <i>Festuca arundinacea</i>	Thistle, Canada
German ivy	Timothy <i>Phleum pratense</i>
Guineagrass <i>Panicum maximum</i>	Torpedograss <i>Panicum repens</i> *
Hemlock, poison <i>Conium maculatum</i>	Trumpetcreeper*
Horsenettle <i>Solanum carolinense</i>	Tules, common <i>Scirpus acutus</i> †
Horseradish <i>Armoracia rusticana</i>	Vaseygrass <i>Paspalum urvillei</i>
Ice plant <i>Mesembryanthemum crystallinum</i>	Velvetgrass <i>Holcus</i> spp.
Johnsongrass, <i>Sorghum halepense</i>	Waterhyacinth <i>Eichhornia crassipes</i> †
Kikuyugrass <i>Pennisetum clandestinum</i>	Waterlettuce <i>Pistia stratiotes</i> †
Knapweed <i>Centaurea repens</i>	Waterprimrose <i>Ludwigia</i> spp. †
Lantana <i>Lantana camara</i>	Wheatgrass, western
Lespedeza, common <i>Lespedeza striata</i>	
Lespedeza, serices <i>Lespedeza cuneata</i>	

\*Partial control †Not for use in California

Table 3. Recommendations for Perennial Weeds, Dosage Rates, Restrictions, and Comments.

Weed Species	Ground Broadcast Equipment Amount of Product, Gals./Acre	Hand-Held and High Spray Concentration vol/vol, %	Precautions, Restrictions & Comments		[Tank mixtures with dimethylamine salt of 2,4-D recommended for improved control: Amine 400 2,4-D Weed Killer]
Alligatorweed	2.6	4.4%	Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.		
Bermudagrass	3.3	5.25%	Apply when target plants are actively growing and when seedheads appear.		
Bindweed, field; silverleaf nightshade; Texas blueweed	West of Mississippi River: 2.6 - 3.3 East of Mississippi River: 2.0 - 2.6	5.25% 5.25%	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	2.0 - 2.6	2.75 - 3.5%	Apply to fully expanded fronds which are at least 18 inches long.		
Cattail	2.0 - 2.6	2.75%	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	2.0 - 3.3	-----	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 <b>Not for use in California</b>	2.0 - 3.3	3.5 - 7.0%	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 of this product into the plant.		
Cutgrass, giant	2.6	3.5%	Repeat applications will be required to maintain control, especially where vegetation is partially submerged in water. Allow regrowth to the 7 to 10 leaf stage before retreatment.		
Hemp dogbane; knapweed; Horseradish	2.6	5.25%	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.		

14/27

Table 3. Continued....

Weed Species	Ground Broadcast Equipment		Hand-Held and High Volume Equipment Spray Concentration vol/vol, %	Precautions, Restrictions & Comments	[Tank mixtures with dimethylamine salt of 2,4-D recommended for improved control: Amine 400 2,4-D Weed Killer
	Amount of Product, Gals./Acre				
Tall fescue	2.0		3.5%	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.	
Guineagrass	2.0		2.75%	Apply when target plants are actively growing and when most have reached at least the 7-leaf stage of growth.	
Johnsongrass; Kentucky bluegrass; smooth bromegrass; reed canarygrass; orchardgrass; perennial ryegrass; timothy; western wheatgrass	1.3 - 2.0		2.75%	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	---		2.75 - 3.5%	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.	
Purple loosestrife <b>Not for use in California</b>	1.7		3.5 - 5.25%	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.	
American lotus	1.7		2.75%	Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when applications are made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatments may be necessary to control regrowth from underground parts and seeds.	Yes]
Maidencane; Paragrass	2.6		2.75%	Sequential 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	2.0		5.25%	Apply when target plants are actively growing and have reached the late bud to flower stage of growth.	
Nutsedge, purple and yellow	2.0		2.75%	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.	

16/27

Table 3. Continued....

Weed Species	Ground Broadcast Equipment	Hand-Held and High Volume Equipment	Precautions, Restrictions & Comments	[Tank mixtures with dimethylamine salt of 2,4-D recommended for improved control: Amine 400 2,4-D Weed Killer
	Amount of Product, Gals./Acre	Spray Concentration vol/vol, %		
Pampasgrass	-----	5.25%	Apply this product with hand-held equipment when plants are actively growing.	
Common reed, Phragmites	In Florida: 3.3 Other states: 1.7 - 2.6	5.25% 2.75%	For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico. 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.	
Quackgrass; kikuyu grass; wirestem muhly	1.3 - 2.0	2.75%	Apply 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 more days after application before tillage.	
Giant reed; ice plant	-----	5.25%	For control of giant reed and ice plant, apply this product with hand-held equipment when plants are actively growing. For giant reeds best results are obtained when applications are made in late summer to fall.	
Spatterdock <i>Not for use in California</i>	2.6	2.75%	Apply when most of the plants are in full bloom. For best results apply in late summer or fall.	
Sweet potato, wild	-----	5.25%	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.	
Canada thistle	1.3 - 2.0	5.25%	Apply when target plants are actively growing and are at or beyond the bud stage of growth.	Yes]
Torpedogress	2.6 - 3.3	2.75 - 5.25%	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 <i>Not for use in California</i>	-----	5.25%	Apply this product 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.	



17/27


Table 3. Continued....

Weed Species	Ground Broadcast Equipment		Hand-Held and High Volume Equipment Spray Concentration vol/vol, %	Precautions, Restrictions & Comments	[Tank mixtures with dimethylamine salt of 2,4-D recommended for improved control: Amine 400 2,4-D Weed Killer Yes
	Amount of Product, Gals./Acre	Amount of Product, Gals./Acre			
Waterhyacinth <b>Not for use in California</b>	2.2 - 2.6		2.75% - 3.5%	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 with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are required.	Yes
Waterlettuce <b>Not for use in California</b>	-----		2.75% - 3.5%	Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring application may require retreatment.	
Waterprimrose <b>Not for use in California</b>	-----		2.75%	Apply this product 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.	Yes]
Other perennials listed on this label	2.0 - 3.3		2.75 - 5.25%	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, herbaceous vines and trees:

- Alder, *Alnus spp.*
- Ash *Fraxinus spp.\**
- Aspen, quaking *Populus tremuloides*
- Beech
- Birch, *Betula spp.*
- Blackberry, *Rubus spp.*
- Blackgum
- Bracken
- Broom: French *Cytisus monspessulanus*  
Scotch *Cytisus scoparius*
- Buckwheat, California *Edogonum fasciculatum\**
- Cascara sagrada *Rhamnus purshiana\**
- Catsclaw *Acacia greggi\**
- Ceanothus, *Ceanothus spp.*
- Chamise, *Adenostoma fasciculatum*
- Cherry: Bitter *Prunus emarginata*  
Black *Prunus serotina*  
Pin *Prunus pensylvanica*
- Coyotebrush, *Baccharis pilularius*
- Creepers, Virginia *Parthenocissus quinquefolia\**
- Deerweed
- 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
- Honeysuckle, *Lonicera spp.*
- Hornbeam, American *Carpinus caroliniana*
- Kudzu, *Pueraria lobata*
- Locust, black *Robinia pseudoacacia\**
- Madrone
- Manzanita, *Arctostaphylos spp.*
- Maple: Red *Acer rubrum\**  
Sugar *Acer saccharum*  
Vine *Acer circinatum\**

- 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\**
- Peppertree, Brazilian *Schinus terebinthifolius*
- Persimmon, *Diospyros spp.\**
- Pine
- Poison ivy, *Rhus radicans*
- Poison oak, *Rhus toxicodendron*
- Poplar, yellow (Tulip tree) *Liriodendron tulipifera\**
- Prunus spp.*
- Raspberry, *Rubus spp.*
- Redbud, eastern *Cercis canadensis*
- Rose, multiflora *Rosa multiflora*
- Russian olive *Elaeagnus angustifolia*
- Sage, black and white *Salvia spp.*
- Sagebrush, California *Artemisia californica*
- Salmonberry, *Rubus spectabilis*
- Saltcedar *Tamarix spp.*
- Saltbush
- Sea myrtle *Baccharis halimifolia*
- Sassafras *spp.*
- Sourwood *Oxydendrum arboreum\**
- Sumac: Poison *Rhus vernix\**  
Smooth *Rhus glabra\**  
Winged *Rhus copallina\**
- Sweetgum *Liquidambar styraciflua*
- Swordfern *Polystichum munitum*
- Tallow tree, Chinese *Sapium sebiferum*
- Thimbleberry, *Rubus parviflorus*
- Tobacco, tree *Nicotiana glauca\**
- 
- Trumpet creeper *Campsis radicans*
- Waxmyrtle, southern *Myrica cerifera\**
- Willow *Salix spp.*
- Yerba santa

\*Partial control

**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.

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.

19/  
27

This product may be used as a broadcast treatment or spot treatment for woody brush and trees with any of the application equipment listed on this label in noncropland and aquatic sites.

Application	Recommendations for Woody Brush and Trees Only	
	Spray Concentration, vol/vol%	Dosage rate, gallons/A
Spot treatments, hand held high volume equipment as full cover spray.	2.75 - 7.0%	-----
Spot treatments, hand held high volume equipment without full coverage.	17.5 - 28.0%	-----
Broadcast treatments	-----	1.3 - 3.3

Generally, the lower application rates within the specified range will provide satisfactory control of sensitive weed species. The higher application rates within the specified range will be required for dense infestations, for adverse/extreme environmental conditions, or for weeds beyond the appropriate growth stages.

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.

Applied as a 17.5 - 28.0% solution as a directed application as described in the HAND-HELD AND HIGH-VOLUME 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.

Specific use recommendations for certain woody brush and trees are presented in Table 4.

Table 4. Recommendations for Woody Brush and Trees, Dosage Rates, Precautions and Comments.

Weed Species	Ground Broadcast Equipment	Hand-Held and High Volume Equipment	Precautions, Restrictions & Comments
	Amount of Product, Gals./Acre	Spray Concentration vol/vol, %	
Alder; blackberry; dewberry; honeysuckle; oak, post; raspberry	2.0 - 2.6	2.75 - 4.4%	
Aspen, quaking; hawthorne; trumpetreeper	1.3 - 2.0	2.75 - 4.4%	
Birch; elderberry; hazel; salmonberry; thimbleberry	-----	2.75%	
Broom; French, Scotch	-----	4.4 - 5.25%	
Buckwheat, California; hasardia; monkey flower; tobacco tree	-----	2.75 - 5.25%	Thorough coverage of foliage is necessary for best results.
Castorbean	-----	5.25%	
Catsclaw	-----	4.4 - 5.25%	For partial control, apply with hand-held equipment when at least 50% of the new leaves are fully developed.
Cherry, bitter, black, pin; oak, southern red; sweetgum; <i>Prunus</i>	1.3 - 3.3	3.5 - 5.25%	
Coyotebrush	-----	4.4 - 5.25%	Apply with hand-held equipment when at least 50% of the new leaves are fully developed.
Dogwood; hickory; saltcedar	2.6 - 3.3	3.5 - 7.0%	For partial control.
Eucalyptus, bluegum	-----	5.25%	For control of eucalyptus resprouts, apply this product with hand-held equipment when resprouts are 6 - 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants.
Kudzu	2.6	5.25%	Repeat applications will be required to maintain control.
Maple, red	-----	2.75 - 4.4%	Apply with hand-held equipment when leaves are fully developed.
Maple, sugar; oak; Northern pin, red;	-----	2.75 - 4.4%	Apply with hand-held equipment when at least 50% of the new leaves are fully developed.
Peppertree, Brazilian (holly, Florida); waxmyrtle, southern	-----	5.25%	For partial control.
Poison ivy; poison oak	2.6 - 3.3	5.25%	Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color.

21/27

Table 4. Continued....

Weed Species	Ground Broadcast Equipment	Hand-Held and High Volume Equipment	Precautions, Restrictions & Comments
	Amount of Product, Gals./Acre	Spray Concentration vol/vol, %	
Rose, multiflora	1.3	2.75%	.Treatments should be made prior to leaf deterioration by leaf-feeding insects.
Sage, black; sagebrush, California; chamise; tallowtree, Chinese	-----	2.75%	Thorough coverage of foliage is necessary for best results.
Saltbush, sea myrtle	-----	3.5%	
Willow	2.0	2.75%	
Other woody brush and trees listed on this label	1.3 - 3.0	2.75 - 5.25%	For partial control.

## **[TANK MIXTURES AND FOLLOW-UP APPLICATIONS FOR BRUSH, TREES AND HERBACEOUS VINES:**

EH-1389 Herbicide may be tank mixed with residual herbicides listed below for improved emerged and/or residual weed control. Always refer to the container label of the companion herbicide(s) for the respective precautions, limitations, directions for use, weeds controlled, and application methods. EH-1389 Herbicide may be tank mixed with the following herbicides:

- Gordon's Agricultural Products Brushkiller 875
- Gordon's Amine 400 2,4-D Weed Killer

Follow-up applications of this product or with a different herbicide may be needed under less favorable growing conditions and for hard-to-control species including blackberry, poison oak, and kudzu. Other choices for effective brush control include BK800 and Gordon's Brushmaster Herbicide. These products are recommended to control undesirable woody plants including buckbrush, poison ivy, multiflora rose, and sumac. Foliar applications of these products are appropriate during the period of active growth of the brush. Cut stump, basal bark, and frill treatments of these products may be applied any time of the year.]

## **AQUATIC AND NONCROP SITES:**

### **Aquatic sites and wetlands:**

This product may be applied to emerged weeds, woody brush and trees 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 including the following:

- ◆ **Aquatic food crop:** Agricultural drainage systems, irrigation systems, lakes/ponds/reservoirs (with human or wildlife use) stream/rivers/channeled water, drainage ditches, canals, irrigation ditches, estuaries.
- ◆ **Aquatic non-food industrial:** aquatic areas/water, drainage systems, waste water systems
- ◆ **Aquatic non-food outdoor:** aquatic areas/water, ditches, ditch banks

This product may be used in and around water and wetlands found near power, telephone and pipeline rights-of-way sites, including where these sites are adjacent to or surrounding domestic water supply reservoirs, supply streams, lakes and ponds.

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 local public water control authorities before applying this product in and around public waters. Permits may be required to treat in such areas.

**NOTE:** Do not apply this product within ½ mile upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within ½ 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 ½ 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.

23/27

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 3.3 gallons of product 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.

**NONCROPLAND SITES AND AQUATIC SITES WITHIN NONCROPLAND SITES:**

This product may also be used to control the listed weeds, woody brush, and trees in terrestrial noncrop sites and/or in aquatic sites associated with these areas:

**Terrestrial Non-Food Crop:** ornamental and/or shade trees, ornamental woody shrubs and vines, ornamental plants, agricultural rights-of-way/fencerows/hedgerows, agricultural uncultivated areas, airports/landing fields, golf course turf, industrial areas, outdoor buildings/structures, rights-of-way/fence rows/hedgerows, nonagricultural uncultivated areas/soils, ornamental and/or shade trees, cemeteries, vacant lots, paved areas (private roads/sidewalks), recreational areas, urban areas, golf courses, parks, schools, rights-of-way (highway, power lines, pipeline utility, railroads), roadsides, industrial sites, storage yards, lumber yards, petroleum tank farms, petroleum pumping station, parking areas, shelter belts, farm yards, wildlife habitat restoration and management areas.

**Outdoor Residential:** ornamental and/or shade trees, ornamental herbaceous plants, ornamental woody shrubs and vines, household/domestic dwellings outdoor premises.

This product may be used as a broadcast treatment or spot treatment with any of the application equipment listed on this label in noncropland sites.

- **For spot treatments:** Specific use recommendations for annuals, perennials, woody brush, and trees are presented in the section named WEEDS CONTROLLED. See Tables 3 and 4.
- **For broadcast treatments:** Specific use recommendations for noncropland sites including dosage rates, spray volumes, and restrictions are presented in Table 5.

Table 5. Recommendations for Noncropland Use Patterns, Dosage Rates, Spray Volumes, Restrictions, and Comments for Broadcast Applications Appropriate for Each Site.

Site	Major Weed Species	Amount of Product Gallons/Acre	Spray Volume Gals./Acre	Amount of Product fl.oz./1000 <sup>2</sup>	Spray Volume Gals./1000 <sup>2</sup>	Precautions, Restrictions & Comments
<ul style="list-style-type: none"> <li>Farmsteads, farm roads, roadsides, fence rows, rights-of-way, farm buildings, golf courses, industrial sites, parks, cemeteries &amp; other noncropland sites</li> </ul>	Annual and perennial weeds including crabgrass, foxtail, johnsongrass, kochia, morningglory, multiflora rose, pigweed, trumpetcreeper, thistle, woody brush	Annual weeds: 0.7 - 1.1 Perennial weeds: 2.0 - 3.3 Woody brush & trees: 1.3 - 3.3	3 - 40 3 - 40 3 - 40	2.0 - 3.2 6.0 - 10.0 4.0 - 10.0	≤ 1.0 ≤ 1.0 ≤ 1.0	SITE PREPARATION(preplant, preemergence, renovation); TRIM AND EDGE: This product may be used to trim and edge around trees, buildings, sidewalks and roads in noncropland sites. BARE GROUND: Repeated applications of this product may be used on emerged weeds to maintain bare ground. NONSELECTIVE POSTEMERGENCE: Annuals and perennials: Apply to foliage of emerged weeds. Apply at early growth stages of annual weeds and when perennial weeds are approaching maturity. 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. 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. Reduced performance may result if fall treatments are made following a frost. EH-1389 Herbicide (EPA File Symbol 2217-XXX) may be tank mixed with residual herbicides listed below for improved emerged and/or residual weed control. Always refer to the container label of the companion herbicide(s) for the respective precautions, limitations, directions for use, weeds controlled, and application methods. EH-1389 Herbicide (EPA File Symbol 2217-XXX) may be tank mixed with the following herbicides: <b>Gordon's Agricultural Products Brushkiller 875</b> <b>Gordon's Amine 400 2,4-D Weed Killer</b> <b>Gordon's Hi-Dep Broadleaf Herbicide</b> <b>Gordon's Hi-Dep IVM]</b>
[Tank mixtures		Refer to container label of companion herbicide(s).				

24/27



**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.

**CUT STUMP APPLICATION:**

Cut stump treatments are effective on stumps with diameters larger than 3 - 4 inches in diameter. 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 100% solution (undiluted) of this product to freshly cut surface immediately after cutting. Treat the entire circumference of the stump by drenching the cambium (the outermost wood between the pith and the bark). 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. The most favorable period for cut stump treatment occurs after full leaf stage in the spring and continues into early summer. Brush and trees treated in the late fall may not be fully controlled.

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 pilularis*</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 APPLICATION:**

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 3.5 - 4.0 ml of this product per 2 - 3 inches of trunk diameter. This is best achieved by applying a 100% concentration (undiluted) 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 with 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.

26/27

This treatment will CONTROL the following woody species:

Oak *Quercus* spp  
Poplar *Populus* spp.

Sweet gum *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 this use on this species in the State of California.

**LIMITED WARRANTY AND DISCLAIMER**  
 The manufacturer warrants only that the chemical composition of this product conforms to the ingredient statement given on the label and that the product is reasonably suited for the labeled use when applied according to the Directions for Use.

THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED. The limited warranty does not extend to the use of the product inconsistent with label instructions, warnings or cautions, or to use of the product under abnormal conditions such as drought, excessive rainfall, tornadoes, hurricanes, etc. These factors are beyond the control of the manufacturer or the seller. Any damages arising from a breach of the manufacturer's warranty shall be limited to direct damages, and shall not include indirect or consequential damages such as loss of profits or values, except as otherwise provided by law.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

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27/  
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## APPENDIX

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***I. Advertising claims that may be presented on container labeling of supplemental registrants.***

- Kills common broadleaf weeds and grasses
- For general multipurpose weed control
- Water-based formula
- No odor
- For nonselective post emergent control of unwanted vegetation.
- Contains glyphosate
- Treats approximately # \_\_\_\_ sq.ft./treats over # \_\_\_\_ sq.ft. (dependent upon container size)
- Systemic weed and grass killer for spot treatment of unwanted weeds and grasses
- Eliminates undesirable vegetation in 2 - 4 weeks
- Kills roots and all in 2-4 weeks
- Kills to the root/down to the root/roots and all
- No residual activity in soil
- Multipurpose grass and broadleaf weed control
- For outdoor use only
- Visible results in 3 days
- Complete kill down to the root in 3 to 4 weeks
- [More Concentrated][Makes \_\_\_\_ gallons of spray][value pack]
- [Rain-proof in hours][Rain-proof in less than \_\_\_\_ hours]
- Won't wash off
- No root. No weed. No problem.
- Gets to the root of the problem
- Can be used for habitat restoration, controlling exotic vegetation, and for site preparation of wildlife food plots.
- [For product information and a complete list of weeds controlled][For more information][For questions or comments], [call toll-free 1-8xx-yyy-zzzz or visit (website address)]
- [Formulated with surfactant][No surfactant required][Surfactant included]
- Controls cattails and many other aquatic weeds.
- No restriction on the use of treated water for irrigation or recreation.
- Stops More Weeds in One Application!
- Contains Surfactant
- Controls cattail, common reed (Phragmites), smartweed, willow and certain floating/emersed weeds.