228-534 2.208



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

> OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES

Mr. Matthew Granahan Product Registration Nufarm Americas, Inc., 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527

FEB 2 9 2008

Application for Pesticide Notification (PRN 98-10) SUBJECT: Request General Label Change EPA Reg. No. 228-534 Application Dated February 8, 2008

Dear Registrant:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated 02/08/08 for the above product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall 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 me directly at 703-305-6249 or Owen F. Beeder of my staff at 703-308-8899.

Sincerely,

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Linda Arrington Notifications & Minor Formulations Team Leader Registration Division (7505P) Office of Pesticide Programs



Nufarm Americas, Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527 Telephone: (630) 455.2000 Facsimile: (630) 455.2001 www.us.nufarm.com

February 8, 2008

Via Overnight Courier

U. S. Environmental Protection Agency (7504P) Document Processing Desk (NOTIF) Room S4900, One Potomac Yard 2777 S. Crystal Drive Arlington, VA 22202

Subject: Nufarm Polaris Herbicide EPA REG. No. 228-534 Label Notification per PR 98-10 Modification of Massachusetts State Specific Language

Dear Ms. Hobgood:

The state of Massachusetts Department of Agriculture has requested we revise Massachusetts's specific language on the subject registration. Massachusetts Department of Agriculture would like us to revise product labeling to eliminate Aquatic Uses in Massachusetts. We have revised the following to accommodate this request, From:

"Not for aquatic use sites in the state of New York."

To:

"Not for aquatic use sites in the state of New York and Massachusetts."

This change is in effort to revise a state imposed state specific restriction. Since this language was not mandated by the USEPA, we believe this can be revised via notification and is consistent with PRN 98-10 Section II (labeling notifications). This change has been highlighted for ease in review. Nufarm Americas Inc. certifies that no other changes to the label have been made.

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA form 8570-1
- Revised labeling with areas of change clearly identified (1 copy)
- Revised labeling clean (1 copy)

If you should have any questions regarding this matter, please feel free to contact me at (630) 455-2048 or <u>matthewgranahan@us.nufarm.com</u> or contact George Meindl at (630) 455-2017 or e-mail at george.meindl@us.nufarm.com.

Sincerely

Matthéw Granahan Regulatory Specialist Nufarm Americas, Inc.

Please read instructions on reverse before completing form.

2. .

	United States N tal Protection Age ashington, DC 20460	ncy		gistration nendmen her	
	Application for	Pesticide - Sec	tion I		
1. Company/Product Number 228-534		2. EPA Product Mar Jim Tompkins	neger	:	3. Proposed Classification
4. Company/Product (Name) Nufarm Polaris Herbicide		PM# 25			
5. Name and Address of Applicant <i>linclude Zl</i> Nufarm Americas, Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527			is similar o	r identical i	with FIFRA Section 3(c)(3) n composition and labeling
	Sec	tion - II			
Amendment - Explain below. Resubmission in response to Agency le X Notification - Explain below. Explanation: Use additional page(s) if nece Label notification consistent and 98-10, se Notice 98-10 and EPA regulations at 40 C of formula of this product. I understand th understand that if this notification is not co FIFRA and I may be subject to enforceme	ssary. (For section I and Se e cover letter for detailed FR 152.46, and no other at it is a violation of 18 U. insistent withe terms of Pi	Agency let "Me Too" Other - Exp explanation. This n changes have been S.C. Sec. 1001 to w R Notice 98-10 and	Application: blain below. otification is made to th illfully make 40 CFR 152	s consistent e labeling o e false state 2.46, this pr	or the confidential statement ments to EPA. I further
1. Material This Product Will Be Packaged In:		tion - III			
Child-Resistant Packaging Yes No Contification must If "Yes"	No. per ygt. container No. per Packag			Gia Pap	tal stic ss
3. Location of Net Contents Information LebelContainer 6. Manner in Which Label is Affixed to Product		ner	E	n of Label Dir	rections
	Paper glued Stenciled	ion - IV			
1. Contact Point <i>(Complete items directly belo</i>			if necessary	, to process	this application.)
Name George Meindl george.meindl@us.	Title	ration Manager	······	Teler	phone No. (Include Area Code) 30) 455-2017
I certify that the statements I have made I acknowledge that any knowlinglly false poth under applicable law. 2. Signature	or misleading statement m		ne or impris	onment or	5. Date Application Georgeod (Stamped)
4. Typed Name George Meindl	5. Date)8/08			

Form Approved. OMB No. 2070-0060

Nufarm **POLARIS®** Herbicide

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in estuarine marine surface water. For the control of undesirable vegetation in fencerows, non-irrigation ditch banks, and wildlife openings, and industrial noncropland areas including railroad, utility, pipeline and utility plant sites, petroleum tank farms, pumping installations, storage areas, non-irrigation ditchbanks, roads, transmission lines, and industrial bareground areas.

ACTIVE INGREDIENT:

Isopropylamine salt of Imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]
-3-pyridinecarboxylic acid)*
OTHER INGREDIENTS:
TOTAL

* Equivalent to 22.6% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION - PRECAUCION

Si usted no entiende la etiqueta, busque a alquien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300 For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-534 EPA EST, NO. 228-IL-1

MANUFACTURED FOR NUFARM AMERICAS INC. **150 HARVESTER DRIVE** BURR RIDGE, IL 60527





NET CONTENTS: 2.5 GALS.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION - PRECAUCION

No human or domestic animal hazard statements are required. Follow instructions for Personal Protective Equipment and User Safety Recommendations.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

Long-sleeved shirt and long pants

· Chemical-resistant gloves, made of any waterproof material

Shoes plus socks

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are given for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- · Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers.

Do not mix, store or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

ENVIRONMENTAL HAZARDS

Do not apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss may cause the suffocation of some aquatic organisms. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift precautions on the label.

DIRECTIONS FOR USE

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

This product should be used only in accordance with recommendations on the label.

IMPORTANT

Do not use on food crops or christmas trees. Do not apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir. Do not apply to water used for irrigation except as described in APPLICATION TO WATERS USED FOR IRRIGATION section of this label. Keep from contact with fertilizers, insecticides, fungicides and seeds. Do not drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the treated soil may be washed or moved into contact with their roots. Domestic use of this product is prohibited. Do not side trim desirable vegetation with this product unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants.

Clean application equipment after using this product by thoroughly flushing with water.



AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.

· Shoes plus socks.

· Chemical-resistant gloves made of any waterproof material.

NON-AGRICULTURAL USE REQUIREMENTS

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

Noncrop weed control is not within the scope of the Worker Protection Standard. See the GENERAL INFORMATION section of this label for a description of noncrop sites.

DO NOT enter treated areas without protective clothing until sprays have dried.

GENERAL USE PRECAUTIONS AND RESTRICTIONS

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in and around standing and flowing water, including estuarine and marine sites. Applications may be made to control undesirable wetland, riparian and terrestrial vegetation growing in or around surface water when applications may result in inadvertent applications to surface water.

Aerial application is restricted to helicopter only.

Application of this product can only be made by federal or state agencies, such as Water Management District personnel, municipal officials and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government.

Treatment to other than non-native invasive species is limited to only those plants that have been determined to be a nuisance by a federal or state government entity.

Applications to private waters: Applications may be made to private waters that are still, such as ponds, lakes and drainage ditches where there is minimal or no outflow to public waters.

Application to public waters: Applications may be made to public waters such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds or for control of riparian and wetland weed species.

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

Recreational Use of Water in Treatment Area: There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

Livestock Use of Water in/from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Precautions for Potable Water Intakes: Do not apply this product directly to water within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half 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 one-half mile of active potable water intakes, the water intake must be turned off during application and for a minimum of 48 hours after the application. These aquatic applications may be made only in the 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. Note: Existing potable water intakes which are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent overspray of water in terrestrial use sites.

APPLICATION TO WATERS USED FOR IRRIGATION

Water treated with this product may not be used for irrigation purposes for 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Seasonal Irrigation Waters: This product may be applied during the off-season to surface waters that are used for irrigation on a seasonable basis, provided that there is a minimum of 120 days between product application and the first use of treated water for irrigation purposes or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Irrigation Canals/Ditches: Do not apply this product to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less. Do not apply this product to dry irrigation canals/ditches.

Quiescent or Slow Moving Waters: In lakes and reservoirs Do not apply this product within one (1) mile of an active irrigation water intake during the irrigation season. Applications less than one (1) mile from an inactive irrigation water intake may be made during the off-season, provided that the irrigation intake will remain inactive for a minimum 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Moving water: Do not apply within one-half mile downstream of an active irrigation water intake. When making applications upstream from an active irrigation water intake, the intake must be turned off for a period of time sufficient to allow the upstream portion of treated water to completely flow past the irrigation intake before use can resume. Shut off time will be determined by the speed of water flow and the distance and length of water treated upstream from the intake. Consult local, state and/or federal authorities before making any applications upstream from an active irrigation water intake.

GENERAL INFORMATION

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control floating and emergent undesirable vegetation (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section) in or near bodies of water which may be flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites and seasonal wet areas. See AQUATIC USE section of this label for precautions, restrictions, and instructions on aquatic uses.

Read and observe the following directions if aquatic sites are present in terrestrial noncrop areas and are part of the intended treatment area:

Herbicidal Activity: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and stems and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

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

Application Methods: This product must be applied to the emergent foliage of the target vegetation and has little to no activity on submerged aquatic vegetation. Product concentrations resulting from direct application to water are not expected to be of sufficient concentration or duration to provide control of target vegetation. Application should be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of overspray that enters the water. For maximum activity, weeds should be growing vigorously at the time of application and the spray solution should include a surfactant (See ADJUVANTS section for specific recommendations). This product may be selectively applied by using low-volume directed application techniques or may be broadcast-applied by using ground equipment, watercraft or by helicopter. In addition, this product may also be used for cut stump, cut stem and frill and girdle treatments within aquatic sites (see AERIAL APPLICATIONS and GROUND APPLICATIONS sections for additional details).

This product should be applied with surface or helicopter application equipment in a minimum of 5 gallons of water per acre. When applying by helicopter, follow directions under the AERIAL APPLICATIONS section of this label, otherwise refer to section on GROUND APPLICATIONS when using surface equipment.

Applications made to moving bodies of water should be made while traveling upstream to prevent concentration of this herbicide in water. Do not apply to bodies of water or portions of bodies of water where emergent and/or floating weeds do not exist.

When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. Do not treat more than one half of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash for one hour after application.

Apply this product at 2 to 6 pints per acre depending on species present and weed density. Do not exceed the maximum label rate of 6 pints per acre (1.5 lb ai/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section of this label for specific rates.

This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to grass pasture and rangeland and noncropland areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas, non-irrigation ditchbanks, including grazed or hayed areas within these sites. This product is recommended for the establishment and maintenance of wildlife openings. This product may also be used for the release of unimproved Bermudagrass (see specific directions) and for use under certain paved surfaces (see specific directions).

Application Methods: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species and this product will provide residual control of labeled weeds which germinate in the treated areas. This product may be applied either preemergence or post-emergence to the weeds; however, post-emergence application is the method of choice in most situations, particularly for perennial species. For maximum activity, weeds should be growing vigorously at the time of post-emergence application and the spray solution should include a surfactant (See Adjuvant Section for specific recommendations). These solutions may be applied selectively by using low-volume techniques or may be applied broadcast by using ground equipment or aerial equipment. In addition, this product may also be used for stump and cut stem treatments (see specific directions).

Herbicidal Activity: This product is readily absorbed through leaves, sterns, and roots and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS

Untreated desirable plants can be affected by root uptake of this product from treated soil. Injury or loss of desirable plants may result if this product is applied on or near desirable plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. When making applications along shorelines where desirable plants may be present, caution should be exercised to avoid spray contact with their foliage or spray application to the soil in which they are rooted. Shoreline plants that have roots that extend into the water in an area where this product has been applied generally will not be adversely affected by uptake of the herbicide from the water.

If treated vegetation is to be removed from the application site, Do not use the vegetative matter as mulch or compost on or around desirable species.

Untreated trees can occasionally be affected by root uptake of this product through movement into the top soil. Injury or loss of desirable trees or other plants may result if this product is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.

MANAGING OFF-TARGET MOVEMENT

The following information is provided as general guidance for managing off-target movement. Specific use recommendations for this product may differ depending on the application technique used and the vegetation management objective.

Spray Drift: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-andweather-related factors determines the potential for spray drift. The applicator and the entity authorizing spraying 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: 1) The distance of the outer most operating nozzles must not exceed 3/4 the length of the rotor. 2) Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or non-target crops) is minimal. Do not apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

The best drift management strategy and most effective way to reduce drift potential are to apply large 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 INVERSIONS).

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 Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. 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 parallel to the airstream produces larger droplets than other orientations and is recommended practice. 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 the largest droplets
 and the lowest drift. Do not use nozzles producing a mist droplet spray.

APPLICATION HEIGHT

Making applications at the lowest possible height (helicopter, ground driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind.

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SWATH ADJUSTMENT

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

WIND

Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 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 spray drift.

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud, which can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

WIND EROSION

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

AERIAL APPLICATION METHODS AND EQUIPMENT HELICOPTERS ONLY

Water Volume: Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Managing spray drift from aerial applications: Applicators must follow these requirements to avoid off-target drift movement: 1) boom length - the distance of the outermost nozzles on the boom must not exceed 3/4 the length of the rotor, 2) nozzle orientation - nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees, and 3) application height - without compromising helicopter safety, applications should made at a height of 10 feet or less above the crop canopy or tallest plants. Applicators must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

GROUND APPLICATION (BROADCAST)

Water Volume: Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

ADJUVANTS

post-emergence applications of this product require the addition of a spray adjuvant for optimum herbicide performance. Only spray adjuvants that are approved or appropriate for aquatic use should be utilized. The addition of a Chemical Producers and Distributors Associations (CPDA) certified adjuvant can increase control. A CPDA certified drift control agent may also be used.

Nonionic Surfactants: Use a nonionic surfactant at the rate 0.25% v/v or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with a HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

Methylated Seed Oils or Vegetable Oil Concentrates: Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable based seed oil concentrates should be mixed at a rate of 1% of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in product deposition and uptake by plants under moisture or temperature stress.

Silicone Based Surfactants: See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet, allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.

Invert emulsions: This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions,

Fertilizer/Surfactant Blends: Nitrogen based liquid fertilizers such as 28%N, 32%N, 10-34-0 or ammonium sulfate, may be added at the rate of 2 to 3 pints per acre in combination with the recommended rate of nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate. The use of fertilizers in a tank mix without a nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate is not recommended.

Other: An antifoaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if necessary or desired.

TANK MIXES

This product may be tank-mixed with other aquatic use herbicides for the control of emergent and floating aquatic vegetation, provided that the label for the tank mix product does not prohibit such mixing.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

AERIAL APPLICATIONS

All precautions should be taken to minimize or eliminate spray drift. Helicopters can be used to apply this product; however, Do not make applications by helicopter unless appropriate buffer zones can be maintained to prevent spray drift out of the target area, or when spray drift as a result of helicopter application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil[™] boom, Thru-Valve[™] boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or any other conditions which allow drift. Side trimming is not recommended with this product unless death of treated tree can be tolerated.

Brush Control:

All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply this product, however, DO NOT make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil[™] boom, Thru-Valve[™] boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or any other conditions which allow drift. Side trimming is not recommended with this product unless death of treated tree can be tolerated.

Uniformly apply the recommended amount of this product in 5 to 30 gallons of water per acre; include in the spray solution a nonionic surfactant or methylated seed oil or manufacturer's label rate of a silicone-based surfactant (See the Adjuvant section of this label for specific recommendations). A foam reducing agent may be added at the recommended label rate, if needed.

IMPORTANT: Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

GROUND APPLICATIONS

IMPORTANT: To minimize spray drift, select proper nozzles to avoid spraying a fine mist, use pressures less than 50 psi, and do not spray under gusty or windy conditions. Add a foam reducing agent, if needed, and a spray pattern indicator, if desired, at the recommended label rates. Clean application equipment after using this product by thoroughly flushing with water.

When making applications to rights-of-way corridors where desirable tree roots may extend, use 1 to 3 pints of this product per acre in combination with recommended tank-mixes. It is not recommended to use rates higher than 3 pints per acre in these situations as injury or death of desirable trees may occur when their roots extend into treated zones.

Side Trimming:

DO NOT side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

FOLIAR APPLICATIONS

Low Volume Foliar:

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.5 to 5% of this product plus surfactant (see the ADJUVANTS section of this label for specific recommendations). A foam reducing agent may be applied at the recommended label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes but do not apply more than 6 pints of this product per acre. Excessive wetting of foliage is not recommended. See the MIXING GUIDE below for some suggested volumes of this product and water.

For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E, or 1504E. For a straight stream and cone pattern, adjustable cone nozzles such as 5500 X3 or 5500 X4 may be used. Attaching a rollover valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Moisten, but do not drench target vegetation causing spray solution to run off.

Low Volume Foliar with Backpacks:

For low-growing species, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For target species 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For target species over 8 feet tall, lace sides of the target vegetation by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume Foliar with Hydraulic Handgun Application Equipment:

Use same technique as described above for Low Volume with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

SUGGESTED TANK-MIXES AND

	APPLICATION RATES	5*
Target Vegetation	Rate of this product	Tank Mix
Mixed hardwoods without elm, locust, or pine	1.0 - 1.5% by volume	Surfactant
Mixed hardwoods containing elm, locust, and pine	0.5 - 1.0% by volume	Accord [®] at 2 - 3% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm	0.5 - 1.0% by volume	krenite at 2 - 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine	0.5 - 1.0% by volume	Escort [®] at 2 oz./Acre or 2.3 grams/gal. plus surfactant

MIXING CHART			
% Solution	Amount of this product per Gallon of Mix	Amount of this product per 4 Gallon Backpack	
0.5 %	0.6 oz	2.6 oz	
1.0%	1.3 oz	5.1 oz	
2.0%	2.6 oz	10.2 oz	
3.0%	3.8 oz	15.4 oz	
5.0%	6.4 oz	25.6 oz	

MEASU	RING	CHART
128 ounces	=	1 gallon
16 ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

Application Tips: For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E, or 1504E. For a straight stream and cone pattern, adjustable cone nozzles such as 5500 X3 or 5500 X4 may be used. Attaching a roll-over valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Proper Spray Pattern: Moisten, but do not drench target vegetation causing spray solution to run off.

Low Volume with Backpacks:

For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For brush 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For brush over 8 feet tall, lace sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume with Hydraulic Handgun Application Equipment:

Use same technique as described above for Low Volume with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

SPRAY SOLUTION MIXING GUIDE FOR LOW-VOLUME FOLIAR APPLICATIONS

AMOUNT OF SPRAY SOLUTION BEING PREPARED	DESIRED CONCENTRATION (fluid volume)				
	0.5%	0.75%	1%	1.5%	5%
		(amount of product to use)			
1 gallon	0.6 oz.	0.9 oz.	1.3 oz.	1.9 oz.	6.5 oz.
3 gallons	1.9 oz.	2.8 oz.	3.8 oz.	5.8 oz.	1.2 pint
4 gallons	2.5 oz.	3.8 oz.	5.1 oz.	7.7 oz.	1.6 pint
5 gallons	3.2 oz.	4.8 oz.	6,5 oz.	9.6 oz.	2 pints
50 gallons	2 pints	3 pints	4 pints	6 pints	10 quarts
100 gallons	4 pints	6 pints	8 pints	6 quarts	5 gallons
2 Tablespoons \approx 1 f	luid ounce				

High Volume Foliar:

For optimum performance when spraying medium to high-density vegetation and brush, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray run-off, causing increased ground cover injury, and injury to desirable species. To prepare the spray solution, thoroughly mix this product in water and add a surfactant (see ADJUVANT section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the recommended label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but do not apply more than 6 pints of this product per acre. Uniformly cover the foliage of the vegetation to be controlled but do not apply to run-off. Excessive wetting of foliage is not recommended.

Side Trimming:

Do not side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

BRUSH CONTROL

This product may be tank-mixed with other herbicides to provide control of species tolerant to this product provided that the tank mix herbicide label does not prohibit such mixing.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes. Tank-mixing with 2,4-D or products which contain 2,4-D have resulted in reduced performance of this product.

INVERT EMULSIONS:

This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

CUT STUBBLE:

This product can be applied within 2 weeks after mechanical mowing or cutting of brush. To suppress or control resprouting, uniformly apply a spray solution of this product at the rate of 1 to 2 pints per acre to the cut area. This product may be tank-mixed with picloram to aid in control or suppression of brush. The addition of 5% (v/v) or more of a penetrating agent can aid in uptake through the bark or exposed roots. Cut stubble applications are made to the soil and cut brush stumps. This type of application may increase ground cover injury. However, vegetation will recover, Making applications of this product directly to the soil can increase potential root uptake causing injury or death of desirable trees.

Efficacy can be increased and root uptake by desirable vegetation can be decreased if the brush is allowed to regrow and the foliage is treated.

CUT SURFACE TREATMENTS

This product may be used to control undesirable woody vegetation by applying the product solution to the cambium area of freshly cut stump surfaces or to fresh cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Do not over apply solution causing run-off from the cut surface.

Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

Mixing: This product may be mixed as either a concentrated or dilute solution for stump and cut stem treatments. The dilute solution may be used for applications to the surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

To prepare a dilute solution, mix 8 to 12 fluid ounces of this product with one gallon of water. If temperatures are such that freezing of the spray mixture may occur, antifreeze (ethylene glycol) may be used according to manufacturer's label to prevent freezing. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums. To prepare a concentrated solution, mix 2 quarts of this product with no more than 1 quart of water,

CUT SURFACE APPLICATIONS WITH DILUTE AND CONCENTRATE SOLUTIONS

This product may be mixed as either a concentrated or dilute solution. The dilute solution may be used for applications to the cut surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

- To prepare a dilute solution, mix 8 to 12 fluid ounces of this product with one gallon of water. The use of a surfactant or penetrating
 agent may improve uptake through partially callused cambiums.
- To prepare a concentrated solution, mix 2 quarts of this product with no more than 1 quart of water.

Cut stump treatments:

Dilute Solution - Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution
thoroughly wets the entire cambium area (the wood next to the bark of the stump).

Cut stem (injection, hack & squirt) treatments:

- Dilute Solutions- Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one-inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.
- Concentrate Solutions- Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least one
 injection cut for every 3 inches of Diameter at Breast Height (DBH) on the target tree. For example, a 3-inch DBH tree will receive
 1 injection cut and a 6-inch DBH tree will receive 2 injection cuts. On trees requiring more than one injection site place the injection
 cuts at approximately equal intervals around the tree.

Frill or girdle treatments:

Using a hatchet, machete, or chain saw, make cuts through the bark and completely around the tree to expose the cambium. The
cut should angle downward extending into the cambium enough to expose at least two growth rings. Using a spray applicator or
brush, apply a 25% to 100% solution of this product into each cut until thoroughly wet. Avoid applying so much herbicide that runoff
to the ground or water occurs.

AQUATIC SPECIES CONTROLLED

This product will control the following target species as specified in the INSTRUCTIONS section of the table. Rate instructions are expressed in terms of product volume for broadcast applications and as a percent solution for directed applications including spot treatments. For percent solution applications, Do not apply more than the equivalent of 3 quarts of this product per acre. Not for aquatic use sites in the states of Massachusetts and New York.

COMMON NAME	SCIENTIFIC NAME	INSTRUCTIONS
Floating Species		
Duckweed	Lemna minor	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Duckweed, Giant	Spirodela polyriza	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Frogbit	Limnobium spongia	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Spatterdock	Nuphar luteum	Apply a tank-mix of 2-4 pints/acre of this product + 4-6 pints/acre glyphosate (0.5% this product + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing, emergent foliage.
*Water Hyacinth	Eichhornia crassipes	1-2 pints/acre (0.5% solution) applied in 100 GPA water to actively growing foliage.
*Water Lettuce	Pistia stratiotes	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
Emerged Species		
*Alligatorweed	Alternanthera philoxeroides	1-4 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage. Tank-mix with glyphosate is NOT recommended, and may reduce alligatorweed control, requiring higher product rates.
*Arrowhead, Duck-potato	Sagittaria spp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Bacopa, lemon	Bacopa spp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Parrot leather	Myriophyllum aquaticum	Must be foliage above water for sufficient product uptake. Apply 2 - 4 pints to actively growing emergent foliage.
*Pennywort	Hydrocotyle spp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
Pickerelweed	Pontederia cordata	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
'Taro, wild; Dasheen; Elephant's Ear; Coco Yam	Colocasia esculentum	4-6 pints/acre (1.5% solution) applied in 100 GPA with a high quality 'sticker' adjuvant. Ensure good coverage of actively growing, emergent foliage.
'Water lily	Nymphaea odorata	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Water primrose	Ludwigia uruguayensis	4-6 pints/acre (1.5% solution), ensure 100% coverage of actively growing, emergent foliage. Tank-mix with glyphosate is NOT recommended and may reduce water primrose control.
Terrestrial/Marginal		
'Soda Apple, aquatic; Nightshade	Solanum tampicense	2 pints/acre applied to foliage
*Baniboo, Japanese	Phyllostachys spp.	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Brazilian Pepper; Christmasberry	Schinus terebinthifolius	2-4 pints/acre applied to toliage
Cattail	Typha spp.	2-4 pints (1% solution) applied to actively growing, green foliage after full leaf elongation. Lower rates will control cattail in the north; higher rates are needed in the south.
Chinese Tallow Tree	Sapium sebilerum	16-24 ounces applied to foliage
Cogon Grass	Imperata cylindrica	Burn foliage, till area, that fall spray 2 quarts/acre this product + MSO applied to new growth.
Cordgrass, prairie	Spartina spp.	4-6 pints applied to actively growing foliage
*Cutgrass	Zizaniopsis miliacea	4-6 pints applied to actively growing foliage
*Elephant Grass; Napier Grass-	Pennisetum purpureum	3 pints/acre applied to actively growing toliage

*Not approved for use in California.

(continued)

COMMON NAME	SCIENTIFIC NAME	INSTRUCTIONS
Terrestrial/Marginal (cor	ntinued)	
'Flowering rush	Butumu typla	2-3 pints applied to actively growing foliage
Giant Reed, Wild Cane	Arundo donax	4-6 pints/acre applied in spring to actively growing foliage
"Golden Bamboo	Phyllostachys aurea	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More toliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	Echinochloa colonum	3-4 pints applied to actively growing foliage
Knapweeds	Centaurea species	Russian Knapweed - 2 to 3 pints + 1 quart/acre MSO fall applied after senescence begins
Knotweed, Japanese (see Fallopia japonica)	Polygonum cuspidatum	3-4 pints/acre applied postemergence to actively growing foliage
Melaleuca; Paperbark Tree	Melaleuca quinquenervia	For established stands, apply 6 pints/acre this product+ 6 pints/acre glyphosate + spray adjuvant. For best results use 4 quarts/A methylated seed oil as an adjuvant. For ground toliar application, uniformly apply to ensure 100% coverage. For broadcast foliar control, apply aerially in a minimum of two passes at 10 gallons/acre applied cross treatment. For spot treatment use a 25% this product + 25% solution of + glyphosate + 1.25% MSO in water applied as a friil or stump treatment.
"Nutgrass; Kili'p'opu	Cyperus ratundus	2 pints this product + 1 quart/acre MSO applied early postemergence
*Nutsedge	Cyperus spp.	2-3 pints postemergence to foliage or pre-emergence incorporated, non-incorporated preemergence applications will not control.
Phragmites; Common Reed	Phragmites australis	4-6 pints/acre applied to actively growing, green foliage after full leaf elongation, ensure 100% coverage. If stand has a substantial amount of old stem tissue, mow or burn, allow to regrow to approximately 5' tall before treatment. Lower rates will control phragmites in the north; higher rates are needed in the south.
*Poison Hemlock	Conium maculatum	2 pints this product + 1 quart/acre MSO applied preemergence to early postemergence to rosette, prior to flowering
Purple Loosestrife	Lythnim salicaria	1 pint/acre applied to actively growing foliage
Reed canarygrass	Phalaris arundinacea	3-4 pints/acre applied to actively growing foliage
Rose, swamp	Rosa palustris	2-3 pints/acre applied to actively growing foliage
Russian-Olive	Elaeagnus angustifolia	2-4 pints/acre or a 1% solution, applied to foliage
Saftcedar; Tamarisk	Tamarix species	Aerial apply 2 quarts this product + 0.25%v/v NIS applied to actively growing foliage during flowering. For spot spraying use 1% solution of this product + 0.25%v/v NIS and spray to wet foliage. After application wait at least two years before disturbing treated saftcedar. Earlier disturbance can reduce overall control.
Smartweed	Palygonum spp.	2 pints/acre applied early postemergence
Sumac	Rhus spp.	2-3 pints/acre applied to foliage
Swamp Morning Glory; Water Spinach; Kangkong	Ipomoea aquatica	1-2 pints/acre this product + 1 quart/acre MSO applied early postemergence
Torpedo Grass	Panicum repens	4 pints/acre (1 - 1.5% solution), ensure good coverage to actively growing toliage.
White Top: Hoary Cress	Cardaria draba	1-2 pints/acre applied in spring, to foliage, during flowering.
Willow	Salix spp.	2-3 pints/acre of this product applied to actively growing foliage, ensure good coverage.

*Not approved for use in California

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

This product can be used under asphalt, pond liners and other paved areas, ONLY in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants.

This product should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to insure their complete removal.

IMPORTANT: Paving should follow applications of this product as soon as possible. DO NOT apply where the chemical may contact the roots of desirable trees or other plants.

The product is not recommended for use under pavement on residential properties such as driveways or parking lots, nor is it recommended for use in recreational areas such as under bike or jogging paths, golf cart paths, or tennis courts, or where landscape plantings could be anticipated.

Injury or death of desirable plants may result if this product is applied where roots are present or where they may extend into the treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or so-called drip line.

APPLICATION DIRECTIONS FOR PAVED SURFACES:

Applications should be made to the soil surface only when final grade is established. Do not move soil following application of this product. Apply this product in sufficient water (at least 100 gal. per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add this product at a rate of 6 pints per acre (2.2 fluid ounce per 1000 square feet) to clean water in the spray tank during the filling operation. Agitate before spraying.

If the soil is not moist prior to treatment, incorporation of this product is needed for herbicide activation. This product can be incorporated into the soil to a depth of 4 to 6 inches using a rototiller or disc. Rainfall or irrigation of 1 inch will also provide uniform incorporation. Do not allow treated soil to wash or move into untreated areas.

FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

This product may be used on unimproved industrial noncropland Bermudagrass and bahiagrass turf, roadsides and utility rights-of-way. The application of this product on established common and coastal Bermudagrass and bahiagrass provides control of labeled broadleaf and grass weeds. Competition from these weeds is eliminated, releasing the Bermudagrass and bahiagrass. Treatment of Bermudagrass with this product results in a compacted growth habit and seedhead inhibition.

Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre with a spray pressure 20 to 50 psi. IMPORTANT: Temporary yellowing of grass may occur when treatment is made after growth commences. DO NOT add surfactant in excess of the recommended rate (1 oz. per 25 gallons of spray solution). DO NOT APPLY to grass during its first growing season. DO NOT APPLY to grass that is under stress from drought, disease, insects, or other causes.

DOSAGE RATES AND TIMING:

Bermudagrass - Apply this product at 6 to 12 oz. per acre when the Bermudagrass is dormant. Apply this product at 6 to 8 oz, per acre after the bermudagrass has reached full green-up. Applications made during green-up will delay green-up. Include a surfactant in the spray solution (See IMPORTANT statement above).

For additional pre-emergence control of annual grasses and small seeded broadleaf weeds, add Pendulum[®] herbicide at the rate of 3.3 to 6.6 lbs. per acre. Consult the Pendulum[®] label for weeds controlled and for other use directions and precautions.

For control of Johnsongrass in bermudagrass turf, apply this product at 8 oz. per acre plus Roundup[®] at 12 oz. per acre plus surfactant. For additional control of broadleaves and vines, Garlon[®]3A may be added to the above mix at the rate of 1-2 pints per acre. Observe all precautions and restrictions on the Garlon[®]3A and Roundup[®] label.

Bahiagrass - Apply this product at 4 to 8 oz. per acre when the bahiagrass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. Include in the spray solution a surfactant (See Adjuvant section for specific recommendations on surfactants).

WEEDS CONTROLLED

Bedstraw (Galium spp.) Bishopweed (Ptilimnium capillaceum) Buttercup (Ranunculus parviflorus) Carolina geranium (Geranium carolinianum) Fescue (Festuca spp.) Foxtail (Setaria spp.) Little barley (Hordeum pusillum) Seedling Johnsongrass (Sorghum halepense) Wild carrot (Daucus carota) White clover (Trifolium repens) Yellow woodsorrel (Oxalis stricta)

GRASS GROWTH AND SEEDHEAD SUPPRESSION

This product may be used to suppress growth and seedhead development of certain turfgrass in unimproved areas. When applied to desirable turf, this product may result in temporary turf damage and/or discoloration. Effects to the desirable turf may vary with environmental conditions. For optimum performance, application should be made prior to culm elongation. Applications may be made before or after mowing. If applied prior to mowing, allow at least three days of active growth before mowing. If following a mowing, allow sufficient time for the grasses to recover before applying this product or injury may be amplified.

DO NOT APPLY to turf under stress (drought, cold, insect damaged, etc.) or severe injury or death may occur.

Bermudagrass - Apply this product at 6 to 8 oz. per acre from early green-up to prior to seed head initiation. DO NOT add a surfactant for this application.

Cool Season Unimproved Turf - Apply this product at 2 oz, per acre plus 0.25% nonionic surfactant. For increased suppression, this product may be tank-mixed with such products as Campaign[®] (24 oz, per acre) or Embark[®] (8 oz, per acre).

Tank-mixes may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4-D or products containing 2,4-D may decrease the effectiveness of this product.

TOTAL VEGETATION CONTROL WHERE BAREGROUND IS DESIRED

This product is an effective herbicide for preemergence or post-emergence control of many annual and perennial broadleaf and grass weeds where bareground is desired. This product is particularly effective on hard-to-control perennial grasses. This product at 1.5 to 6 pints per acre can be used alone or in tank-mix with, Finale[®], MSMA, diuron, Pendulum[®], Simazine, and Vanquish[®], herbicides. The degree and duration of control are dependent on the rate of this product used, tank-mix partner, the volume of carrier, soil texture, rainfall and other conditions. Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

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TANK-MIX RECOMMENDATIONS FOR BAREGROUND

Herbicide Rates per Acre*				
This product in Pints	Pendulum [®] WDG in Pounds	Pendulum [®] 3.3 EC in Quarts	Diuron in Pounds a.i.	
1.5 - 3	6.6	4.8	4 - 6	
2 - 4	6.6	4.8	6 - 10	
3 - 6	6.6	4.8	8 - 12	

* Use higher rates for fall applications and in areas that have not been previously treated or that feature heavy infestations.

Applications of this product may be made anytime of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.

post-emergence Applications: Always use a spray adjuvant (See Adjuvant section of this label) when making a post-emergence application. For optimum performance on tough to control annual grasses, applications should be made at a total volume of 100 gallons per acre or less. For quicker burndown or brown-out of target weeds, this product may be tank-mixed with products such as Razor[®], Finale, or MSMA. Tank mixes with 2,4-D or products containing 2,4-D have reduced performance of this product. Always follow the more restrictive label when tank-mixing.

Spot Treatments: This product may be used as a follow-up treatment to control escapes or weed encroachment in a bareground situation. To prepare the spray solution, thoroughly mix in each gallon of water 0.5 to 5% of this product plus an adjuvant. For increased burndown, include Razor[®], Finale, MSMA, or similar products. For added residual weed control or to increase the weed spectrum add Pendulum[®] or diuron. Always follow the more restrictive label when tank-mixing.

ADDITIONAL WEEDS CONTROLLED

In terrestrial sites, this product will provide preemergence or post-emergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of this product. For established biennials and perennials postemergence applications of this product are recommended.

The rates shown below pertain to broadcast applications and indicate the relative sensitivity of these weeds. The relative sensitivity should be referenced when preparing low volume spray solutions (see "Low Volume" section of "Ground Applications"); low volume applications may provide control of the target species with less product per acre than is shown for the broadcast treatments. This product should be used only in accordance with the recommendations on this label.

The relative sensitivity of the species listed below can also be used to determine the relative risk of causing non-target plant injury if any of the below listed species are considered to be desirable within the area to be treated.

Resistant Biotypes: Naturally occurring biotypes (a plant within a given species that has a slightly different, but distinct genetic makeup from other plants of the same species) of some weeds listed on this label may not be effectively controlled. If naturally occurring resistant biotypes are present in an area, this product should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

GRASSES	2
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	31010040	GROWTH
COMMON NAME	SPECIES	HABIT ²
A	pply 2-3 pints per acre ¹	
Annual bluegrass	(Poa annua)	Α
Broadleaf signalgrass	(Brachiana platyphylla)	A
Canada bluegrass	(Poa-compressa)	P
Downy brome	(Bromus tectorum)	A
Fescue	(Festuca spp.)	A/P
Foxtail	(Setaria spp.)	A
Italian ryegrass	(Lolium multiflorum)	A
Johnsongrass	(Sorghum halepense)	P
Kentucky bluegrass	(Poa pratensis)	Ρ
Lovegrass	(Eragrostis spp.)	A/P
Napier grass	(Pennisetum purpureum)	PP
Orchardgrass	(Dactylis glomerata)	Р
Paragrass	(Brachiana mutica)	Р
Quackgrass	(Agropyron repens)	P
Sandbur	(Cenchrus spp.)	A
Sand dropseed	(Sporobulus cryplandrus)	Р
Smooth brome	(Bromus inermis)	<u>Р</u>
Vaseygrass	(Paspalum urvillei)	Р
Wild oats	(Avena fatua)	<u>A</u>
Witchgrass	(Panicum capillare)	A
	Apply 3-4 pints per acre ¹	
Barnyardgrass	(Echinochloa crus-gali)	A
Beardgrass	(Andropogon spp.)	Р
Bluegrass, Annual	(Poa annua)	Α
Bulrush	(Scirpus validus)	Р
Cheat	(Bromus secalinus)	Α
Crabgrass	(Digitaria spp.)	A
Crowfootgrass	(Dactyloctenium aegyptium)	<u>A</u>
Fall panicum	(Panicum dichotomiflorum)	<u>A</u>
Giant Reed	(Arundo donax)	A
Goosegrass	(Eleusine Indica)	Α
Itchgrass	(Rottboellia exaltata)	A
Junglerice	(Echinochloa colonum)	A
Lovegrass	(Eragrostis spp.)	A
*Maidencane	(Panicum hemitomon)	A
Panicum. Browntop	(Panicum fasciculatum)	A
Panicum, Texas	(Panicum texanum)	A
Prairie threeawn	(Aristida oligantha)	
Reed canarygrass	(Phalaris arundinacea)	
Sandbur, Field	(Cenchrus incertus)	A
Signalgrass	Brachiana platyphylla)	A
Torpedograss Wild barley	(Panicum repens) (Hordeum spp.)	A
Wooly Cupgrass	(Eriochica villosa)	A
	pply 4-6 pints per acre ¹	p
Bahagrass	(Paspalum notatum)	P
Bermudagrass	(Cvnodon dactvlon)	P
Big bluestem	(Andropogon gerardii)	Р
Cattail	(Typha scp.)	
Cogongrass	(Imperata cylindrica)	<u>р</u>
Dallisgrass	Paspalum dilatatum)	P
Feathertop Guineagrass	(Pennisetum viliosum) (Panicum maximum)	P
<u></u>		P
Phragmites Prane cordorass	Phragmites austalis) (Spartina pectinata)	Р Р
Saltgrass	(Distichlis stricta)	P
Sand dropseed	(Sporobolus cryptandrus)	P
Sprangletop	(Sporobolus cryptanarus)	A P
Timothy	(Phleum pratense)	A
Wirestern muhły	(Muhlenbergia frondosa)	<u>Р</u>
magatem mulhiy	(manage (08005a)	<u> </u>

BROADLEAF WEEDS

COMMON NAME	SPECIES	GROWTH HABIT ²		
	Apply 2-3 pints per acre ¹			
Alligatorweed	(Alternanthera philoxeroides)	A/P	_	
Burdock	(Arctium spp.)	В		
Goosegrass	(Eleusine indica)	A		
Camphorweed	(Heterotheca subaxillaris)	P		
Carolina geranium	(Geranium carolinianum)	A		
Clover	(Tritolium spp.)	A/P		
Common chickweed	(Stellaria media)	A		

Common ragweed	(Ambrosia artemisiifolia)	A
Dandelion	(Taraxacum officinale)	P
Dog fennel	(Eupatorium capillifolium)	A
Filaree	(Erodium spp.)	Α
Fleabane	(Engeron spp.)	A
Hoary vervain	(Verbena stricta)	P
Horseweed	(Conyza canadensis)	A
Indian mustard	(Brassica juncea)	<u>A</u>
Kochia	(Kochia scoparia)	
Lambsquarters 'Lespedeza	(Chenopodium album) (Lespedeza spp.)	P
Miners lettuce	(Montia pertoliata)	A
Mullein	(Verbascuni spp.)	8
Nettleleaf gooseloot	(Chenopodium murale)	A
Oxeye daisy	(Chrvsanthemum leucanthemum)	P
Pepperweed	(Lepidium spp.)	A
Pigweed	(Amaranthus spp.)	A
Plantain	(Plantago spp.)	P
Puncturevine	(Tnbulus terrestris)	A
Russian thistle	(Salsola kali)	_A
Smartweed	(Polygonum spp.)	A/P
Sorrell	(Rumex spp.)	Р
Sunflower	(Helianthus spp.)	A
Sweet clover	(Melilotus spp.)	<u>A/B</u>
Tansymustard	(Descurainia pinnata)	A
Western ragweed	(Ambrosia psilostachya)	<u>Р</u>
Wild carrot	(Daucus carota)	8
Wild lettuce	(Lactuca spp.)	A/B
Wild parsnip	(Pastinaca sativa)	<u> </u>
Wild turnip	(Brassica campestris)	<u>B</u>
Woollyleaf bursage	IFranseria tomentosa)	P
Yellow woodsorrel	IOxalis stricta)	P
	Apply 3-4 pints per acre ¹	
Broom snakeweed*	(Gutienezia sarothrae)	<u>P</u>
Bull thistle	(Cirsium vulgare)	B
Burclover	(Medicago spp.)	A
Chickweed, Mouseear Clover, Hop	ICerastium vulgatum)	A
Cocklebur	(Trifolium procumbens) (Xanthium strumanum)	
Cudweed	(Gnaphalium spp.)	
Desert Carnelthorn	(Alhagi pseudalhagi)	P
Diffuse knapweed	(Centaurea diffusa)	A
Dock	(Rumex spp.)	P
Fiddleneck	(Amsinckia intermedia)	
Goldenrod	(Solidago spp.)	A
		A P
Henbit		P
	(Lamium aplexicaule)	
Henbit Knotweed, prostrate Pokeweed	(Lamium aplexicaule) (Polygonum aviculare)	P A
Knotweed, prostrate	(Lamium aplexicaule)	P A A/P
Knotweed, prostrate Pokeweed	(Lamiun: aplexicaule) (Polygonum: aviculare) (Ph)tolacca americana) (Lythrum: salicaria)	P A A/P P
Knotweed, prostrate Pokeweed Purple loosestrife	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana)	P A A/P P P
Knotweed, prostrate Pokeweed Purple loosestrife Pursiane	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.)	Р А А/Р Р Р А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium irio) (Chondhila juncea)	Р А А/Р Р Р А А А
Knotweed, prostrate Poxeweed Purple loosestrife Purslane Pusley, Florida Rocket, London	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium irio)	P A A/P P P A A A A
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rockel, London Rush, skeletonweed ⁴ Sattbush Shepherd's-purse	(Lamium aplexicaule) (Polygonum avculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrum ivio) (Chondrilla juncea) (Atriplex spp.) (Capsella bursa-pastoris)	Р А А/Р Р Р А А А А А А А
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush, skeletonweed ⁴ Saltbush Shepherd's-purse Spurge, Annual	(Lamium aplexicaule) (Polygonum aviculare) (Pytytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richardia scabra) (Sisymbrium ivio) (Chondrilla juncea) (Atriplex spp.) (Capselia bursa-pastoris) (Euphorbia spp.)	Р А А/Р Р Р Р А А А В А А А А А
knotweed, prostrate Pakeweed Purple [bosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed* Sattbush Shepherd's-purse Spurge, Annual Stinging nettle4	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richarda scabra) (Sisymbrium inio) (Chononilla juncea) (Atriptex spp.) (Capsellic bursa-pastons) (Euphorbia spp.) (Unica dioica)	Р А А/Р Р Р А А А А А А А
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Sbunging nettle ⁴ Velvetbaal	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium irio) (Chondrilla juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Unica dioca) (Abutilon theophrasti)	Р А Р Р А А А А А А А А А
knotweed, prostrate Pakeweed Purple [bosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed* Sattbush Shepherd's-purse Spurge, Annual Stinging nettle4	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Portulaca spp.) (Richardia scabra) (Siswinbrium ivio) (Chondrilla juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Urtica dioica) (Abutilon theophrasti) (Centaurea solstitialis)	Р А А/Р Р Р Р А А А В А А А А А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Puslay, Florida Rocket, London Rish skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velvetleaf Yelkow starthistle	(Lamium aplexicaule) (Polygonum aviculare) (Polygonum aviculare) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisynthrum ivio) (Chondrilla juncea) (Atrolex spp.) (Capselik bursa-pastoris) (Euphorbia spp.) (Unica dioica) (Abutilon theophrasti) (Cantairea solstitialis) Apply 4-6 pints per acre ¹	Р А А/Р Р Р Р А А А А А А А А А А А А А
Knotweed, prostrate Pokeweed Purple loosestrife Pursiane Vousley, Florida Rocket, London Riush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaa Yelkow starthistle	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium irio) (Chondrilla juncea) (Atriplex spp.) (Capselia bursa-pastoris) (Euploibia spp.) (Urtica dioica) (Abutilon theophrast) (Contaurea solstitalis) Apply 4-6 pints per acre ¹ (Pluchea sencea)	P A A/P P P A
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yelkow starthistle Arrowweed Canada thistle	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium inio) (Chondnilla juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphoribia spp.) (Unica dioica) (Unica dioica) (Abutilon theophrasti) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cirsium arvense)	Р А А/Р Р Р А А А А А А А А А А А А А
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rockel, London Rush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetreta Velvetreta Yeikow starthistle Arrowweed Canada thistle Giant ragweed	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Siswinbrium irio) (Conordinila juncea) (Atriplex spp.) (Capselia bursa-pastons) (Euphorbia spp.) (Unrica dioica) (Unrica dioica) (Unrica dioica) (Abutikon theophrasti) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cursium arvense) (Ambrosia (nifida)	Р А А А/Р Р Р А А А В А А В А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusisane Rocket, London Rish skoletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velvetleaf Yelkow starthistle Canada thistle Giant ragweed Grey (abbitbrush	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium irio) (Chondrilla juncea) (Atriplex spp.) (Capsella bursa-pastoris) (Eubhorbia spp.) (Unica dioica) (Unica dioica) (Unica dioica) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchag sencea) (Cirsium arvense) (Ambrosia trifida) (Chrysothamnus nauseosus)	Р А А/Р Р Р А А А В А А А Р А А А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pustey, Florida Rocket, London Riush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velvetbaaf Yelkow, starthistle Canada thistle Giant ragweed Gray, labbitbrush Little mallow	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium inio) (Chononila juncea) (Atriplex spp.) (Capselic bursa-pastoris) (Euplocibia spp.) (Unica dioica) (Abutikin theophrasti) (Centaurea solstitalis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cirsium arvense) (Ambrosia (nfida) (Chrysothampus nauseosus) (Malva parvillora)	Р А А/Р Р Р Р А А А А В А А А Р А А А А А А А Р А А А Р А А Р А Р А Р А Р А Р В В
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yelkow starthistle Canada thistle Giant ragweed Garey (abbitbrush Little mallow Milkweed	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium inio) (Chondnilla juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphoribia spp.) (Unica dioica) (Unica dioica) (Unica dioica) (Abutilon theophrasti) (Centaurea solstitulits) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cirsium arvense) (Ambrosia tifida) (Chrysothammus nauseosus) (Malva parvillora) (Asclepias spp.)	Р А А/Р Р Р А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А А В Р В
Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusslay, Florida Rockel, London Rush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetreta Velvetreta Velvetreta Canada thistle Giant ragweed Gray, jabbitbrush Little mallow Mikweed Primrose	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Siswinbrium ivio) (Conordinia juncea) (Atriplex spp.) (Capsella bursa-pastons) (Eubhoibia spp.) (Urrica dioica) (Abutkon theophrasti) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cursium arvense) (Ambrosia trifida) (Chrysothamnus nauseosus) (Malva parvillora) (Asclepias spp.) (Centohera kunthiana)	Р А А/Р Р Р Р А А А А А А А А А А А А А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusisane Pusiey, Flonda Rockel, London Rush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velketleaf Velketleaf Velketwist Arrowweed Canada thistle Gran tagweed Gray tabbitbrush Little malkow Miikweed Primrose Russian knapweed	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca amenicana) (Lythrum salicaria) (Portulaca spp.) (Richarda scabra) (Siswindrium irio) (Choronilla juncea) (Atriblex spp.) (Capsella bursa-pastoris) (Eurbiobia spp.) (Urrica dioica) (Abutikin theophrasti) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cirrisotharmus nauseosus) (Malva parvillora) (Asclepnas spp.) (Centaurea kunthiana) (Centaurea kunthiana)	Р А А/Р Р Р А А А В Р Р А
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Risch skeletonweed ¹ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velvetleaf Yelkow, starthistle Canada thistle Giant ragweed Grey, tabbitbrush Little malkow Mikweed Primose Russian knapsweed Silverleat nightshade	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richarda scabra) (Sisymbrium inio) (Chondnila juncea) (Atriplex spp.) (Capselia bursa-pastons) (Euphobia spp.) (Capselia bursa-pastons) (Euphobia spp.) (Unica diaca) (Abution theoohrasti) (Centaurea solstitualis) Apply 4-6 pints per acre ¹ (Pluchag sencea) (Cirsium arvense) (Ambrosia trifida) (Chrysotharmus nauseosus) (Maka parvillora) (Asclepias spp.) (Centurea tepens) (Solanum eleagnitolium)	Р А А/Р Р Р Р А А А В А А А А А А А А А А А А А А Р А А А Р А А Р А А Р В Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р Р
knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusisane Pusiey, Flonda Rockel, London Rush, skeletonweed ⁴ Sattbush Shepherd's-purse Spurge, Annual Stinging nattle ⁴ Velketleaf Velketleaf Velketwist Arrowweed Canada thistle Gran tagweed Gray tabbitbrush Little malkow Miikweed Primrose Russian knapweed	(Lamium aplexicaule) (Polygonum aviculare) (Phytolacca amenicana) (Lythrum salicaria) (Portulaca spp.) (Richarda scabra) (Siswindrium irio) (Choronilla juncea) (Atriblex spp.) (Capsella bursa-pastoris) (Eurbiobia spp.) (Urrica dioica) (Abutikin theophrasti) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pluchea sencea) (Cirrisotharmus nauseosus) (Malva parvillora) (Asclepnas spp.) (Centaurea kunthiana) (Centaurea kunthiana)	Р А А/Р Р Р А А А В Р Р А

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VINES AND BRAMBLES

COMMON NAME SPECIES		GROWTH HABIT ²
	Apply 1 pint per acre	
Field bindweed	(Convolvulus arvensis)	Р
Hedge bindweed	(Calystegia sequium)	A
	Apply 2-3 pints per acre ¹	
Wild buckwheat	(Polygonum convolvulus)	P
	Apply 3-4 pints per acre ¹	
Greenbriar	(Smilax spp.)	P
Honeysuckle	(Lonicera spp.)	Р
Morningglory	(Ipomoea spp.)	A/P
Poison ivy	(Rhus radicans)	. P
Redvine	(Brunnichia cirrhosa)	P
Wild rose	(Rosa spp.)	P
Including: Multiflora rose	(Rosa multiflora)	P
McCartney rose	(Rosa bracteata)	Р
	Apply 4-6 pints per acre ¹	
Blackberry	(Rubus spp.)	Р
Dewberry	(Rubus spp.)	P
*Kudzu ³	(Pueraria lobata)	P
Trumpetcreeper	(Campsis radicans)	P
Virginia creeper	(Parthenocissus quinquefolia)	p
Wild grape	(Vitis spp.)	Р
	BRUSH SPECIES	

Apply 4-6 pints per acres

Chinaberry (Melia azadarach) Chinese tallowtree F (Sapium sebiferum) P Dogwood (Cornus spp.) Elm (Ulmus spp.) D Hawthorn (Crataegus spp.) P Hickory (Carya spp.) Р Honeylocust⁵ (Gleditsia triacanthos) Ρ P Maple (Acer spp.) P Metaleuca (Melaleuca quiquenervia) Ρ Mulberry (Morus spp.) P (Quercus spp.) Oak Ρ Persimmon (Diospyros virginiana) "Pine" P (Pinus spp.) P Poplar (Populus spp.) Privet (Ligustrum vulgare) P Red Alder P (Alnus rubra) Red Maple P (Acer rubrum) Rubber rabbitbrush (Chrysothamnus nauseaosus) P P Russian Olive (Eleagnus angustitolia) P Sassatras (Sassafras albidum) P Saltcedar (Tamarix ramosissima) P Sourwood (Oxydendrum arboreum) P Sumac (Rhus_spp.) Sweetgum (Liquidambar styracitlua) Ρ Water willow (Justica americana) P Willow (Salix spp.) Ď Yellow poplar (Liriodendron tulipifera) Ρ

P

(Prunus spp.)

"Not approved for use in California

Chenry

The higher rates should be used where heavy or well-established infestations occur. c_{Growth} Habit - A = Annual, B = Biennial, P = Perennial

³Use a minimum of 75 GPA - Control of established stands may require repeat anolications.

For best results early postemergence applications are required.

Tank mix with glyphosate or triclopyr.
Tank-mix with with glyphosate.

STORAGE AND DISPOSAL

GROWTH

HABIT

F

P

F

Ρ

P

F

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

PESTICIDE STORAGE: DO NOT store below 10° F.

SPECIES

(Fagus grandifolia)

(Taxodium distichum)

(Acer macrophylum)

(Robinia pseudoacacia)

(Schinus terebinthifolius)

(Fraxinius spp.)

(Nyssa sylvatica)

(Acer negundo)

COMMON NAME

American beech

Baild cypress

Bigleaf maple

Black locust

Brazilian peppertree

Blackgum

Boxelder

Ash

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in an approved sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

WARRANTY DISCLAIMER

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(RV010408A)

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Nufarm POLARIS® Herbicide

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in estuarine marine surface water. For the control of undesirable vegetation in fencerows, non-irrigation ditch banks, and wildlife openings, and industrial noncropland areas including railroad, utility, pipeline and utility plant sites, petroleum tank farms, pumping installations, storage areas, non-irrigation ditchbanks, roads, transmission lines, and industrial bareground areas.

ACTIVE INGREDIENT:

Isopropylamine salt of Imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]	
-3-pyridinecarboxylic acid)*	28.7%
OTHER INGREDIENTS:	71.3%
TOTAL	100.0%

* Equivalent to 22.6% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION - PRECAUCION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS

For Chemical Spill, Leak, Fire, or Exposure, Call CHEMTREC (800) 424-9300 For Medical Emergencies Only, Call (877) 325-1840

EPA REG. NO. 228-534 EPA EST. NO. 228-IL-1 MANUFACTURED FOR NUFARM AMERICAS INC. 150 HARVESTER DRIVE BURR RIDGE, IL 60527



NET CONTENTS: 2.5 GALS.

والرابية التقارية ومحرفة والمراجب ومستور ومحاربه والمراجع

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION - PRECAUCION

No human or domestic animal hazard statements are required. Follow instructions for Personal Protective Equipment and User Safety Recommendations.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistant category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- · Chemical-resistant gloves, made of any waterproof material
- · Shoes plus socks

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are given for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users Should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

PHYSICAL AND CHEMICAL HAZARDS

Spray solutions of this product should be mixed, stored and applied only in stainless steel, fiberglass, plastic and plastic-lined steel containers.

Do not mix, store or apply this product or spray solutions of this product in unlined steel (except stainless steel) containers or spray tanks.

ENVIRONMENTAL HAZARDS

Do not apply to water except as specified in this label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss may cause the suffocation of some aquatic organisms. This herbicide is phytotoxic at extremely low concentrations. Non-target plants may be adversely affected from drift. For terrestrial uses, do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

This pesticide is toxic to vascular plants and should be used strictly in accordance with the drift precautions on the label.

DIRECTIONS FOR USE

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

This product should be used only in accordance with recommendations on the label.

IMPORTANT

Do not use on food crops or christmas trees. Do not apply this product within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half mile of an active potable water intake in a standing body of water, such as a lake, pond or reservoir. Do not apply to water used for irrigation except as described in APPLICATION TO WATERS USED FOR IRRIGATION section of this label. Keep from contact with fertilizers, insecticides, fungicides and seeds. Do not drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the treated soil may be washed or moved into contact with their roots. Domestic use of this product is prohibited. Do not side trim desirable vegetation with this product unless severe injury and plant death can be tolerated. Prevent drift of spray to desirable plants.

Clean application equipment after using this product by thoroughly flushing with water.

AGRICULTURAL USE REQUIREMENTS

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

DO NOT enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:

Coveralls.

· Shoes plus socks.

Chemical-resistant gloves made of any waterproof material.

NON-AGRICULTURAL USE REQUIREMENTS

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

Noncrop weed control is not within the scope of the Worker Protection Standard. See the GENERAL INFORMATION section of this label for a description of noncrop sites.

DO NOT enter treated areas without protective clothing until sprays have dried.

GENERAL USE PRECAUTIONS AND RESTRICTIONS

Applications may only be made for the control of undesirable emergent and floating aquatic vegetation in and around standing and flowing water, including estuarine and marine sites. Applications may be made to control undesirable wetland, riparian and terrestrial vegetation growing in or around surface water when applications may result in inadvertent applications to surface water.

Aerial application is restricted to helicopter only.

Application of this product can only be made by federal or state agencies, such as Water Management District personnel, municipal officials and the U.S. Army Corps of Engineers, or those applicators who are licensed or certified as aquatic pest control applicators and are authorized by the state or local government.

Treatment to other than non-native invasive species is limited to only those plants that have been determined to be a nuisance by a federal or state government entity.

Applications to private waters: Applications may be made to private waters that are still, such as ponds, lakes and drainage ditches where there is minimal or no outflow to public waters.

Application to public waters: Applications may be made to public waters such as ponds, lakes, reservoirs, marshes, bayous, drainage ditches, canals, streams, rivers, and other slow-moving or quiescent bodies of water for control of aquatic weeds or for control of riparian and wetland weed species.

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

Recreational Use of Water in Treatment Area: There are no restrictions on the use of water in the treatment area for recreational purposes, including swimming and fishing.

Livestock Use of Water in/from Treatment Area: There are no restrictions on livestock consumption of water from the treatment area.

Precautions for Potable Water Intakes: Do not apply this product directly to water within one-half mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within one-half 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 one-half mile of active potable water intakes, the water intake must be turned off during application and for a minimum of 48 hours after the application. These aquatic applications active potable water intake for a minimum period of 48 hours after the applications. Note: Existing potable water intakes which are no longer in use, such as those replaced by connections to wells or a municipal water system, are not considered to be active potable water intakes. This restriction does not apply to intermittent, inadvertent overspray of water in terrestrial use sites.

APPLICATION TO WATERS USED FOR IRRIGATION

Water treated with this product may not be used for irrigation purposes for 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Seasonal Irrigation Waters: This product may be applied during the off-season to surface waters that are used for irrigation on a seasonable basis, provided that there is a minimum of 120 days between product application and the first use of treated water for irrigation purposes or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Irrigation Canals/Ditches: Do not apply this product to irrigation canals/ditches unless the 120-day restriction on irrigation water usage can be observed or product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less. Do not apply this product to dry irrigation canals/ditches.

Quiescent or Slow Moving Waters: In lakes and reservoirs Do not apply this product within one (1) mile of an active irrigation water intake during the irrigation season. Applications less than one (1) mile from an inactive irrigation water intake may be made during the off-season, provided that the irrigation intake will remain inactive for a minimum 120 days after application or until product residue levels are determined by laboratory analysis, or other appropriate means of analysis, to be 1.0 ppb or less.

Moving water: Do not apply within one-half mile downstream of an active irrigation water intake. When making applications upstream from an active irrigation water intake, the intake must be turned off for a period of time sufficient to allow the upstream portion of treated water to completely flow past the irrigation intake before use can resume. Shut off time will be determined by the speed of water flow and the distance and length of water treated upstream from the intake. Consult local, state and/or federal authorities before making any applications upstream from an active irrigation water intake.

GENERAL INFORMATION

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control floating and emergent undesirable vegetation (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section) in or near bodies of water which may be flowing, non-flowing, or transient. This product may be applied to specified aquatic sites that include lakes, rivers, streams, ponds, seeps, drainage ditches, canals, reservoirs, swamps, bogs, marshes, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites and seasonal wet areas. See AQUATIC USE section of this label for precautions, restrictions, and instructions on aquatic uses.

Read and observe the following directions if aquatic sites are present in terrestrial noncrop areas and are part of the intended treatment area:

Herbicidal Activity: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species with some residual control of undesirable species that germinate above the waterline. This product is readily absorbed through emergent leaves and stems and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground or submerged storage organs, which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two or more weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

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

Application Methods: This product must be applied to the emergent foliage of the target vegetation and has little to no activity on submerged aquatic vegetation. Product concentrations resulting from direct application to water are not expected to be of sufficient concentration or duration to provide control of target vegetation. Application should be made in such a way as to maximize spray interception by the target vegetation while minimizing the amount of overspray that enters the water. For maximum activity, weeds should be growing vigorously at the time of application and the spray solution should include a surfactant (See ADJUVANTS section for specific recommendations). This product may be selectively applied by using low-volume directed application techniques or may be broadcast-applied by using ground equipment, watercraft or by helicopter. In addition, this product may also be used for cut stump, cut stem and frill and girdle treatments within aquatic sites (see AERIAL APPLICATIONS and GROUND APPLICATIONS sections for additional details).

This product should be applied with surface or helicopter application equipment in a minimum of 5 gallons of water per acre. When applying by helicopter, follow directions under the AERIAL APPLICATIONS section of this label, otherwise refer to section on GROUND APPLICATIONS when using surface equipment.

Applications made to moving bodies of water should be made while traveling upstream to prevent concentration of this herbicide in water. Do not apply to bodies of water or portions of bodies of water where emergent and/or floating weeds do not exist.

When application is to be made to target vegetation that covers a large percentage of the surface area of impounded water, treating the area in strips may avoid oxygen depletion due to decaying vegetation. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. Do not treat more than one half of the surface area of the water in a single operation and wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms to move into untreated areas.

Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash for one hour after application.

Apply this product at 2 to 6 pints per acre depending on species present and weed density. Do not exceed the maximum label rate of 6 pints per acre (1.5 lb ai/A) per year. Use the higher labeled rates for heavy weed pressure. Consult the AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section of this label for specific rates.

This product may be applied as a draw down treatment in areas described above. Apply this product to weeds after water has been drained and allow 14 days before reintroduction of water.

Use Sites: This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to grass pasture and rangeland and noncropland areas such as railroad, utility, pipeline and highway rights-of-way, utility plant sites, petroleum tank farms, pumping installations, fence rows, storage areas, non-irrigation ditchbanks, including grazed or hayed areas within these sites. This product is recommended for the establishment and maintenance of wildlife openings. This product may also be used for the release of unimproved Bermudagrass (see specific directions) and for use under certain paved surfaces (see specific directions).

Application Methods: This product will control most annual and perennial grasses and broadleaf weeds in addition to many brush and vine species and this product will provide residual control of labeled weeds which germinate in the treated areas. This product may be applied either preemergence or post-emergence to the weeds; however, post-emergence application is the method of choice in most situations, particularly for perennial species. For maximum activity, weeds should be growing vigorously at the time of post-emergence application and the spray solution should include a surfactant (See Adjuvant Section for specific recommendations). These solutions may be applied selectively by using low-volume techniques or may be applied broadcast by using ground equipment or aerial equipment. In addition, this product may also be used for stump and cut stem treatments (see specific directions).

Herbicidal Activity: This product is readily absorbed through leaves, stems, and roots and is translocated rapidly throughout the plant, with accumulation in the meristematic regions. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, and necrosis spreads from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs which prevents regrowth. Chlorosis and tissue necrosis may not be apparent in some plant species until two weeks after application. Complete kill of plants may not occur for several weeks. Applications of this product are rainfast one hour after treatment.

PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS

Untreated desirable plants can be affected by root uptake of this product from treated soil. Injury or loss of desirable plants may result if this product is applied on or near desirable plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots. When making applications along shorelines where desirable plants may be present, caution should be exercised to avoid spray contact with their foliage or spray application to the soil in which they are rooted. Shoreline plants that have roots that extend into the water in an area where this product has been applied generally will not be adversely affected by uptake of the herbicide from the water.

If treated vegetation is to be removed from the application site, Do not use the vegetative matter as mulch or compost on or around desirable species.

Untreated trees can occasionally be affected by root uptake of this product through movement into the top soil. Injury or loss of desirable trees or other plants may result if this product is applied on or near desirable trees or other plants, on areas where their roots extend, or in locations where the treated soil may be washed or moved into contact with their roots.

MANAGING OFF-TARGET MOVEMENT

The following information is provided as general guidance for managing off-target movement. Specific use recommendations for this product may differ depending on the application technique used and the vegetation management objective.

Spray Drift: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-andweather-related factors determines the potential for spray drift. The applicator and the entity authorizing spraying 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: 1) The distance of the outer most operating nozzles must not exceed 3/4 the length of the rotor. 2) Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

Spray drift from applying this product may result in damage to sensitive plants adjacent to the treatment area. Only apply this product when the potential for drift to these and other adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, or non-target crops) is minimal. Do not apply when the following conditions exist that increase the likelihood of spray drift from intended targets: high or gusty winds, high temperatures, low humidity, temperature inversions.

To minimize spray drift, the applicator should be familiar with and take into account the following drift reduction advisory information. Additional information may be available from state enforcement agencies or the Cooperative Extension on the application of this product.

The best drift management strategy and most effective way to reduce drift potential are to apply large 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 INVERSIONS).

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 Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. 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 parallel to the airstream produces larger droplets than other orientations and is recommended practice. 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 the largest droplets
 and the lowest drift. Do not use nozzles producing a mist droplet spray.

APPLICATION HEIGHT

Making applications at the lowest possible height (helicopter, ground driven spray boom) that is safe and practical reduces exposure of droplets to evaporation and wind.

SWATH ADJUSTMENT

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

WIND

Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 3 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 spray drift.

TEMPERATURE AND HUMIDITY

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

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud, which can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

WIND EROSION

Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface should first be settled by rainfall or irrigation.

AERIAL APPLICATION METHODS AND EQUIPMENT HELICOPTERS ONLY

Water Volume: Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

Managing spray drift from aerial applications: Applicators must follow these requirements to avoid off-target drift movement: 1) boom length - the distance of the outermost nozzles on the boom must not exceed 3/4 the length of the rotor, 2) nozzle orientation - nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees, and 3) application height - without compromising helicopter safety, applications should made at a height of 10 feet or less above the crop canopy or tallest plants. Applicators must follow the most restrictive use cautions to avoid drift hazards, including those found in this labeling as well as applicable state and local regulations and ordinances.

GROUND APPLICATION (BROADCAST)

Water Volume: Use 5 or more gallons of water per acre. The actual minimum spray volume per acre is determined by the spray equipment used. Use adequate spray volume to provide accurate and uniform distribution of spray particles over the treated area and to avoid spray drift.

ADJUVANTS

post-emergence applications of this product require the addition of a spray adjuvant for optimum herbicide performance. Only spray adjuvants that are approved or appropriate for aquatic use should be utilized. The addition of a Chemical Producers and Distributors Associations (CPDA) certified adjuvant can increase control. A CPDA certified drift control agent may also be used.

Nonionic Surfactants: Use a nonionic surfactant at the rate 0.25% v/v or higher (see manufacturer's label) of the spray solution (0.25% v/v is equivalent to 1 quart in 100 gallons). For best results, select a nonionic surfactant with a HLB (hydrophilic to lipophilic balance) ratio between 12 and 17 with at least 70% surfactant in the formulated product (alcohols, fatty acids, oils, ethylene glycol or diethylene glycol should not be considered as surfactants to meet the above requirements).

Methylated Seed Oils or Vegetable Oil Concentrates: Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable based seed oil concentrates should be mixed at a rate of 1% of the total spray volume, or alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in product deposition and uptake by plants under moisture or temperature stress.

Silicone Based Surfactants: See manufacturer's label for specific rate recommendations. Silicone-based surfactants may reduce the surface tension of the spray droplet, allowing greater spreading on the leaf surface as compared to conventional nonionic surfactants. However, some silicone-based surfactants may dry too quickly, limiting herbicide uptake.

Invert emulsions: This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

Fertilizer/Surfactant Blends: Nitrogen based liquid fertilizers such as 28%N, 32%N, 10-34-0 or ammonium sulfate, may be added at the rate of 2 to 3 pints per acre in combination with the recommended rate of nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate. The use of fertilizers in a tank mix without a nonionic surfactant, methylated seed oil or vegetable/seed oil concentrate is not recommended.

Other: An antifoaming agent, spray pattern indicator or drift reducing agent may be applied at the product labeled rate if necessary or desired.

TANK MIXES

This product may be tank-mixed with other aquatic use herbicides for the control of emergent and floating aquatic vegetation, provided that the label for the tank mix product does not prohibit such mixing.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

AERIAL APPLICATIONS

All precautions should be taken to minimize or eliminate spray drift. Helicopters can be used to apply this product; however, Do not make applications by helicopter unless appropriate buffer zones can be maintained to prevent spray drift out of the target area, or when spray drift as a result of helicopter application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil[™] boom, Thru-Valve[™] boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or any other conditions which allow drift. Side trimming is not recommended with this product unless death of treated tree can be tolerated.

Brush Control:

All precautions should be taken to minimize or eliminate spray drift. Fixed wing aircraft and helicopters can be used to apply this product, however, DO NOT make applications by fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area or, when treating open tracts of land, spray drift as a result of fixed wing aircraft application can be tolerated. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil[™] boom, Thru-Valve[™] boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate. To avoid drift, applications should not be made during inversion conditions, when winds are gusty, or any other conditions which allow drift. Side trimming is not recommended with this product unless death of treated tree can be tolerated.

Uniformly apply the recommended amount of this product in 5 to 30 gallons of water per acre; include in the spray solution a nonionic surfactant or methylated seed oil or manufacturer's label rate of a silicone-based surfactant (See the Adjuvant section of this label for specific recommendations). A foam reducing agent may be added at the recommended label rate, if needed.

IMPORTANT: Thoroughly clean application equipment, including landing gear, immediately after use of this product. Prolonged exposure of this product to uncoated steel (except stainless steel) surfaces may result in corrosion and failure of the exposed part. The maintenance of an organic coating (paint) may prevent corrosion.

GROUND APPLICATIONS

IMPORTANT: To minimize spray drift, select proper nozzles to avoid spraying a fine mist, use pressures less than 50 psi, and do not spray under gusty or windy conditions. Add a foam reducing agent, if needed, and a spray pattern indicator, if desired, at the recommended label rates. Clean application equipment after using this product by thoroughly flushing with water.

When making applications to rights-of-way corridors where desirable tree roots may extend, use 1 to 3 pints of this product per acre in combination with recommended tank-mixes. It is not recommended to use rates higher than 3 pints per acre in these situations as injury or death of desirable trees may occur when their roots extend into treated zones.

Side Trimming:

DO NOT side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

FOLIAR APPLICATIONS

Low Volume Foliar:

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.5 to 5% of this product plus surfactant (see the ADJUVANTS section of this label for specific recommendations). A foam reducing agent may be applied at the recommended label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes but do not apply more than 6 pints of this product per acre. Excessive wetting of foliage is not recommended. See the MIXING GUIDE below for some suggested volumes of this product and water.

For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E, or 1504E. For a straight stream and cone pattern, adjustable cone nozzles such as 5500 X3 or 5500 X4 may be used. Attaching a rollover valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Moisten, but do not drench target vegetation causing spray solution to run off.

Low Volume Foliar with Backpacks:

For low-growing species, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For target species 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For target species over 8 feet tall, lace sides of the target vegetation by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume Foliar with Hydraulic Handgun Application Equipment: Use same technique as described above for Low Volume with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

Target Vegetation	Rate of this product	Tank Mix		
Mixed hardwoods without elm, locust, or pine	1.0 - 1.5% by volume	Surfactant		
Mixed hardwoods containing elm, locust, and pine	0.5 - 1.0% by volume	Accord [®] at 2 - 3% by volume plus surfactant		
Mixed hardwoods with locust and pine but no elm	0.5 - 1.0% by volume	krenite at 2 - 5% by volume plus surfactant		
Mixed hardwoods with locust and elm but no pine	0.5 - 1.0% by volume	Escort [®] at 2 oz./Acre or 2.3 grams/gal. plus surfactant		

SUGGESTED TANK-MIXES AND
APPLICATION RATES*

MIXING CHART				
% Solution	Amount of this product per Gallon of Mix	Amount of this product per 4 Gallon Backpack		
0.5 %	0.6 oz	2.6 oz		
1.0%	1.3 oz	5.1 oz		
2.0%	2.6 oz	10.2 oz		
3.0%	3.8 oz	15.4 oz		
5.0%	6.4 oz	25.6 oz		

MEASURING CHART				
128 ounces	=	1 gailon		
16 ounces	=	1 pint		
8 pints	=	1 gallon		
4 quarts	=	1 gallon		
2 pints	=	1 quart		

Application Tips: For low volume, select proper nozzles to avoid over-application. Proper application is critical to ensure desirable results. Best results are achieved when the spray covers the crown and approximately 70 percent of the plant. The use of an even flat fan tip with a spray angle of 40 degrees or less will aid in proper deposition.

Recommended tip sizes include 4004E, or 1504E. For a straight stream and cone pattern, adjustable cone nozzles such as 5500 X3 or 5500 X4 may be used. Attaching a roll-over valve onto a Spraying Systems Model 30 gunjet or other similar spray guns allows for the use of both a flat fan and cone tips on the same gun.

Proper Spray Pattern: Moisten, but do not drench target vegetation causing spray solution to run off.

Low Volume with Backpacks:

For brush up to 4 feet tall, spray down on the crown, covering crown and penetrating approximately 70% of the plant.

For brush 4 to 8 feet tall, swipe the sides of target vegetation by directing spray to at least two sides of the plant in smooth vertical motions from the crown to the bottom. Make sure to cover the crown whenever possible.

For brush over 8 feet tall, lace sides of the brush by directing spray to at least two sides of the target in smooth zigzag motions from crown to bottom.

Low Volume with Hydraulic Handgun Application Equipment:

Use same technique as described above for Low Volume with Backpacks.

For broadcast applications, simulate a gentle rain near the top of target vegetation, allowing spray to contact the crown and penetrate the target foliage without falling to the understory. Herbicide spray solution which contacts the understory may result in severe injury or death of plants in the understory.

SPRAY SOLUTION MIXING GUIDE FOR LOW-VOLUME FOLIAR APPLICATIONS

AMOUNT OF SPRAY SOLUTION BEING PREPARED		DESIRED CONCENTRATION (fluid volume)			
	0.5%	0.75%	1%	1.5%	5%
		(amo	unt of product t	o use)	
1 gallon	0.6 oz.	0.9 oz.	1.3 oz.	1.9 oz.	6.5 oz.
3 gallons	1.9 oz.	2.8 oz.	3.8 oz.	5.8 oz.	1.2 pint
4 gallons	2.5 oz.	3.8 oz.	5.1 oz.	7.7 oz.	1.6 pint
5 galions	3.2 oz.	4.8 oz.	6.5 oz.	9.6 oz.	2 pints
50 gallons	2 pints	3 pints	4 pints	6 pints	10 quarts
100 gallons	4 pints	6 pints	8 pints	6 quarts	5 gallons
2 Tablespoons = 1	fluid ounce				

High Volume Foliar:

For optimum performance when spraying medium to high-density vegetation and brush, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray run-off, causing increased ground cover injury, and injury to desirable species. To prepare the spray solution, thoroughly mix this product in water and add a surfactant (see ADJUVANT section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the recommended label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the ADDITIONAL WEEDS CONTROLLED section for relative susceptibility of weed species), use the higher concentrations of herbicide and/or spray volumes, but do not apply more than 6 pints of this product per acre. Uniformly cover the foliage of the vegetation to be controlled but do not apply to run-off. Excessive wetting of foliage is not recommended.

Side Trimming:

Do not side trim with this product unless severe injury or death of the treated tree can be tolerated. This product is readily translocated and can result in death of the entire tree.

BRUSH CONTROL

This product may be tank-mixed with other herbicides to provide control of species tolerant to this product provided that the tank mix herbicide label does not prohibit such mixing.

Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes. Tank-mixing with 2,4-D or products which contain 2,4-D have resulted in reduced performance of this product.

INVERT EMULSIONS:

This product can be applied as an invert emulsion. The spray solution results in an invert (water-in-oil) spray emulsion designed to minimize spray drift and spray run-off, resulting in more herbicide on the target foliage. The spray emulsion may be formed in a single tank (batch mixing) or injected (in-line mixing). Consult the invert chemical label for proper mixing directions.

CUT STUBBLE:

This product can be applied within 2 weeks after mechanical mowing or cutting of brush. To suppress or control resprouting, uniformly apply a spray solution of this product at the rate of 1 to 2 pints per acre to the cut area. This product may be tank-mixed with picloram to aid in control or suppression of brush. The addition of 5% (v/v) or more of a penetrating agent can aid in uptake through the bark or exposed roots. Cut stubble applications are made to the soil and cut brush stumps. This type of application may increase ground cover injury. However, vegetation will recover. Making applications of this product directly to the soil can increase potential root uptake causing injury or death of desirable trees.

Efficacy can be increased and root uptake by desirable vegetation can be decreased if the brush is allowed to regrow and the foliage is treated.

CUT SURFACE TREATMENTS

This product may be used to control undesirable woody vegetation by applying the product solution to the cambium area of freshly cut stump surfaces or to fresh cuts on the stem of the target woody vegetation. Applications can be made at any time of the year except during periods of heavy sap flow in the spring. Do not over apply solution causing run-off from the cut surface.

Injury may occur to desirable woody plants if the shoots extend from the same root system or their root systems are grafted to those of the treated tree.

Mixing: This product may be mixed as either a concentrated or dilute solution for stump and cut stem treatments. The dilute solution may be used for applications to the surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

To prepare a dilute solution, mix 8 to 12 fluid ounces of this product with one gallon of water. If temperatures are such that freezing of the spray mixture may occur, antifreeze (ethylene glycol) may be used according to manufacturer's label to prevent freezing. The use of a surfactant or penetrating agent may improve uptake through partially callused cambiums. To prepare a concentrated solution, mix 2 quarts of this product with no more than 1 quart of water.

CUT SURFACE APPLICATIONS WITH DILUTE AND CONCENTRATE SOLUTIONS

This product may be mixed as either a concentrated or dilute solution. The dilute solution may be used for applications to the cut surface of the stump or to cuts on the stem of the target woody vegetation. Concentrated solutions may be used for applications to cuts on the stem. Use of the concentrated solution permits application to fewer cuts on the stem, especially for large diameter trees. Follow the application instructions to determine proper application techniques for each type of solution.

- To prepare a dilute solution, mix 8 to 12 fluid ounces of this product with one gallon of water. The use of a surfactant or penetrating
 agent may improve uptake through partially callused cambiums.
- To prepare a concentrated solution, mix 2 quarts of this product with no more than 1 quart of water.

Cut stump treatments:

• Dilute Solution - Spray or brush the solution onto the cambium area of the freshly cut stump surface. Insure that the solution thoroughly wets the entire cambium area (the wood next to the bark of the stump).

Cut stem (injection, hack & squirt) treatments:

- Dilute Solutions- Using standard injection equipment, apply 1 milliliter of solution at each injection site around the tree with no more than one-inch intervals between cut edges. Insure that the injector completely penetrates the bark at each injection site.
- Concentrate Solutions- Using standard injection equipment, apply 1 milliliter of solution at each injection site. Make at least one
 injection cut for every 3 inches of Diameter at Breast Height (DBH) on the target tree. For example, a 3-inch DBH tree will receive
 1 injection cut and a 6-inch DBH tree will receive 2 injection cuts. On trees requiring more than one injection site place the injection
 cuts at approximately equal intervals around the tree.

Frill or girdle treatments:

Using a hatchet, machete, or chain saw, make cuts through the bark and completely around the tree to expose the cambium. The
cut should angle downward extending into the cambium enough to expose at least two growth rings. Using a spray applicator or
brush, apply a 25% to 100% solution of this product into each cut until thoroughly wet. Avoid applying so much herbicide that runoff
to the ground or water occurs.

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AQUATIC SPECIES CONTROLLED

This product will control the following target species as specified in the INSTRUCTIONS section of the table. Rate instructions are expressed in terms of product volume for broadcast applications and as a percent solution for directed applications including spot treatments. For percent solution applications, Do not apply more than the equivalent of 3 quarts of this product per acre. Not for aquatic use sites in the states of Massachusetts and New York.

COMMON NAME	SCIENTIFIC NAME	INSTRUCTIONS
Floating Species		
*Duckweed	Lemna minor	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Duckweed, Giant	Spirodela polyriza	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Frogbit	Limnobium spongia	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Spatterdock	Nuphar luteum	Apply a tank-mix of 2-4 pints/acre of this product + 4-6 pints/acre glyphosate (0.5% this product + 1.5% glyphosate) in 100 GPA water for best control. Ensure 100% coverage of actively growing, emergent toliage.
'Water Hyacinth	Eichhornia crassipes	1-2 pints/acre (0.5% solution) applied in 100 GPA water to actively growing foliage.
'Water Lettuce	Pistia stratiotes	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
Emerged Species		
*Alligatorweed	Alternanthera philoxeroides	1-4 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage. Tank-mix with glyphosate is NOT recommended, and may reduce alligatorweed control, requiring higher product rates.
*Arrowhead, Duck-potato	Sagittaria sipp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
'Bacopa, lemon	Васора spp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Parrot feather	Mynophyllum aquaticum	Must be foliage above water for sufficient product uptake. Apply 2 - 4 pints to actively growing emergent foliage.
*Pennywort	Hydrocotyle spp.	1-2 pints/acre (0.5% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent foliage.
*Pickerelweed	Pontederia cordata	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent toliage.
'Taro, wild; Dasheen; Elephant's Ear; Coco Yam	Colocasia esculentum	4-6 pints/acre (1.5% solution) applied in 100 GPA with a high quality 'sticker' adjuvant. Ensure good coverage of actively growing, emergent foliage.
Water lily	Nymphaea odorata	2-3 pints/acre (1% solution) applied in 100 GPA water mix. Ensure 100% coverage of actively growing, emergent toliage.
Water primrose	Ludwigia uruguayensis	4-6 pints/acre (1.5% solution), ensure 100% coverage of actively growing, emergent foliage. Tank-mix with glyphosate is NOT recommended and may reduce water primrose control.
Terrestrial/Marginal		
Soda Apple, aquatic; Nightshade	Solanum tampicense	2 pints/acre applied to foliage
Bamboo, Japanese	Phyllostachys spp.	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Brazilian Pepper; Christmasberry	Schinus terebinthifolius	2-4 pints/acre applied to toliage
Cattail	Typha spp.	2-4 pints (1% solution) applied to actively growing, green foliage after full leaf elongation. Lower rates will control cattail in the north; higher rates are needed in the south.
Chinese Tallow Tree	Sapium sebilerum	16-24 ounces applied to foliage
Cogon Grass	Imperata cylindrica	Burn foliage, till area, that fall spray 2 quarts/acre this product + MSO applied to new growth.
Cordgrass, prairie	Spartina spp.	4-6 pints applied to actively growing foliage
*Cutgrass	Zizaniopsis miliacea	4-6 pints applied to actively growing foliage
'Elephant Grass; Napier Grass-	Pennisetum purpureum	3 pints/acre applied to actively growing foliage

*Not approved for use in California.

(continued)

COMMON NAME	SCIENTIFIC NAME	INSTRUCTIONS			
Terrestrial/Marginal (continued)					
*Flowering rush	Butumu typla	2-3 pints applied to actively growing foliage			
Giant Reed, Wild Cane	Arundo donax	4-6 pints/acre applied in spring to actively growing foliage			
'Golden Bamboo	Phyliostachys aurea	3-4 pints/acre applied to the foliage when plant is actively growing. Before setting seed head. More foliage will result in greater herbicide uptake, resulting in greater root kill.			
Junglerice	Echinochloa colonum	3-4 pints applied to actively growing foliage			
Knapweeds	Centaurea species	Russian Knapweed - 2 to 3 pints + 1 quart/acre MSO fall applied after senescence begins			
Knotweed, Japanese (see Fallopia japonica)	Polygonum cuspidatum	3-4 pints/acre applied postemergence to actively growing foliage			
Melaleuca; Paperbark Tree	Melaleuca quinquenervia	For established stands, apply 6 pints/acre this product+ 6 pints/acre glyphosate + spray adjuvant. For best results use 4 quarts/A methylated seed oil as an adjuvant. For ground toliar application, uniformly apply t ensure 100% coverage. For broadcast toliar control, apply adrially in a minimum of two passes at 1 gallons/acre applied cross treatment. For spot treatment use a 25% this product + 25% solution of glyphosate + 1.25% MSO in water applied as a trill or stump treatment.			
*Nutgrass; Kili'p'opu	Cyperus rotundus	2 pints this product + 1 quart/acre MSO applied early postemergence			
*Nutsedge	Cyperus spp.	2-3 pints postemergence to toliage or pre-emergence incorporated, non-incorporated preemergence applications will not control.			
Phragmites; Common Reed	Phragmites australis	4-6 pints/acre applied to actively growing, green foliage after full leaf elongation, ensure 100% coverage stand has a substantial amount of old stern tissue, mow or burn, allow to regrow to approximately 5' before treatment. Lower rates will control phragmites in the north; higher rates are needed in the south.			
*Poison Hemlock	Conium maculatum	2 pints this product + 1 quart/acre MSO applied preemergence to early postemergence to rosette, prio flowering			
Purple Loosestrife	Lythrum salicaria	1 pint/acre applied to actively growing foliage			
Reed canarygrass	Phalaris arundinacea	3-4 pints/acre applied to actively growing foliage			
Rose, swamp	Rosa palustris	2-3 pints/acre applied to actively growing foliage			
Russian-Olive	Elaeagnus angustifolia	2-4 pints/acre or a 1% solution, applied to foliage			
Sałtcedar; Tamarisk	Tamarix species	Aerial apply 2 quarts this product + 0.25%//v NIS applied to actively growing toliage during flowering. For spot spraying use 1% solution of this product + 0.25%/v NIS and spray to wet foliage. After application wait at least two years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.			
Smartweed	Polygonum spp.	2 pints/acre applied early postemergence			
Sumac	Rhus spp.	2-3 pints/acre applied to foliage			
Swamp Morning Glory: Water Spinach; Kangkong	Ipomoea aquatica	1- 2 pints/acre this product + 1 quart/acre MSO applied early postemergence			
Torpedo Grass	Panicum repens	4 pints/acre (1 - 1.5% solution), ensure good coverage to actively growing foliage.			
White Top; Hoary Cress	Cardana draba	1-2 pints/acre applied in spring, to foliage, during flowering.			
Willow	Salix spp.	2-3 pints/acre of this product applied to actively growing foliage, ensure good coverage.			

*Not approved for use in California

FOR CONTROL OF UNDESIRABLE WEEDS UNDER PAVED SURFACES

This product can be used under asphalt, pond liners and other paved areas, ONLY in industrial sites or where the pavement has a suitable barrier along the perimeter that prevents encroachment of roots of desirable plants.

This product should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to insure their complete removal.

IMPORTANT: Paving should follow applications of this product as soon as possible. DO NOT apply where the chemical may contact the roots of desirable trees or other plants.

The product is not recommended for use under pavement on residential properties such as driveways or parking lots, nor is it recommended for use in recreational areas such as under bike or jogging paths, golf cart paths, or tennis courts, or where landscape plantings could be anticipated.

Injury or death of desirable plants may result if this product is applied where roots are present or where they may extend into the treated area. Roots of trees and shrubs may extend a considerable distance beyond the branch extremities or so-called drip line,

APPLICATION DIRECTIONS FOR PAVED SURFACES:

Applications should be made to the soil surface only when final grade is established. Do not move soil following application of this product. Apply this product in sufficient water (at least 100 gal. per acre) to ensure thorough and uniform wetting of the soil surface, including the shoulder areas. Add this product at a rate of 6 pints per acre (2.2 fluid ounce per 1000 square feet) to clean water in the spray tank during the filling operation. Agitate before spraying.

If the soil is not moist prior to treatment, incorporation of this product is needed for herbicide activation. This product can be incorporated into the soil to a depth of 4 to 6 inches using a rototiller or disc. Rainfall or irrigation of 1 inch will also provide uniform incorporation. Do not allow treated soil to wash or move into untreated areas.

FOR CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

This product may be used on unimproved industrial noncropland Bermudagrass and bahiagrass turf, roadsides and utility rights-of-way. The application of this product on established common and coastal Bermudagrass and bahiagrass provides control of labeled broadleaf and grass weeds. Competition from these weeds is eliminated, releasing the Bermudagrass and bahiagrass. Treatment of Bermudagrass with this product results in a compacted growth habit and seedhead inhibition.

Uniformly apply with properly calibrated ground equipment using at least 10 gallons of water per acre with a spray pressure 20 to 50 psi. IMPORTANT: Temporary yellowing of grass may occur when treatment is made after growth commences. DO NOT add surfactant in excess of the recommended rate (1 oz. per 25 gallons of spray solution). DO NOT APPLY to grass during its first growing season. DO NOT APPLY to grass that is under stress from drought, disease, insects, or other causes.

DOSAGE RATES AND TIMING:

Bermudagrass - Apply this product at 6 to 12 oz. per acre when the Bermudagrass is dormant. Apply this product at 6 to 8 oz. per acre after the bermudagrass has reached full green-up. Applications made during green-up will delay green-up. Include a surfactant in the spray solution (See IMPORTANT statement above).

For additional pre-emergence control of annual grasses and small seeded broadleaf weeds, add Pendulum[®] herbicide at the rate of 3.3 to 6.6 lbs. per acre. Consult the Pendulum[®] label for weeds controlled and for other use directions and precautions.

For control of Johnsongrass in bermudagrass turf, apply this product at 8 oz. per acre plus Roundup[®] at 12 oz. per acre plus surfactant. For additional control of broadleaves and vines, Garlon[®]3A may be added to the above mix at the rate of 1-2 pints per acre. Observe all precautions and restrictions on the Garlon[®]3A and Roundup[®] label.

Bahiagrass - Apply this product at 4 to 8 oz. per acre when the bahiagrass is dormant or after the grass has initiated green-up but has not exceeded 25% green-up. Include in the spray solution a surfactant (See Adjuvant section for specific recommendations on surfactants).

WEEDS CONTROLLED

Bedstraw (Galium spp.) Bishopweed (Ptilimnium capillaceum) Buttercup (Ranunculus parviflorus) Carolina geranium (Geranium carolinianum) Fescue (Festuca spp.) Foxtail (Setaria spp.) Little barley (Hordeum pusillum) Seedling Johnsongrass (Sorghum halepense) Wild carrot (Daucus carota) White clover (Trifolium repens) Yellow woodsorrel (Oxalis stricta)

GRASS GROWTH AND SEEDHEAD SUPPRESSION

This product may be used to suppress growth and seedhead development of certain turfgrass in unimproved areas. When applied to desirable turf, this product may result in temporary turf damage and/or discoloration. Effects to the desirable turf may vary with environmental conditions. For optimum performance, application should be made prior to culm elongation. Applications may be made before or after mowing. If applied prior to mowing, allow at least three days of active growth before mowing. If following a mowing, allow sufficient time for the grasses to recover before applying this product or injury may be amplified.

DO NOT APPLY to turf under stress (drought, cold, insect damaged, etc.) or severe injury or death may occur.

Bermudagrass - Apply this product at 6 to 8 oz. per acre from early green-up to prior to seed head initiation. DO NOT add a surfactant for this application.

Cool Season Unimproved Turf - Apply this product at 2 oz. per acre plus 0.25% nonionic surfactant. For increased suppression, this product may be tank-mixed with such products as Campaign[®] (24 oz. per acre) or Embark[®] (8 oz. per acre).

Tank-mixes may increase injury to desired turf. Consult each product label for recommended turf species and other use directions and precautions. Tank mixes with 2,4-D or products containing 2,4-D may decrease the effectiveness of this product.

TOTAL VEGETATION CONTROL WHERE

BAREGROUND IS DESIRED

This product is an effective herbicide for preemergence or post-emergence control of many annual and perennial broadleaf and grass weeds where bareground is desired. This product is particularly effective on hard-to-control perennial grasses. This product at 1.5 to 6 pints per acre can be used alone or in tank-mix with, Finale[®], MSMA, diuron, Pendulum[®], Simazine, and Vanquish[®], herbicides. The degree and duration of control are dependent on the rate of this product used, tank-mix partner, the volume of carrier, soil texture, rainfall and other conditions. Consult manufacturer's labels for specific rates and weeds controlled. Always follow the more restrictive label when making an application involving tank-mixes.

TANK-MIX RECOMMENDATIONS FOR BAREGROUND

Herbicide Rates per Acre*				
This product in Pints Pendulum [®] WDG Pendulum [®] 3.3 EC Diuron in Pints in Pounds in Quarts in Pounds				
1.5 - 3	6.6	4.8	4 - 6	
2 - 4	6.6	4.8	6 - 10	
3 - 6	6.6	4.8	8 - 12	

* Use higher rates for fall applications and in areas that have not been previously treated or that feature heavy infestations.

Applications of this product may be made anytime of the year. Use equipment calibrated to deliver desired gallons per acre spray volume and uniformly distribute the spray pattern over the treated area.

post-emergence Applications: Always use a spray adjuvant (See Adjuvant section of this label) when making a post-emergence application. For optimum performance on tough to control annual grasses, applications should be made at a total volume of 100 gallons per acre or less. For quicker burndown or brown-out of target weeds, this product may be tank-mixed with products such as Razor[®], Finale, or MSMA. Tank mixes with 2,4-D or products containing 2,4-D have reduced performance of this product. Always follow the more restrictive label when tank-mixing.

Spot Treatments: This product may be used as a follow-up treatment to control escapes or weed encroachment in a bareground situation. To prepare the spray solution, thoroughly mix in each gallon of water 0.5 to 5% of this product plus an adjuvant. For increased burndown, include Razor[®], Finale, MSMA, or similar products. For added residual weed control or to increase the weed spectrum add Pendulum[®] or diuron. Always follow the more restrictive label when tank-mixing.

ADDITIONAL WEEDS CONTROLLED

In terrestrial sites, this product will provide preemergence or post-emergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of this product. For established biennials and perennials postemergence applications of this product are recommended.

The rates shown below pertain to broadcast applications and indicate the relative sensitivity of these weeds. The relative sensitivity should be referenced when preparing low volume spray solutions (see "Low Volume" section of "Ground Applications"); low volume applications may provide control of the target species with less product per acre than is shown for the broadcast treatments. This product should be used only in accordance with the recommendations on this label.

The relative sensitivity of the species listed below can also be used to determine the relative risk of causing non-target plant injury if any of the below listed species are considered to be desirable within the area to be treated.

Resistant Biotypes: Naturally occurring biotypes (a plant within a given species that has a slightly different, but distinct genetic makeup from other plants of the same species) of some weeds listed on this label may not be effectively controlled. If naturally occurring resistant biotypes are present in an area, this product should be tank-mixed or applied sequentially with an appropriate registered herbicide having a different mode of action to ensure control.

GRASSES

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.

COMMON NAME SPECIES HABIT ² Apply 2-3 pints per acre ¹ Apply 2-3 pints per acre ¹ Annual bluegrass (Poa annua) A Broadleat signalgrass (Poa annua) A Canada bluegrass (Poa compressa) P Downy brome (Bromus tectorum) A Fescue (Festuca spp.) AP Eoxtail (Startin's spp.) A Ualan ryegrass (Johum multiforum) A Johnsongrass (Fergrosts spp.) AP Napler grass (Paratensis) P Ouchardgrass (Dachum multiforum) P Quackgrass (Paratensis) P Quackgrass (Paratensis) P Quackgrass (Agropyron repens) P Sandbur (Centrus ispp.) A Sandbur (Centrus inermis) P Sandburgrass (Paratum capillare) A Mathy 3-4 pints per acre ⁴ Barnyardgrass (Paratum capillare) A Sunoth brome (Bornus inermis)		GRASSES	GROWTH
Annual bluegrass (Poa arnua) A Broadleaf signalgrass (Bracinara plaiyphylla) A Canada bluegrass (Poa compressa) P Downy brome (Bromus tectorum) A Fescue (Festue spp.) AP Eoxal (Lolum multiflorum) A Italian ryegrass (Lolum multiflorum) A Johnsongrass (Poa pratensis) P Lovagrass (Poa pratensis) P Chardgrass (Poa pratensis) P Chardgrass (Poa pratensis) P Chardgrass (Poa pratensis) P Paragrass (Bachvis glomerala) P Quackgrass (Paspakum untlea) P Vaseygrass (Paspakum untlea) A Sandd tropseed (Sporabulus cryptandrus) P Vaseygrass (Paspakum untlea) A Witchgrass (Paspakum untlea) A Barnyardgrass (Echnochloa crus-gali) A Bardgrass (Andropogon spp.) P	COMMON NAME	SPECIES	
Broacleat signalgrass (Brachiana platyphylla) A Canada bluegrass (Poa compressa) P Downy brome (Bromus tectorum) A Fescue (Festuca spp.) A/P Foxtail (Setaria spp.) A Italen ryegrass (Lolum multiflorum) A Johnsongrass (Sorghur halapense) P Kentucky bluegrass (Poa pratensis) P Lovegrass (Bragnostis spp.) A/P Napier grass (Partina multica) P Orchardgrass (Bachiana multica) P Quackgrass (Bachiana multica) P Sandbur (Cenchrus spp.) A Sandbur (Cenchrus spp.) A Sandbur (Cenchrus spp.) A Vitchgrass (Panicum capillare) P Vitchgrass (Panicum capillare) A Barnyardgrass (Barnus aeguptium) A Bluegrass, Anual (Poa annua) A Buegrass, Anual (Poa annua) A Cheat (Bromus secalinus) A <		Apply 2-3 pints per acre ¹	
Canada bilugrass (Poa compressin) P Downy brome (Bromus tectorum) A Fescue (Festuca spp.) A Fescue (Sotaria spp.) A United in programs (Lolum multiflorum) A Johnsongrass (Colum multiflorum) A Johnsongrass (Colum multiflorum) A Lovegrass (Pa pratensis) P Condergrass (Pantaletum purpureum) P Orchardgrass (Pachtis glomerate) P Paragrass (Bachtis glomerate) P Ochardgrass (Agropyron repens) P Sandbur (Cenchrus spp.) A Stewarass (Pasalum unile) P Swewarass (Pasalum unile) A Baracyardgrass (Paracuru ca	Annual bluegrass	(Poa annua)	<u>A</u>
Downy brome (Bromus fectorum) A Fescue (Festuca spp.) AP Foxtail (Setaria spp.) A Italian ryegrass (Lolum multiflorum) A Johnsongrass (Sorphum halepense) P Kantucky bluegrass (Pagrastis spp.) A/P Ivagrass (Brachuan amultca) P Orchardgrass (Brachuan amultca) P Quackgrass (Agropyron repens) P Quackgrass (Agropyron repens) P Sandbur (Cenchrus spp.) A Sandbur (Panicum capillare) P Sanothur (Panicum capillare) P Sandbur (Panicum capillare) A Vilcio dats (Avena fatua) A Barnyardgrass (Panicum capillare) A Barnyardgrass (Echnochioa crus-gali) A Barnyardgrass (Digitana spp.) P Bulograss, Annual (Poa annua) A Crabgrass (Digitana spp.) A	Broadleaf signalgrass	(Brachiaria platyphylla)	
Fescule (Festuca spp.) A/P Foxtail (Settaria spp.) A Italian ryegrass (Lolum multilibrum) A Johnsongrass (Sorghum halepense) P Kentucky bluegrass (Poa pratensis) P Lovagrass (Panisetium purpureum) P Orchardgrass (Dactviis glomerata) P Orchardgrass (Bactviis glomerata) P Orchardgrass (Bactviis spp.) A Sandtur (Cenchrus spp.) A Sandtropseed (Sporobulus cryptandrus) P Smooth brome (Bronus inermis) P Vaseygrass (Papakum urville) P Wild cats (Avena tatua) A Wild cats (Avena tatua) A Barnyardgrass (Panicum capillare) A Beardgrass (Andpopogon spp.) P Bluegrass, Annual (Poa annua) A Beardgrass (Dactylicerum asept) A Crowfootgrass (Dactylicerum asept) A Crowfootgrass (Dactylicerum asecalinus) A <	Canada bluegrass	(Poa compressa)	the second se
Foxtali (Setaria spp.) A Italian ryegrass (Lolium multiflorum) A Johnsongrass (Sorghum halepanse) P Kentucky bluegrass (Poa pratemsis) P Lovegrass (Eragrostis spp.) A/P Napier grass (Panisetum purpureum) P Orchardgrass (Dactvits glomerata) P Paragrass (Barchian amutica) P Quackgrass (Agropyron repens) P Sandbur (Cenchrus spp.) A Sandbur (Sorghuin urville) P Smooth brome (Bromus inermis) P Smooth brome (Bronus inermis) P Vaseygrass (Panicum capillare) A Barnyardgrass (Fanicum capillare) A Beardgrass (Andropogon spp.) P Bluegrass, Annual (Poa annua) A Bulegrass, Annual (Poa annua) A Bulegrass, Annual (Poa annua) A Bulegrass, Annual (Poa annua) A Crowtootgrass (Dactyloctenium aegyptium) A <			
Italian ryegrass (Lolum multiflorum) A Johnsongrass (Sorghum halepense) P Kentucky bluegrass (Pap pratensis) P Lovegrass (Eragrostis spp.) A/P Napier grass (Parbinastis) P Quackgrass (Dachis spp.) A/P Quackgrass (Dachis spp.) A Quackgrass (Dachis spp.) A Sandbur (Cenchruis spp.) A Sand dropseed (Sporobulus cryptandrus) P Shooth brome (Bromus inermis) P Vaseygrass (Papakum urville) P Witchgrass (Panicum capiliare) A Barnyardgrass (Adropogon spp.) P Bluegrass, Annual (Poa annua) A Bulugrass, IDactonus declarus) A Crabgrass Crabgrass (Dactyloctenum aegyptium) A Goosegrass (Dactyloctenum aegyptium) A Cand robgrass (Dactyloctenum aegyptium) A Goosegrass (Echinochioa cofonum) A Candorgrass (Dactyloctenum aegyptium) </td <td></td> <td></td> <td></td>			
Index of york Early in transmitter P Johnsongrass (Sorghum halepense) P Kentucky bluegrass (Pea pratensis) P Lovegrass (Pennisetur purpureum) P Orchardgrass (Dactivis glomerata) P Orchardgrass (Dactivis glomerata) P Quackgrass (Paroticuts spp.) A Sandbur (Cenchuis spp.) A Sandbur (Cenchuis spp.) A Sandbur (Cenchuis spp.) A Sandbur (Paspatum unillei) P Vaseygrass (Paspatum unillei) P Vaseygrass (Paspatum unillei) A Barnyardgrass (Paroticum capillarei) A Barnyardgrass (Paroticum capillarei) A Bardgrass (Andropagon spp.) P Bluegrass, Annual (Poa annua) A 'Buryardgrass (Digitana spp.) A Crabgrass (Digitana spp.) A Crabgrass (Dactovicut actionthonorithorum) A Gaint Reed (Arundo donax) A		·····	
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Crowlootgrass (Dactyloctenium aegyptium) A Fall panicum (Panicum dichotonilflorum) A Giant Reed (Arundo donax) A Giant Reed (Arundo donax) A Goosegrass (Fleusine indica) A Lovegrass (Fleusine indica) A Junglerice (Echinochloa colonum) A Lovegrass (Eragrostis spp.) A Maidencane (Paricum hemitomon) A Panicum, Browntop (Panicum texanum) A Panicum, Texas (Panicum texanum) A Praritie threeavin (Aristida oligantha) P Reed canzygrass (Phaleris arundinacea) P Sandbur, Field (Cenchrus incertus) A Torpedograss (Phaleris arundinacea) P Wooly Cupgrass (Erochloa villosa) A Muld barley (Hordeum spp.) A Mooly Cupgrass (Cvinodon dactylon) P Bahagrass (Paspalum notatum) P Cattail (Typha spp.) P Cattail (Typha spp.) P Cattail (Typha spp.) P Cattail (Typha spp.) P Cogorgrass (Paspal			
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Saltgrass ¹ (Distichlis stricta) P			
	Sand dropseed	(Sporobolus cryptandrus)	
Sprangletop (Leptochioa spp.) A			······································
Timothy (Phleum pratense) P			
Wirestem muhiy (Muhlenbergia frondosa) P			

Common ragweed	(Ambrosia artemisiifolia)	A	
Dandelion	(Taraxacum officinale)	P	
Dog tennel	(Eupatorium capillitolium)	A	
Filaree	(Erodium spp.)	A	
Fleabane	(Erigeron spp.)	<u>A</u>	
Hoary vervain	(Verbena stricta)	P	
Horseweed	(Conyza canadensis)	<u>A</u>	
Indian mustard	(Brassica juncea)	A	
Kochia	(Kochia scopana)	A	
Lambsquarters	(Chenopodium album)	<u>A</u>	
Lespedeze	(Lespedeza spp.)	P	
Miners lettuce	(Montia perfoliata)	<u>A</u>	
Mullein	(Verbascum spp.)	<u>B</u>	
Nettleleaf goosefoot	(Chenopodium murale)	A P	
Oxeye daisy Pepperweed	(Chr/santhemum leucanthemum) (Lepidium spp.)	A	
Pigweed	(Amaranthus spp.)	A	
Plantain	(Plantago spp.)	P	
Puncturevine	(Tribulus terrestris)	A	
Russian thistle	(Salsola kali)	A	·
Smartweed	(Polygonum spp.)	A/P	
Sorreli	(Rumex spp.)	P	
Sunflower	(Helianthus spp.)	A	/
Sweet clover	(Melilotus spp.)	A/B	
Tansymustard	(Descurania pinnata)	A	
Western ragweed	(Ambrosia psilostachya)	P	
Wild carrot	(Daucus carota)	B	
Wild lettuce	(Lactuca spp.)	A/B	
Wild parsnip	(Pastinaca sativa)	В	
Wild turnip	(Brassica campestris)	В	
Woollyleaf bursage	(Franseria tomentosa)	P	
Yellow woodsorrel	(Oxalis stricta)	P	
	Apply 3-4 pints per acre ¹		
Broom snakeweed*	(Gutierrezia sarothrae)	P	
Bull thistle	(Cirsium vulgare)	B	·····
Burclover	(Medicago spp.)	A	······································
Chickweed, Mouseear	(Cerastium) vulgatum)	A	
Clover, Hop	(Tnfolium procumbens)	A	
Cocklebur	(Xanthium strumarium)	A	
Cudweed	(Gnaphalium spp.)	A	
Desert Camelthorn	(Alhagi pseudalhagi)	Р	
Diffuse knapweed	(Centaurea diffusa)	A	
Dock	(Rumex spc.)		
		P	
	(Amsinckia intermedia)	A	
Fiddleneck			
Fiddleneck Goldenrod	(Amsinckia Intermedia)	A P A	
Fiddleneck Goldenrod Henbit	(Amsinckia intermedia) (Solidago ธอด.)	A P A A/P	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed	(Amsinckia intermedia) (Solicago: apc.) (Lamium ablexcaule) (Polygonum aviculare) (Phytolacca americana)	A P A A/P P	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife	Amsinckia intermedia) (Sokago apc.) (Lamium aolexcaule) (Polygonum aviculare) (Polydacca americana) (Lythrum salicaria)	А Р А А/Р Р Р	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purple loosestrife Purslane	(Amsinckia intermedia) (Solidago apg.) (Lamum aolexcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.)	Α Ρ Α Α/Ρ Ρ Α	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purslane Puslane Puslay, Florida	(Amsinckia intermedia) (Solidago apc.) (Lamium ablexicaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra)	Α Ρ Α Α/Ρ Ρ Ρ Α Α	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London	(Amsinckia intermedia) (Solicago apc.) (Lamium ablexcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richardia scabra) (Sisymbrium ino)	A P A/P P A A A	
Fiddleneck Goldenrod Henbit Pokeveed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletorweed ⁴	(Amsinckia intermedia) (Sokdago apc.) (Lamium aolaxodaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scatora) (Sisymbrium ino) (Chononila juncea)	A P A A/P P A A A B	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush	Umsinckia intermedia) (Sokago anc.) (Lamium aoleucaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca app.) (Richardia scaora) (Sisymbrium ino) (Chononila juncea) (Atrolex spp.)	A P A A/P P P A A A A B A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Porkeveed Purgle loosestrife Purslane Puslay, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse	Amsinckia intermedia) (Solicago spc.) (Lamium ablexcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richardia scaora) (Sisymbrium ino) (Chononlla juncea) (Annolex spp.) (Capsella bursa-pastons)	A P A A/P P P A A A A A A A A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Porkeveed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual	Amsinckia intermedia) (Solicago apc.) ILamium ablexcaule) IPolygonum aviculare) IPhytolacca americana) ILythrum salicana) (Portulaca spp.) (Richardia scabra) ISisymbrium ino) (Chondinila juncea) IAtinolex spp.) (Capsella bursa-pastons) (Euphorbia spp.)	A P A A P P A A A A A A A A	
Fiddleneck Goldenrod Henbit Nrotweed, prostrate Porkeveed Purple loosestrife Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴	(Amsinckia intermedia) (Sokdago apc.) (Lamum ablavcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisymbrium ino) (Chononila juncea) (Atriolex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Urtica dioica)	A P A A/P P P A A A A A A A A	
Fiddleneck Goldenrod Henbit Postey for Strate Purple loosestrife Purslane Purslane Purslane Purslane Rush skeletorweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf	Umsinckia intermedia) (Sokdago apc.) ILamium ablavcaule) (Polygonum aviculare) (Polydacca americana) (Lythrum salicaria) (Portulaca spp.) (Richardia scabra) (Sisvimbrium ino) (Chondnila juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Urtica dioica) (Urtica dioica) (Abution theophrasti)	A P A/P P P A A A A A A A A A A A A A A	
Fiddleneck Goldenrod Henbit Postey for Strate Purple loosestrife Purslane Purslane Purslane Purslane Rush skeletorweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf	Amsinckia intermedia) (Solicago spc.) (Lamium ablaxcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richardia scatura) (Sisymbrium ino) (Chononila juncea) (Annolex spp.) (Capselle bursa-pastons) (Euphorbia spp.) (Unica dioca) (Anutica conca) (Anutica) (Anutica conca) (Anutica) (Anutica)	A P A A P P A A A A A A A A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeveed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush, skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yellow starthistle	Amsinckia intermedia) (Solicago apc.) ILamium ablexcaule) IPolygonum aviculare) IPhytolacca americana) ILythrum salicana) (Portulaca americana) ILythrum salicana) (Portulaca spp.) (Richarda scabra) (Sisymbrium ino) (Chondinila junceai) IAinolex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Unica dioica) IAbution theophinasth) (Centaurea solstitialis) Apply 4–6 pints per acre ¹	A P A A/P P P A A A A A A A A A A A A A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yellow starthistle	Amsinckia intermedia) (Solicago anc.) ILamium ablexcaule) (Polygonum aviculare) (Phytolacca americana) ILythrum salicaria) (Portulaca app.) (Richarda scabra) (Richarda scabra) (Sisymbrium ino) (Chondinila juncea) (Antolex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Untica dioica) (Antolex asolititalis) Apply 4–6 pints per acre ⁵ (Pluchea sencea)	A P A/P P P A A A A B A A A A A A A A A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Salitbush Shepherd's-purse Spurge, Annual Stinging nette ⁴ Velvetleaf Velvetleaf Velvetleaf Arrowweed Canada thistle	Amsinckia intermedia) (Sokdago anc.) ILamium ablavcaule) (Polygonum aviculare) IPhytolacca americana) ILythrum salicaria) (Portulaca appo.) (Richardia scabra) (Extra scabra) (Chononila juncea) (Annolex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Centaurea solstitialis) Apply 4-6 pints per acre ¹ (Pucchea sancea) (Cirsium aryense)	A P A A/P P P P A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeweed Purgle loosestrife Purslane Purslane Purslane Purslane Purslane Purslane Purslane Purslane Purslane Purslane Subush Shepherd's-purse Sourge, Annual Stinoing nettle ⁴ Velvetteaf Yellow starthistle Canada thistle Giant ragweed	Amsinckia intermedia) (Solicago spc.) (Lamium ablavcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca spp.) (Richardia scabra) (Sisymbrium ino) (Chononila juncea) (Atriplex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Unica doca) (Lythica doca) (Lythica doca) (Lotica and) (Centaurea solstitialis) Apply 4-5 pints per acre ¹ (Pucha sencea) (Carsel) (Cursium aryense) (Ambrosia (nfida)	A P A A/P P P A A A A A A A A A A A A A	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeveed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yellow starthistle Canad thistle Grant ragweed Grey (abbitbrush	Amsinckia intermedia) (Solicago apc.) ILamium ablexcaule) IPolygonum aviculare) IPhytolacca americana) ILythrum salicana) (Portulaca americana) ILythrum salicana) (Portulaca app.) (Richarda scabra) ISisymbrium ino) (Chonoinlla jurceai IAtholex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Unica dioica) IAbution theoprinasti) (Centaurea solstitialis) Apply 4-5 pints per acre ¹ (Puchea sercea) (Cristium aryense) (Ambrosia trifida) (Chrvsothamius nauseosus)	A P A P P P A <td< td=""><td></td></td<>	
Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeveed Purple loosestrife Pursle loosestrife Pursle, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yellow starthistle Canada thistle Giant ragweed Giant ragweed Girey (abbithrush Little mallow	Amsinckia intermedia) (Solicago anc.) ILamium ablaxcaule) IPolygonum aviculare) IPhytolacca americana) ILythrum salicana) ILythrum salicana) ILythrum salicana) ILythrum salicana) IPortulaca app.) (Richarda scabra) ISisymbrium ino) (Chondnila juricea) IAntolex spp.) (Capsella bursa-pastons) (Euphorbia spp.) (Untica dioica) IAbution theoohrasti) (Centaurea solistitalis) Apply 4–6 pints per acre ¹ IPluchea sencea) (Cirrisum arvense) (Ambrosia (Infida) (Chrvsothamnus, nauseosus) IMalva parvillora)	A P A/P P P A B A B A B B B B B B	
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Fiddleneck Goldenrod Henbit Knotweed, prostrate Pokeveed Purple loosestrife Purslane Pusley, Florida Rocket, London Rush skeletonweed ¹ Saltbush Shepherd's-purse Spurge, Annual Stinging nettle ⁴ Velvetleaf Yellow starthistle Canada thistle Grant ragweed Grey (abbithrush Little mallow Mikveed Primrose Russian knapweed	Amsinckia intermedia) (Solicago apc.) (Lamium ablexcaule) (Polygonum aviculare) (Phytolacca americana) (Lythrum salicana) (Portulaca americana) (Lythrum salicana) (Portulaca aspi) (Richarda scaura) (Sisymbrium ino) (Chonoinlla jurceal (Antorosia tifica) (Christiaminus nauseosus) (Maha paryflora) (Astepnas spp.) (Christiaminus nauseosus) (Maha paryflora) (Astepnas spp.)	А Р А А/Р Р Р Р А А А А А А А А А А А А А	

BROADLEAF WEEDS

COMMON NAME	SPECIES	GROWTH HABIT ²	
	Apply 2-3 pints per acre ¹		
Alligatorweed	(Alternanthera philoxeroides)	A/P	
Burdock	(Arctium spp.)	В	
Goosegrass	(Eleusine indica)	A	
Camphorweed	(Heterotheca subaxillaris)	Р	
Carolina geranium	(Geranium carolinianum)	A	
Clover	(Tritolium spp.)	A/P	
Common chickweed	(Stellana media)	A	

.

VINES AND BRAMBLES

COMMON NAME

COMMON NAME

American beech

Baid cypress

Bigleaf maple

Black locust

Blackgum

Boxelder Brazilian peppertree

Ash

	GROWTH
SPECIES	HABIT ²

COMMON NAME	SPECIES	TADII-
	Apply 1 pint per acre	
Field bindweed	(Convolvulus arvensis)	P
Hedge bindweed	(Calystegia sequium)	A
	Apply 2-3 pints per acre ¹	
Wild buckwheat	(Polygonum convolvulus)	Ρ
	Apply 3-4 pints per acre ¹	
Greenbriar	(Smilax spp.)	Р
Honeysuckle	(Lonicera spp.)	9
Morningglory	(Ipomoea spp.)	A/P
Poison ivy	(Rhus radicans)	P
Redvine	(Brunnichia cirrhosa)	P
Wild rose	(Rosa spp.)	P
Including: Multiflora rose	(Rosa multifiora)	P
McCartney rose	(Rosa bracteata)	Р
	Apply 4-6 pints per acre ¹	
Blackberry	(Rubus spp.)	P
Dewberry	(Rubus spp.)	Р
*Kudzu ³	(Puerana lobata)	P
Trumpetcreeper	(Campsis radicans)	Р
Virginia creeper	(Parthenocissus quinquetolia)	P
Wild grape	(Vitis spp.)	Р
	BRUSH SPECIES	

Apply 4-6 pints per acre¹

(Populus spp.) Ρ Poplar Privet Ρ (Ligustrum vulgare) Red Alder (Alnus rubra) Ρ P Red Maple (Acer rubrum) Rubber rabbitbrush ρ (Chrysothamnus nauseaosus) (Eleagnus angustitolia) Russian Olive ρ Sassafras (Sassafras albidum) P Saltcedar (Tamarix ramosissima) P Sourwood (Oxydendrum arboreum) P P Sumac (Rhus spp.) (Liquidambar styraciflua) p Sweetgum P Water willow (Justica americana) p Willow (Salix spp.) Yellow poplar (Liriodendron tulipifera) P

(Prunus spp.)

(Cornus spp.)

(Ulmus spp.)

(Carya spp.)

(Acer spp.)

(Morus spp.)

(Pinus spp.)

(Quercus spp.)

(Crataegus spp.)

(Gleditsia triacanthos)

(Diospyros virginiana)

(Melaleuca quiquenervia)

(Melia azadarach)

(Sapium sebiterum)

P

p

P

P

P

P

P

P

P

Ρ P

P

Cherry Chinaberry

Dogwood

Hawthorr

Honeylocust⁵

Hickory

Maple

Melaleuca

Mulberry

Persimmon

Oak

Pine

Elm⁶

Chinese tallowtree

*Not approved for use in California

The higher rates should be used where heavy or well-established infestations occur. Growth Habit - A = Annual, B = Biennial, P = Perennial Use a minimum of 75 GPA - Control of established stands may require repeat

applications.

For best results early postemergence applications are required.

Tank mix with glyphosate or triclopyr. Tank-mix with with glyphosate.

STORAGE AND DISPOSAL

GROWTH

HABIT²

P

P P

Ρ

F

ρ

P

£

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

PESTICIDE STORAGE: DO NOT store below 10° F.

SPECIES

(Fagus grandifolia)

(Taxodium distichum)

(Acer macrophylum)

(Robinia pseudoacacia)

(Schinus terebinthifolius)

(Fraxinius spp.)

(Nyssa sylvatica)

(Acer negundo)

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in an approved sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke,

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