Nufarm

Polaris®

Herbicide

GROUP 2 HERBICIDE

For control of undesirable vegetation growing within certain aquatic sites, forestry sites, pasture/rangeland, nonagricultural lands, establishment and maintenance of wildlife openings, release of unimproved Bermudagrass and Bahiagrass, bareground weed control, for use under certain paved areas, industrial noncropland areas including 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, roads and transmission lines.

ACTIVE INGREDIENT:	
Isopropylamine salt of Imazapyr: (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)*	27.7%
OTHER INGREDIENTS:	72.3%
TOTAL:	100.0%

* Equivalent to 22.62% 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid or 2 pounds acid per gallon.

Have the product container label with you when calling a poison control center or doctor or going for treatment.

In the State of New York, Aquatic Uses are Not Allowed.

KEEP OUT OF REACH OF CHILDREN

CAUTION / PRECAUCIÓN

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 NEXT PAGE BOOKLET FOR ADDITIONAL FIRST AID AND 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

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

Nufarm
Grow a better tomorrow

1 91662 01337 5

Net Contents
2.5 Gal.
(9.46 L)
Nonrefillable Container

14785000

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCIÓN

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

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Mixers, loaders, applicators and other handlers must wear:

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. DO NOT reuse them.

Engineering Controls

Pilots must use an enclosed cockpit that meet the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d) (6)].

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. If pesticide gets on skin, wash immediately with soap and water.
- 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

This pesticide is toxic to plants. Drift and run off may be hazardous to plants in water adjacent to treated areas. DO NOT apply directly to water except as specified on the label. Treatment of aquatic weeds may result in oxygen depletion or loss due to decomposition of dead plants. DO NOT treat more than one half 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. DO NOT contaminate water when disposing of equipment washwater or rinsate. This pesticide is toxic to vascular plants and must be used strictly in accordance with the drift precautions of 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.

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 48 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
- Protective eyewear

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.

DO NOT enter or allow others to enter treated areas until sprays have dried.

PRODUCT INFORMATION

This product is an aqueous solution to be mixed with water and a surfactant and applied as a spray solution to control undesirable vegetation growing within certain aquatic sites, forestry sites, pasture/rangeland, and nonagricultural lands. Aquatic sites consist of standing and flowing water, estuarine/marine, wetland, and riparian areas. Nonagricultural lands include private, public and military land as follows: uncultivated nonagricultural areas (including airports, highway, railroad and utility rights of way and sewage disposal areas), uncultivated agricultural areas – noncrop producing (including farmyards, fuel storage areas, fence rows, nonirrigation ditch banks and barrier strips), industrial sites – outdoor (including lumber yards, pipeline and tank farms) and natural areas (including wildlife management areas, wildlife openings, wildlife habitats, recreation areas, campgrounds, trailheads, and trails). This product may also be used for the release of unimproved Bermudagrass and Bahiagrass, for bareground weed control, and for use under certain paved surfaces.

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. For maximum activity, weeds should be growing robustly at the time of application, and the spray solution should include a surfactant (see **ADJUVANTS** section for specific use directions). 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.

RESTRICTIONS and LIMITATIONS

DO NOT use on food or feed crops.
DO NOT apply this product to water within 0.5 miles upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within 0.5 miles 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 USE PRECAUTIONS AND RESTRICTIONS 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.
DO NOT use on lawns, walks, driveways, tennis courts or similar areas.
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.

Nonagricultural Lands and Forestry Sites

- DO NOT apply more than 1.5 pounds acid equivalent Imazapyr (equivalent to 6 pints) per acre per year.

Pasture/Rangeland Sites

- DO NOT apply more than 0.75 pound acid equivalent Imazapyr (equivalent to 3 pints) per acre per year.
- DO NOT treat more than 1 /10 of the available area to be grazed or cut for hay.
- For spot treatment only.

Aquatic Sites

- DO NOT apply more than 1.5 pounds acid equivalent Imazapyr (equivalent to 6 pints) per acre per year.
- **No Application to Aquatic Sites in New York State.**

Aerial application - Aerial application to aquatic sites is restricted to helicopter only.

Irrigation water - Application to water used for irrigation that results in residues greater than 1.0 part per billion (ppb) MUST NOT be used for irrigation purposes for 120 days after application or until residue levels of this product are determined by laboratory analysis or other appropriate means of analysis to be 1.0 ppb or less. When applications are made within 500 feet of an active irrigation intake, DO NOT irrigate for at least 24 hours following application to allow for dissipation.

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

Restrictions for potable water intakes - DO NOT apply this product directly to water within 0.5 miles upstream of an active potable water intake in flowing water (i.e. river, stream, etc.) or within 0.5 miles of an active potable water intake in a standing body of water such as a lake, pond or reservoir. To make aquatic applications around and within 0.5 miles 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 that 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 that 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.

Permitting - 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.

Public waters - Application of this product to water 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.

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.

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 Avoiding Injury to Nontarget 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.

MANAGING OFF-TARGET MOVEMENT

Aerial Application

- Applicators are required to use coarse or coarser droplet size (ASABE S572) or if specifically using a spinning atomizer, nozzle applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet. Applicators are required to use a very coarse or coarser droplet size or if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for relase heights above 10 feet. Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
- Applicators are required to use upwind swath displacement.
- The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
- Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.
- Applications into temperature inversions are prohibited.

Ground Boom Application

- Applicators are required to use a nozzle height below 4 feet above the plant canopy or the ground and coarse or Coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater.
- Applications with wind speeds greater than 10 mph are prohibited.
- Applications into temperature inversions are prohibited.

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.

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 can 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. Do not apply more than 3 pints of this product per acre in an invert emulsion.

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

It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product label involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

APPLICATION METHODS

This product may be selectively applied by using low volume directed application techniques or may be broadcast applied using ground equipment, watercraft, or aircraft. Aerial applications to aquatic sites must be made by helicopter. In addition, this product may also be applied using cut stump, cut stem, and frill or girdle treatment techniques within nonagricultural lands, pasture/rangeland and aquatic sites. See AERIAL APPLICATION and GROUND APPLICATION sections for additional details.

COMPATIBILITY

Before full-scale mixing of this product with other pesticides, emulsifiers, fertilizers, surfactants or oils, determine the compatibility of the proposed mixture. Use proportionate quantities of each ingredient and mix in a small container. Always mix one product thoroughly with the diluent before adding another product. If no incompatibility is evident after 30 minutes, the mixture is generally compatible for spraying. To evaluate potential short term effects of applying the mixture, test the tank mix combination on a few plants or a small area before larger-scale treatments. Wait at least 2 to 3 days for problems to become apparent.

IMPORTANT: MIXING WITH OTHER SUBSTANCES MAY INCREASE THE RISK OF MIXING INCOMPATIBILITIES, REDUCED EFFECTIVENESS AND/OR CAUSE CROP INJURY OR LOSS. ANY LIABILITY FOR LOSS, INJURY OR DAMAGE RESULTING FROM A MIXTURE NOT SPECIFIED ON THIS LABEL OR IN MANUFACTURER'S SUPPLEMENTAL LABELING DISTRIBUTED FOR THIS PRODUCT IS SPECIFICALLY DISCLAIMED BY MANUFACTURER.

AERIAL APPLICATION

All precautions must be taken to minimize or eliminate spray drift. Both helicopter and fixed wing aircraft can be used to apply this product, but applications to aquatic sites are restricted to helicopter only. DO NOT make applications by helicopter or fixed wing aircraft 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 specified label rate. DO NOT side trim with this product unless death of treated tree can be tolerated.

Uniformly apply the specified amount of this product in 2 to 30 gallons of water per acre. A foam reducing agent may be added at the specified label rate.

Immediately after each use of this product thoroughly clean application equipment, including landing gear. Uncoated steel surfaces (except stainless steel surfaces) may result in corrosion and failure after prolonged exposure to the product. The maintenance of an paint (organic coating) may prevent corrosion.

GROUND APPLICATION

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 label rate, if needed. For control of difficult species (see AQUATIC WEEDS CONTROLLED section and the TERRESTRIAL 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 3 quarts of this product per acre in aquatic sites and nonagricultural lands and 1-5 quarts per acre in pasture/rangeland. Excessive wetting of foliage is not necessary.

For low volume foliar application, 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% 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.

Appropriate 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 Foliar 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.

High Volume Foliar:

For optimum performance when spraying medium to high-density vegetation, 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 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 3 quarts of this product per acre in aquatic sites and nonagricultural lands, and 1-5 quarts per acre in pasture/rangeland. Uniformly cover the foliage of the vegetation to be controlled but DO NOT apply to run-off. Excessive wetting of foliage is not necessary.

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.

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.

This product may be mixed as either a concentrate or dilute solution. The dilute solution may be used for application to the cut surface of the stump or to cuts on the stem of 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 STUMP TREATMENT

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

CUT STEM TREATMENT

(injection, hack-and-squirt)

Dilute Solution - 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. Ensure that the injector completely penetrates the bark at each injection site.

Concentrate Solution - 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.

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 1.0 to 2.0 pints per acre to the cut area. This product may be tank-mixed with picloram (such as Trooper 22K), or equivalent labeled product for this use, 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. See the Brush Control section of this label.

FRILL OR GIRDLE TREATMENT

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.

BASAL APPLICATION

This product is an aqueous formulation that requires mixing with **basal oil containing at least 15% emulsifier or will require the addition of an emulsifier, for application to the basal area** of brush and trees to control undesirable vegetation in the following noncropland areas: access roads, airfields, airports, along forest roads, around commercial or industrial structures or outbuildings, around farm and ranch structures and outbuildings, bare ground, construction sites, ditch banks, dry ditches & canals, fences & fencerows, firebreaks, gravel yards, habitat restoration & management areas, highways & roadsides (including aprons, medians, guardrails & right of ways), industrial plant sites, industrial areas, lumber yards, natural areas, paved areas, petroleum & other tank farms, pumping installations, pipeline, power, telephone & utility rights-of-way, power stations, railroad rights-of-way, refineries, resorts, storage areas, substations, uncropped farmstead areas, uncultivated non-agricultural areas, vacant lots, walkways, wastelands & wildlife habitat areas.

Thinline Basal and Stem Application

- This product may be applied as a thinline basal or arcing application to the stems of susceptible species such as big leaf maple (*Acer macrophyllum*), willow (*Salix* spp.) and Eucalyptus (*Eucalyptus* spp.) with a stem ground line diameter of 3 inches or less. Mix 24 to

48 fluid ounces of this product in one gallon of **basal oil containing at least 15% emulsifier**. Maintain uniform mixtures with frequent agitation. Direct a thin line of the spray solution to the stems beginning a few feet from the ground and descending toward the base of the tree making a zig-zag motion. Do not over apply causing puddling.

Low Volume Basal Bark Treatments

- This product, at the rate of 8 to 12 fluid ounces per gallon may be applied for low volume basal bark treatments. This product at 3.0 to 5.0% is recommended to be tank mixed with Relegate™ or Garlon® 4 or other basal products to broaden the spectrum of control. Consult the herbicide labels for rates and susceptible brush species. Mixing with basal requires compatibility tests prior to mixing large quantities. Mixing aids (such as emulsifiers, etc.) and ongoing agitation are required to attain a homogenous tank mix.
- Basal application should be made to the lower 12" to 18" of the target brush and go to the soil. Care should be taken not to puddle or over treat the stem. Basal application is best suited for low density brush sites, where stems do not exceed 700 stems per acre.

For Basal Application – It is advisory to mix only the intended amount of mixture that is to be sprayed that day. Adequate agitation must be maintained with all emulsion mixtures to prevent phase separation. Prior to tank mixing with other products, herbicides and oils, you must determine the compatibility of the proposed mixture. (See **COMPATIBILITY** section).

SPRAY SOLUTION MIXING GUIDE

			TANK MIXING			
AMOUNT OF SPRAY SOLUTION BEING PREPARED	**NUFARM POLARIS ALONE**		**NUFARM POLARIS WHEN TANK MIXING**		**RELEGATE or GARLON 4**	
	6%	9%	3.0%	5.0%	15%	20%
1 Gallon	8.0 fl. oz.	12.0 fl. oz.	3.8 fl. oz.	6.4 fl. oz.	1.2 pts.	1.6 pts.
3 Gallons	1.5 pts.	2.25 pts.	11.5 fl. oz.	1.2 pts.	1.8 qts.	2.4 qts.
4 Gallons	1.0 qt.	1.5 qts.	15.4 fl. oz.	1.6 pts.	2.4 qts.	3.2 qts.
5 Gallons	1.25 qts.	1.0 qt. + 28.0 fl. oz.	1.2 pts.	1.0 qt.	3.0 qts.	1.0 gal.
50 Gallons	3.0 gals. + 1.0 pt.	4.0 gals. + 2.75 qts.	1.5 gals.	2.5 gals.	7.5 gals.	10.0 gals.
100 Gallons	6.0 gals. + 1.0 qt.	9.0 gals. + 1.5 qts.	3.0 gals.	5.0 gals.	15.0 gals.	20.0 gals.
16 fluid ounces = 1 pint : 2 pints = 1 quart : 4 quarts = 1 gallon						

FORESTRY USE

Site Preparation Treatment

This product may be used to control labeled grasses, broadleaf weeds, vines and brambles, and woody brush and trees on forest sites in advance of regeneration for the following conifer crop species:

Common Name	Scientific Name	Rate (fl oz/A)
Loblolly pine	*Pinus taeda*	48 to 80
Loblolly X pitch hybrid		
Longleaf pine	*Pinus palustris*	
Shortleaf pine	*Pinus echinata*	
Virginia pine	*Pinus virginiana*	
Slash pine	*Pinus elliottii*	40 to 64
Coastal redwood	*Sequoia sempervirens*	24 to 48
Douglas fir	*Pseudotsuga menziesii*	
Incense cedar	*Libocedrus decurrens*	
Western hemlock	*Tsuga heterophylla*	
California red fir	*Abies magnifica*	24 to 40
California white fir	*Abies concolor*	
Jack pine	*Pinus banksiana*	24 to 32
Lodgepole pine	*Pinus contorta*	
Pitch pine	*Pinus rigida*	
Ponderosa pine	*Pinus ponderosa*	
Sugar pine	*Pinus lambertiana*	
White pine	*Pinus strobes*	
Black spruce	*Picea mariana*	
Red spruce	*Picea rubens*	
White spruce	*Picea glauca*	

Use the specified rate of this product per acre applied as a broadcast foliar spray for long-term control of labeled woody plants and residual control of herbaceous weeds. Within 4 to 6 weeks of treatment, grass and other herbaceous weeds will be controlled and may provide fuel to facilitate a site preparation burn if desired to control conifers or other species tolerant to the herbicide.

Apply the specified rate of this product per acre in 5 to 30 gallons total spray solution for helicopter applications or 5 to 100 gallons total spray solution for mechanical ground spray and backpack applications. Use a minimum of 0.5% by volume nonionic surfactant (NIS). Use the higher label rate of this product and higher spray volumes when controlling particularly dense or multilayered canopies of hardwood stands or difficult to control species.

In certain cases, tank mixes may be necessary for chemical control of conifers and other species tolerant to this product. Observe all precautions and restrictions on the product labels. Always follow the most restrictive label. Combinations with other products labeled for forest site preparation may kill certain plants such as legumes and blackberry which are desirable for wildlife habitat.

Where quick initial brownout (deadening of foliage) is desired for burning, apply a tank mixture of 32 to 64 fl. oz. of this product with 16 to 64 fl. oz. glyphosate or 16 to 48 fl. oz. triclopyr ester per acre. For control of seedling pines, apply 32 to 64 fl. oz. of this product with 3 to 4 quarts glyphosate. For site preparation, rates less than 48 fl. oz, of this product will provide suppression of hard wood brush and trees, some resprouting may occur.

DO NOT plant seedlings of black spruce (*Picea mariana*) or white spruce (*Picea glauca*) on sites broadcast treated with this product or into the treated zone of spot or banded applications for 3 months following application or injury may occur.

HERBACEOUS WEED CONTROL

Use this product for selective weeding in the following conifer crop species:

Common Name	Scientific Name	Rate (fl oz/A)
Loblolly pine	*Pinus taeda*	12 to 20
Loblolly X pitch hybrid		
Virginia pine	*Pinus virginiana*	
Longleaf pine[1]	*Pinus palustris*	8 to 12
Slash pine[1]	*Pinus elliottii*	
Douglas fir[1]	*Pseudotsuga menziesii*	

[1]Use of surfactant is not recommended

This product may be applied as a broadcast treatment, banded over tree rows, or as a directed spray for release of young conifers from herbaceous weeds. To prevent possibility of conifer injury, DO NOT apply this product when conifers are under stress from drought disease, animal or winter injury, planting shock, or other stresses reducing conifer vigor. Broadcast applications may be made by helicopter, ground, or backpack sprayer. For difficult to control weeds, use the higher labeled rates. Where herbaceous weeds have overtopped conifer seedlings, a nonionic surfactant may be added to improve weed control (except for slash pine, long leaf pine, and Douglas fir) at a rate not to exceed 0.5% of spray solution volume. Some minor conifer growth inhibition may be observed when herbaceous weed control treatments are made during periods of active conifer growth.

This product may also be applied using backpack or handheld sprayers to control herbaceous weeds around individual conifer seedlings. Mix 0.8 to 1.2 fl. oz. of this product + 0.2 oz. nonionic surfactant per gallon of water. Direct the spray to the weeds and minimize the amount applied to conifer foliage for best conifer tolerance. Ensure that maximum labeled rates per acre for previously listed crop species are not exceeded.

This product may be tank mixed with Spyder® and/or Spyder Extra to broaden the spectrum of weeds controlled. For loblolly pine, apply 8 to 12 fl. oz. of this product + 1 to 2 fl. oz. Spyder and/or Spyder Extra per acre. The application of this product plus Spyder and/or Spyder Extra on other conifer species may cause growth suppression.

CONIFER RELEASE TREATMENT

This product may be applied as a broadcast or directed spray application for suppression of labeled brush, tree, and herbaceous weed species. Directed spray applications may be made with low volume applications in conifer stands of all ages by targeting unwanted vegetation and avoiding direct application to the conifer. Ensure that maximum labeled rates per acre listed for the following crop species are not exceeded.

Broadcast Applications for Release of the Following Conifers from Hardwood Competition

Common Name	**Scientific Name**	**Rate** (fl oz/A)
Loblolly pine[3]	*Pinus taeda*	24 to 40
Loblolly X pitch hybrid[3]		
Virginia pine[3]	*Pinus virginiana*	
Longleaf pine	*Pinus palustris*	24 to 32
Pitch pine	*Pinus rigida*	
Shortleaf pine	*Pinus echinata*	
Slash pine	*Pinus elliottii*	
White pine[1]	*Pinus strobes*	16 to 32
California red fir	*Abies magnifica*	16 to 24
California white fir	*Abies concolor*	
Lodgepole pine[2]	*Pinus contorta*	
Douglas fir[2]	*Pseudotsuga menziesii*	
Jack pine[2]	*Pinus banksiana*	12 to 24
Black spruce[2]	*Picea mariana*	
Red spruce[2]	*Picea rubens*	
White spruce[2]	*Picea glauca*	

[1]DO NOT make applications to white pine stands younger than three years old. To minimize potential white pine injury, release treatments should not be made prior to July 15.

[2]Applications should be made after formation of final conifer resting buds in the fall or height growth inhibitor may occur

[3]**Mid rotation release:** For broadcast applications below the pine canopy in established stands of loblolly pine, loblolly X pitch hybrid, and Virginia pine, use 32 to 64 fl. oz. of this product per acre. For mid rotation release of other species, use rates listed in the chart above.

For slash pine and longleaf pine, broadcast release treatments over the top of pines for the purpose of woody plant control must be made after August 15 and only in stands 2 through 5 years old. For applications over the top of slash pine and longleaf pine, DO NOT add surfactant and use lower labeled rates on sandy soils.

FOR THE AERIAL RELEASE TO SLASH PINE (*PINUS ELLIORTII*) STANDS OVER THE AGE OF 5 YEARS

This product may be applied as an aerial application for release of slash pine stands over the age of 5 years. In addition to reading and following all directions in this product, the following precautions and restrictions are required:

- Make applications in the fall after slash pine height growth has stopped and buds have set.
- Do not apply before September 15 even if height growth has stopped and buds have set.
- A maximum of 12 to 14 fl. oz./A of this product may be applied. Use the 12 fl. oz./A rate on sandier sites.

Apply the label rate of this product per acre when making broadcast applications with helicopter or ground spray equipment. Refer to mixing and application instructions for proper spray volumes. A nonionic surfactant may be added at no more than 0.25% by volume.

Use the higher label rates of this product when controlling particularly dense stands or difficult to control species.

Some minor conifer growth inhibition may be observed when release treatments are made during periods of active conifer growth. To minimize potential conifer height growth inhibition, DO NOT make broadcast applications to conifer stands except loblolly pine before the end of the second growing season. To minimize potential confer height growth inhibition, broadcast release treatments may be made late in the growing season. To prevent possibility of conifer injury, DO NOT apply this product when conifers are under stress from drought, disease, animal or winter injury, or other stresses reducing conifer vigor.

This product may be used to release loblolly pine seedlings during the first growing season following planting or for one year old natural loblolly pine regeneration. For one year old loblolly pine release, apply 24 to 40 fl. oz. per acre of this product after July 15. Rates below 32 fl. oz. per acre are intended for hardwood growth suppression expect hardwood resprouting.

SPOT TREATMENT OF UNDESIRABLE HARDWOOD VEGETATION

This product may be used as a directed foliar or cut stem application to control undesirable brush and hardwoods in the management of stands of all ages for the conifer species listed in the broadcast application section above. Refer to the mixing and application instructions in the foliar or cut stem sections for proper use rates, equipment, and application techniques. DO NOT exceed maximum labeled rates per acre listed for crop species. Cut stem applications may be used for spot treatment of undesirable hardwoods in Ponderosa pine stands using 24 fl. oz. or less of this product per acre.

Avoid direct application to desired plant species or injury may occur. Injury may occur to nontarget or desirable hardwoods or conifers if they extend from the same root system or their root systems are grafted to those of the treated tree or their roots extend into the treated zone.

LATE ROTATION VEGETATION CONTROL IN WESTERN CONIFER

In California, the Pacific Northwest, and Inland Northwest, broadcast aerial applications of this product up to 48 fl. oz. per acre are permissible in conifer stands that are targeted for harvesting the year following treatment. Use minimum spray volume of 15 gallons per acre. Significant conifer injury or mortality must be expected. DO NOT use this treatment if conifer injury or mortality cannot be tolerated.

BAG AND SPRAY APPLICATION FOR CONIFER RELEASE

In Douglas fir and Ponderosa pine stands, broadcast applications of this product up to 32 fl. oz. per acre are permissible when the trees are covered by bags prior to the application. The bags must prevent the spray mix from contacting the conifer foliage. On sites with coarse textured soils (e.g., decomposed granite, pumice, sandy or rocky sites) or low levels of soil organic matter (generally 5% or less) significant conifer growth inhibition and mortality is possible. DO NOT use this treatment on these types of sites if conifer growth inhibition and mortality cannot be tolerated.

NONAGRICULTURAL LAND USE

This product may be used for woody and herbaceous weed control in nonagricultural lands including private, public, and military lands. Applications are not applicable to treatment of commercial timber or other plants grown for sale or other commercial use or for commercial seed production or for research purposes.

BRUSH CONTROL

Use the specified rate of this product with the preferred application technique for control of undesirable brush.

Tank Mixes and Application Rates for Low-Volume Foliar Brush Control*

Target Vegetation	Arsenal Rate (% by volume)	Tank Mix
Mixed hardwoods without elm, locust, or pine	1.0 to 1.5	Surfactant
Mixed hardwoods containing elm, locust, and pine	0.5 to 1.0	AquaNeat® at 2% to 3% or Razor® at 2 2/3 to 4% by volume plus surfactant
Mixed hardwoods with locust and pine but no elm		Krenite® at 2% to 5% by volume plus surfactant
Mixed hardwoods with locust and elm but no pine		Patriot® at 2 oz/A or 2-3 grams/gal plus surfactant
*Tank mixes with 2,4-D or products containing 2,4-D could result in reduced product efficacy.		

Backpack and Handheld Spray Mixing Guide

% Solution	Product Per Gallon of Mix (oz)	Product Per 4 Gallon Backpack (oz)
0.25	0.3	1.3
0.5	0.6	2.6
1.0	1.3	5.1
2.0	2.6	10.2
3.0	3.8	15.4
5.0	6.4	25.6

Measuring Chart

128 fluid ounces	=	1 gallon
16 fluid ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

FOR SELECTIVE CONTROL OF UNDESIRABLE WEEDS IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

This product may be used on unimproved industrial noncropland Bermudagrass and bahiagrass turf, such as roadsides, utility rights-of-way and other nonagricultural lands. 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. Temporary yellowing of grass may occur when treatment is made after growth begins. DO NOT add surfactant in excess of the specified rate (1 fl. 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 fl. oz. per acre when the Bermudagrass is dormant. Apply this product at 6 to 8 fl. 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.

For additional pre-emergence control of annual grasses and small seeded broadleaf weeds, add Pendulum® Aquacap™ herbicide at the rate of 3.1 to 6.3 pints 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 fl. oz. per acre plus Roundup® or Razor® at 12 fl. oz. per acre plus surfactant. For additional control of broadleaves and vines, Tahoe®3A or 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 Tahoe®3A, Garlon®3A and Roundup® labels.

Bahiagrass - Apply this product at 4 to 8 fl. 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 use directions for surfactants).

WEEDS CONTROLLED IN UNIMPROVED BERMUDAGRASS AND BAHIAGRASS

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 fl. 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 fl. oz. per acre plus 0.25% nonionic surfactant. For increased suppression, this product may be tank-mixed with such products as Campaign® (24 fl. oz. per acre) or Embark® (8 fl. 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 herbicides approved for use in bare ground. 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 most restrictive directions for use and precautionary statements of each product when making an application involving tank-mixes.

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®, or Roundup®. Tank mixes with 2,4-D or products containing 2,4-D may reduce the performance of this product. Always follow the most restrictive directions for use and precautionary statements of each product 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®, Roundup®, or similar products. For added residual weed control or to increase the weed spectrum, add ProClipse® herbicide, Vanquish® herbicide, or Diablo® herbicide. Always follow the most restrictive directions for use and precautionary statements of each product when tank-mixing.

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.

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

This product is not to be used under pavement on residential properties such as driveways or parking lots or 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 (drip line).

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 3 quarts per acre (2.2 fl. oz. 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.

SPOT TREATMENTS AND CRACK–AND-CREVICE TREATMENTS

Use this product as an initial or follow up treatment to control weed escapes or weed encroachment in bareground situations, including cracks and crevices in paved surfaces such as parking lots, runways and roadways.

FOR SPOT TREATMENT WEED CONTROL IN GRASS PASTURE AND RANGELAND

For the control of undesirable vegetation in grass pasture and rangeland, this product may be applied as a spot treatment at a rate of 2 to 48 fl. oz. of product per acre using any of the ground application methods as described in this label. Spot applications may not exceed more than one tenth of the area to be grazed or cut for hay in grass pasture and rangeland. See appropriate sections of this label for specific use directions for the application method and vegetation control desired.

DO NOT apply more than 48 fl. oz. per acre per year.

Grazing and Haying Restrictions:
DO NOT cut forage grass for hay for 7 days after application of this product.
There are no grazing restrictions following application of this product.

Rangeland Use Instructions:
This product may be applied to rangeland for the control of undesirable vegetation to achieve one or more of the following vegetation management objectives:

- Control of undesirable (noxious, invasive and non-native) plant species.
- Control of undesirable vegetation for wildlife habitat improvement.
- Control of undesirable vegetation to aid in the establishment of desirable rangeland plant species.
- Release of existing desirable rangeland plant communities from the competitive pressure of undesirable plant species.
- Control of undesirable vegetation to aid in the establishment of desirable vegetation following a fire.
- Control of vegetation to reduce wildfire fuel.

To ensure the protection of threatened and endangered plants, when applying this product to rangeland:

- Federal agencies must follow NEPA regulations to ensure protection of threatened and endangered plants.
- Other organizations or individuals must operate under a habitat conservation plan if threatened or endangered plants are known to be present on the land to be treated.
- State agencies must work with the Fish and Wildlife Service or the Service's designated state conservation agency to ensure protection of threatened and endangered plants.

See appropriate sections of this label for specific use directions for the desired rangeland vegetation management control desired.

This product must only be applied to a given rangeland acre as specific weed problems arise. Long-term control of undesirable weeds ultimately depends on the successful use of the land management practices that promote the sustainability and growth of desirable rangeland plant species.

ROTATIONAL CROP GUIDELINE

Rotational crops may be planted 12 months after applying this product at the specified pasture and rangeland rate. Twelve months after an application of this product, and before planting any crop, a successful field bioassay must be completed. The field bioassay consists of a test strip of the intended rotational crop planted in the previously treated area in the grass pasture and rangeland and grown to maturity. The test strip should include low areas and knolls, and include variations in soil type and pH within the treated area. If no crop injury is evident in the test strip, the intended rotational crop may be planted the following year.

Use of this product in accordance with label directions is expected to result in normal growth of rotational crops in most situations; however, various agronomic factors and environmental factors make it impossible to eliminate all risks associated with the use of this product and, therefore, rotational crop injury is always possible.

TERRESTRIAL 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 must be used only in accordance with the Directions for Use 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.

TERRESTRIAL WEEDS CONTROLLED

COMMON NAME	SCIENTIFIC NAME	GROWTH HABIT[2]
GRASS WEEDS		
Apply 2 to 3 pints per acre[1]		
Annual bluegrass	*Poa annua*	A
Broadleaf signalgrass	*Brachiaria platyphylla*	A
Canada bluegrass	*Poa compressa*	P
Downy brome	*Bromus tectorum*	A
Fescue	*Festuca* spp.	A/P
Foxtail	*Setaria* spp.	A
Italian ryegrass	*Lotium multiflorum*	A
Johnsongrass[4]	*Sorghum halepense*	P
Kentucky bluegrass	*Poa pratensis*	P
Napier grass[5]	*Pennisetum purpureum*	P
Orchardgrass	*Dactytis glomerata*	P
Paragrass	*Brachiaria mutica*	P
Quackgrass	*Agropyron repens*	P
Sandbur	*Cenchrus* spp.	A
Smooth brome	*Bromus inermis*	P
Vaseygrass	*Paspalum urvillei*	P
Wild oats	*Avena fatua*	A
Witchgrass	*Panicum capillare*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME	GROWTH HABIT[2]
GRASS WEEDS (continued)		
Apply 3 to 4 pints per acre[1]		
Barnyardgrass	*Echinochloa crus-galli*	A
Beardgrass	*Andropogon* spp.	P
Bluegrass, annual	*Poa annua*	A
Bulrush[5]	*Scirpus validus*	P
Cheat	*Bromus secalinus*	A
Cogongrass	*Imperata cylindrica*	P
Crabgrass	*Digitaria* spp.	A
Crowfootgrass	*Dactyloctenium aegyptium*	A
Fall panicum	*Panicum dichotomiflorum*	A
Goosegrass	*Eleusine indica*	A
Itchgrass	*Rottboellia exaltata*	A
Lovegrass[4]	*Eragrostis* spp.	P
Maidencane[5]	*Panicum hemitomon*	A
Panicum, browntop	*Panicum fasciculatum*	A
Panicum, Texas	*Panicum texanum*	A
Prairie threeawn	*Aristida oligantha*	P
Sandbur, field	*Cenchrus incertus*	A
Signalgrass	*Brachiaria platyphylla*	A
Wild barley	*Hordeum* spp.	A
Woolly cupgrass	*Eriochloa villosa*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME	GROWTH HABIT[2]
GRASS WEEDS (continued)		
Apply 4 to 6 pints per acre[1]		
Bahiagrass	*Paspalum notatum*	P
Bermudagrass[3,4]	*Cynodon dactylon*	P
Big bluestem	*Andropogon gerardii*	P
Dallisgrass	*Paspalum dilatatum*	P
Feathertop	*Pennisetum villosum*	P
Guineagrass	*Panicum maximum*	P
Saltgrass[3]	*Distichlis stricta*	P
Sand dropseed	*Sporobolus cryptandrus*	P
Sprangletop	*Leptochloa* spp.	A
Timothy	*Phleum pratense*	P
Wirestem muhly	*Muhlenbergia frondosa*	P

[1] Use higher rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use a minimum of 75 GPA.
[4] Use higher labeled rates.
[5] Use not permitted in California unless otherwise directed by supplemental labeling.

TERRESTRIAL WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME	GROWTH HABIT[2]
BROADLEAF WEEDS		
Apply 2 to 3 pints per acre[1]		
Burdock	*Arctium* spp.	B
Carolina geranium	*Geranium carolinianum*	A
Carpetweed	*Mollugo verticillata*	A
Clover	*Trifolium* spp.	A/P
Common chickweed	*Stellaria media*	A
Common ragweed	*Ambrosia artemisiifolia*	A
Dandelion	*Taraxacum officinale*	P
Dogfennel	*Eupatorium capillifolium*	A
Filaree	*Erodium* spp.	A
Fleabane	*Erigeron* spp.	A
Hoary vervain	*Verbena stricta*	P
Indian mustard	*Brassica juncea*	A
Kochia	*Kochia scoparia*	A
Lambsquarters	*Chenopodium album*	A
Lespedeza[3]	*Lespedeza* spp.	P
Miners lettuce	*Montia perfoliata*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)

COMMON NAME	SCIENTIFIC NAME	GROWTH HABIT[2]
BROADLEAF WEEDS (continued)		
Apply 2 to 3 pints per acre[1] (continued)		
Mullein	*Verbascum* spp.	B
Nettleleaf goosefoot	*Chenopodium murale*	A
Oxeye daisy	*Chrysanthemum leucanthemum*	P
Pepperweed	*Lepidium* spp.	A
Pigweed	*Amaranthus* spp.	A
Puncturevine	*Tribulus terrestris*	A
Russian thistle	*Salsola kali*	A
Smartweed	*Polygonum* spp.	A/P
Sorrell	*Rumex* spp.	P
Sunflower	*Helianthus* spp.	A
Sweet clover	*Melilotus* spp.	A/B
Tansymustard	*Descurainia pinnata*	A
Western ragweed	*Ambrosia psilostachya*	P
Wild carrot	*Daucus carota*	B
Wild lettuce	*Lactuca* spp.	A/B
Wild parsnip	*Pastinaca saliva*	B
Wild turnip	*Brassica campestris*	B
Woollyleaf bursage	*Franseria tomentosa*	P
Yellow woodsorrel	*Oxalis stricta*	P
Apply 3 to 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	*Trifolium procumbens*	A
Cocklebur	*Xanthium strumarium*	A
Cudweed	*Gnaphalium* spp.	A
Desert camelthorn	*Alhagi pseudalhagi*	P
Dock	*Rumex* spp.	P
Fiddleneck	*Amsinckia intermedia*	A
Goldenrod	*Solidago* spp.	P
Henbit	*Lamium amplexicaule*	A
Knotweed, prostrate	*Polygonum aviculare*	A/P
Pokeweed	*Phytolacca americana*	P
Purslane	*Portulaca* spp.	A
Pusley, Florida	*Richardia scabra*	A
Rocket London	*Sisymbrium irio*	A

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BROADLEAF WEEDS (continued)		
Apply 3 to 4 pints per acre[1] (continued)		
Rush skeletonweed[4]	*Chondrilla juncea*	B
Saltbush	*Atriplex* spp.	A
Shepherdspurse	*Capsella bursa-pastoris*	A
Spurge, annual	*Euphorbia* spp.	A
Stinging nettle[4]	*Urtica dioica*	P
Velvetleaf	*Abutilon theophrasti*	A
Yellow starthistle	*Centaurea solstitialis*	A
Apply 4 to 6 pints per acre[1]		
Arrowwood	Pluchea sericea	A
Canada thistle	Cirsium arvense	P
Giant ragweed	Ambrosia trifida	A
Gray rabbitbrush	*Chrysothamnus nauseosus*	P
Little mallow	*Malva parviflora*	B
Milkweed	*Asclepias* spp.	P
Primrose	*Oenothera kunthiana*	P
Silverleaf nightshade	*Solarium elaeagnifolium*	P
Sowthistle	*Sonchus* spp.	A
Texas thistle	*Cirsium* texanum	P

[1] Use higher rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use not permitted in California unless otherwise directed by supplemental labeling.
[4] For best results, early postemergence applications are required.

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
VINES AND BRAMBLES		
Apply 1 pint per acre		
Field bindweed	*Convolvulus arvensis*	P
Hedge bindweed	*Calystegia sepium*	A
Apply 2 to 3 pints per acre[1]		
Wild buckwheat	*Polygonum convolvulus*	P
Apply 3 to 4 pints per acre[1]		
Greenbriar	*Smilax* spp.	P
Honeysuckle[3]	*Lonicera* spp.	P
Morningglory	*Ipomoea* spp.	A/P
Poison ivy	*Rhus radicans*	P
Redvine	*Brunnichia cirrhosa*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
VINES AND BRAMBLES (continued)		
Apply 3 to 4 pints per acre[1] (continued)		
Wild rose[3] Including: Multiflora rose Macartney rose	*Rosa* spp. *Rosa multiflora* *Rosa bracteata*	P P P
Apply 4 to 6 pints per acre[1]		
Trumpetcreeper	*Campsis radicans*	P
Virginia creeper	*Parthenocissus quinquefolia*	P
Wild grape	*Vitis* spp.	P

[1] Use higher labeled rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use higher labeled rate.

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BRUSH SPECIES		
Apply 2 to 4 pints per acre[1]		
Brazilian peppertree	*Schinus terebinthifolius*	P
Chinese tallow tree Popcorn tree	*Sapium sebiferum*	P
Russian olive	*Elaeagnus angustifolia*	P
Sumac	*Rhus* spp.	P
Willow	*Salix* spp.	P
Apply 4 to 6 pints per acre[1]		
Alder	*Alnus* spp.	P
American beech	*Fagus grandifolia*	P
Ash[3]	*Fraxinus* spp.	P
Aspen	*Populus* spp.	P
Autumn olive	*Elaeagnus umbellata*	P
Bald cypress	*Taxodium distichum*	P
Bigleaf maple	*Acer macrophyllum*	P
Birch[3]	*Betula* spp.	P
Black gum[4]	*Nyssa sylvatica*	P
Black oak	*Quercus kelloggii*	P
Boxelder	*Acer negundo*	P
Ceanothis	*Ceanothis* spp.	P
Cherry[3, 4]	*Prunus* spp.	P
Chinaberry	*Melia azedarach*	P
Chinquapin	*Castanopsis chrysophylla*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BRUSH SPECIES (continued)		
Apply 4 to 6 pints per acre[1]		
Cottonwood	*Populus trichocarpa* *P deltoides*	P
Cypress	*Taxodium* spp.	P
Dogwood[3]	*Cornus* spp.	P
Elm	*Ulmus* spp.	P
Eucalyptus	*Eucalyptus* spp.	P
Hawthorn	*Crataegus* spp.	P
Hickory[3]	*Carya* spp.	P
Huckleberry	*Gaylussacia* spp.	P
Lyonia spp. Including: Fetterbush Staggerbush	 *Lyonia lucida* *Lyonia mariana*	 P P
Madrone	*Arbutus menziesii*	P
Maple	*Acer* spp.	P
Melaleuca	*Melaleuca quinquenervia*	P
Mulberry[3, 6]	*Morus* spp.	P
Oak[7]	*Quercus* spp.	P
Persimmon[4]	*Diospyros virginiana*	P
Poison oak	*Rhus diversiloba*	P
Poplar	*Populus* spp.	P
Privet	*Ligustrum vulgare*	P
Red alder	*Alnus rubra*	P
Red maple	*Acer rubrum*	P

(continued)

TERRESTRIAL WEEDS CONTROLLED (continued)		
COMMON NAME	**SCIENTIFIC NAME**	**GROWTH HABIT[2]**
BRUSH SPECIES (continued)		
Apply 4 to 6 pints per acre[1] (continued)		
Saltcedar	*Tamarix pentandra*	P
Sassafras	*Sassafras albidum*	P
Sourwood[4]	*Oxydendrum arboreum*	P
Sweetgum	*Liquidambar styraciflua*	P
Sycamore	*Platanus occidentals*	P
Tanoak[3]	*Lithocarpus densiflorus*	P
Titi[8]	*Cyrilla racemiflora*	P
Tree of heaven	*Ailanthus altissima*	P
Vaccinium spp. Including: Blueberry Sparkleberry	 *Vaccinium* spp. *Vaccinium arboreum*	 P P
Water willow[9]	*Justicia americana*	P
Yellow poplar[3]	*Liriodendron tulipifera*	P

[1] Use higher labeled rate where heavy or well-established infestations occur.
[2] Growth Habit: A = Annual, B = Biennial, P = Perennial
[3] Use higher labeled rate.
[4] Best control with applications before formation of fall leaf color.
[5] Tank mix with glyphosate.
[6] Degree of control may be species dependent.
[7] For water oak (*Quercus nigia*) laurel oak (*Quercus laurifloria*) willow oak (*Quercus phellos*) and live oak (*Quercus virginiana*) use higher labeled rates.
[8] Suppression only.
[9] Use not permitted in California unless otherwise directed by supplemental labeling.

AQUATIC WEEDS CONTROLLED

This product may be applied for control of floating and emergent weeds (see Aquatic Weeds Controlled and Terrestrial Weeds Controlled) in or near bodies of water that may be nonflowing, flowing, or transient. This product may be applied to aquatic sites that include rivers, lakes, streams, seeps, drainage ditches, ponds, reservoirs, canals, bogs, marshes, swamps, estuaries, bays, brackish water, transitional areas between terrestrial and aquatic sites, riparian sites and seasonal wet areas. See Use Precautions and Restrictions section of this label for instructions, directions, precautions and restrictions on aquatic uses.

Read and observe the following directions if aquatic sites are present in nonagricultural lands and are part of the intended treatment area.

This product must be applied to the emergent foliage of the target vegetation and little to no activity on submerged aquatic weeds. Concentrations of this product, resulting from direct application to water, are not expected to be of sufficient concentration nor duration to control 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.

This product does not control plants that have a majority of their foliage underwater or plants that are completely submerged.

Product Application: This product should be applied with helicopter or surface application equipment in a minimum of 2 gallons of water per acre. When applying by helicopter, follow directions under Aerial Application section of this label; when using surface equipment refer to the Ground Application section.

When applying this product to moving bodies of water applications 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.

Large Application Areas / Oxygen Depletion: When application is to be made to target vegetation that covers a large percentage of surface area of impounded water, treating area in strips may avoid oxygen depletion from vegetation decay. Oxygen depletion may result in the suffocation of some sensitive aquatic organisms. If oxygen depletion is a concern, treat no more than 1/2 of the surface area of the water at a time. Wait at least 10 to 14 days between treatments. Begin treatment along the shore and proceed outward in bands to allow aquatic organisms ability to move into untreated areas.

Avoid washoff of sprayed foliage by recreational boat backwash or spray boat for 1 hour after application.

Apply this product at 1 to 3 quarts per acre depending on weed density and species present. DO NOT exceed the maximum label rate of 1.5 pounds acid equivalent Imazapyr (equivalent to 3 quarts) per acre per year. Use the higher labeled rate for heavy weed pressure. See Aquatic Weeds Controlled and Terrestrial Weeds Controlled sections for specific rates.

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

This product will control the following target species as specified in the Use Rates and Application Directions 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 1.5 pounds acid equivalent Imazapyr (equivalent to 3 quarts) per acre per year.

Mixing Guide

% Solution	Product Per Gallon of Mix (oz)
0.25	0.3
0.5	0.6
1.0	1.3
2.0	2.6
3.0	3.8
5.0	6.4

Measuring Chart

128 fluid ounces	=	1 gallon
16 fluid ounces	=	1 pint
8 pints	=	1 gallon
4 quarts	=	1 gallon
2 pints	=	1 quart

Common Name	Scientific Name	Use Rates and Application Directions
Floating Weeds		
*Floating heart	*Nymphodes spp*	2 to 4 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Frogbit	*Limnobium spongia*	1 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Spatterdock	*Nuphar luteum*	Apply a tank mix of 2 to 4 pints/A of this product +4 to 6 pints/A glyphosate in 100 GPA water for best control. Ensure 100% coverage of actively growing emergent foliage.
*Water hyacinth	*Eichhornia crassipes*	1 to 2 pints/A applied in 100 GPA water to actively growing foliage.
*Water lettuce	*Pistia stratiotes*	1 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
Emerged Weeds		
*Alligatorweed	*Alternanthera philoxeroides*	1 to 4 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Arrowhead duck potato	*Sagittaria spp*	1 to 2 pints/A applied to 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Bacopa lemon	*Bacopa spp*	1 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.

*Use not permitted in California unless otherwise directed by supplemental labeling. *(continued)*

Common Name	Scientific Name	Use Rates and Application Directions
Emerged Weeds *(continued)*		
*Parrot feather	*Myriophyllum aquaticum*	Foliage must be above water for sufficient product uptake. Apply 2 to 4 pints/A (0.5% to 1.0% solution) of this product to actively growing emergent foliage.
*Pennywort	*Hydrocotyle spp*	1 to 2 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Pickerelweed	*Pontedena cordata*	2 to 3 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Taro wild Coco yam Dasheen Elephant's ear	*Colocasia esculentum*	4 to 6 pints/A applied in 100 GPA with a high quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water chestnut	*Trappa natans*	4 to 6 pints/A applied in 100 GPA with a high quality sticker adjuvant. Ensure good coverage of actively growing emergent foliage.
*Water lily	*Nymphaea odorata*	2 to 3 pints/A applied in 100 GPA water mix. Ensure 100% coverage of actively growing emergent foliage.
*Water primrose	*Ludwigia uruguayensis*	4 to 6 pints/A (1.0% to 1.5% solution). Ensure 100% coverage of actively growing emergent foliage.
Terrestrial/Marginal Weeds		
*Aquatic nightshade Soda apple	*Solanum tampicense*	2 pints/A (0.5% solution) applied to foliage
*Bamboo Japanese	*Phyllostachys spp*	3 to 4 pints/A (0.75% to 1.0% solution) applied to foliage
*Beach vitex	*Vitex rotundifolia*	5% solution + 1% MSO foliar spray. 17% solution stem injection (hack and squirt)
Brazilian pepper Christmasberry	*Schinus terebinthifolius*	2 to 4 pints/A (0.5% to 1.0% solution) applied to foliage
Cattail	*Typha spp*	2 to 4 pints/A (0.5% to 1.0% 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 sebiferum*	16 to 24 fl. oz./A applied to foliage
Cogongrass	*Imperata cylindrical*	Burn foliage, till area, then fall spray 2 quarts/A (1.0% solution) of this product+MSO applied to new growth.
Cordgrass prairie	*Spartina spp*	4 to 6 pints/A (1.0% to 1.5% solution) applied to actively growing foliage
*Cutgrass	*Zizaniopsis miliacea*	4 to 6 pints/A (1.0% to 1.5% solution) applied to actively growing foliage
*Elephant grass Napier grass	*Pennisetum purpureum*	3 pints/A (0.75% solution) applied to actively growing foliage
*Flowering rush	*Butomus umbellatus L*	2 to 3 pints/ (0.5% to 0.75% solution) A applied to actively growing foliage
Giant reed Wild cane	*Arundo donax*	4 to 6 pints/A (1.0% to 1.5% solution) applied in spring to actively growing foliage
*Golden bamboo	*Phyllostachys aurea*	3 to 4 pints/A (0.75% to 1.0% solution) applied to foliage when plant is actively growing, before setting seedhead. More foliage will result in greater herbicide uptake, resulting in greater root kill.
Junglerice	*Echinochloa colonum*	3 to 4 pints/A (0.75% to 1.0% solution) applied to actively growing foliage.
Knapweed	*Centaurea spp*	**Russian knapweed:** 2 to 3 pints/A (0.5% to 0.75% solution) +1 quart/A (0.5% solution) MSO fall applied after senescence begins.
Knotweed, Japanese	*Polygonum cuspidatum* *Fallopia japonica*	3 to 4 pints/A (0.75% to 1.0% solution) applied postemergence to actively growing foliage.

*Use not permitted in California unless otherwise directed by supplemental labeling. *(continued)*

Common Name	Scientific Name	Use Rates and Application Directions
Terrestrial/Marginal Weeds *(continued)*		
Melaleuca Paperbark tree	*Melaleuca quinquenervia*	• Established stands: apply 6 pints/A (1.5% solution) of this product + 6 pints/A (1.5% solution) glyphosate+spray adjuvant. For best results use 4 quarts/A (2.0% solution) MSO as an adjuvant. • Broadcast foliar control: apply aerially in a minimum of 2 passes at 10 gallons/A applied cross treatment. • Spot treatment: use 25% of this product+25% solution of glyphosate +1.25% MSO in water applied as a frill or stump treatment.
*Nutgrass Kili'p'opu	*Cyperus rotundus*	2 pints/A (0.5% solution) this product+1 quart/A (0.5% solution) MSO applied early postemergence.
*Nutsedge	*Cyperus spp*	2 to 3 pints/A (0.5% to 0.75% solution) postemergence to foliage or preemergence incorporated, nonincorporated preemergence applications will not control.
Phragmites Common reed	*Phragmites australis*	4 to 6 pints/A (1.0% to 1.5% solution) 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 feet tall before retreatment. Lower rates will control phragmites in the North, higher rates are needed in the South.
*Poison hemlock	*Conium maculatum*	2 pints/A (0.5% solution) this product+1 quart/A (0.5% solution) MSO applied preemergence to early postemergence to rosette before flowering
Purple loosestrife	*Lynthrum salicana*	1 pint/A (0.25% solution) applied to actively growing foliage.
Reed canarygrass	*Phalaris arundinacea*	3 to 4 pints/A (0.75% to 1.0% solution) applied to actively growing foliage.
Rose swamp	*Rosa palustris*	2 to 3 pints/A (0.5% to 0.75% solution) applied to actively growing foliage.
Russian olive	*Elaeagnus angustifolia*	2 to 4 pints/A (1% solution) applied to foliage.
Saltcedar Tamarisk	*Tamarix spp*	Aerial application: 2 quarts this product+0.25% v/v NIS applied to actively growing foliage during flowering. Spot treatment: Use 1% solution of this product+0.25% v/v NIS and spray to wet foliage. After application, wait at least 2 years before disturbing treated saltcedar. Earlier disturbance can reduce overall control.
Smartweed	*Polygonum spp*	2 pints/A (0.5% solution) applied early postemergence
Sumac	*Rhus spp*	2 to 3 pints/A (0.5% to 0.75% solution) applied to foliage
Swamp morningglory Kangkong Water spinach	*Ipomoea aquatic*	1 to 2 pints/A (0.25% to 0.5% solution) of this product + 1 quart/A (0.5% solution) MSO applied early postemergence
Torpedo grass	*Panicum repens*	4 pints/A (1.0 to 1.5% solution). Ensure good coverage to actively growing foliage.
*White top Hoary cress	*Cardaria draba*	1 to 2 pints/A (0.25% to 0.5% solution) applied in spring to foliage during flowering.
Willow	*Salix spp*	2 to 3 pints/A (0.5% to 0.75% solution) of this product applied to actively growing foliage. Ensure good coverage.

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STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

PESTICIDE STORAGE: DO NOT store below 10° F.

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

CONTAINER HANDLING:

NOTE: This product is available in multiple containers. Refer to the Net Contents section of this products labeling for the applicable "Nonrefillable" or "Refillable" designation. Follow the container disposal [handling] instructions below that apply to your container type / size.

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling if available. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Nonrefillable containers larger than 5 gallons: Nonrefillable container. DO NOT reuse or refill this container. Offer for recycling if available. If recycling or reconditioning not available, puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers larger than 5 gallons: Refillable container. Refill this container with pesticide only. DO NOT reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities. If burned stay out of smoke.

WARRANTY DISCLAIMER

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

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