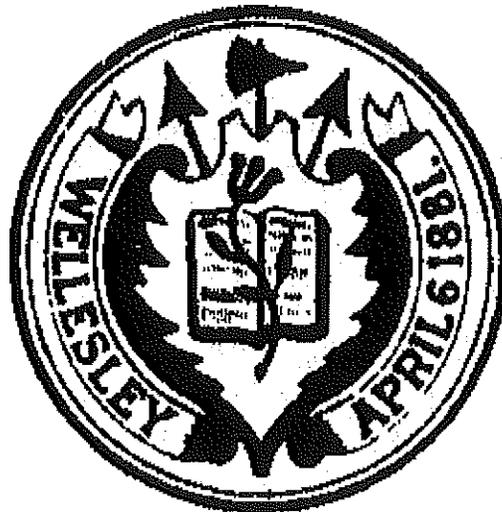


Yearly Operational Plan (YOP) Town of Wellesley 2014

Updated: March 21st. 2014



Prepared By:

**Michael T. Quinn
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Wellesley Department of Public Works
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Yearly Operational Plan

The purpose of 333 CMR 11.00, Rights of Way Management, is to promote the implementation of integrated pest management techniques and to establish standards, requirements, and procedures necessary to minimize the risk of unreasonable adverse effects on human health and the environment associated with the use of herbicides to maintain streets, road, sidewalks and paths. These regulations establish procedures that guarantee ample opportunity for public and municipal agency review and input on the right-of-way maintenance plans.

A yearly operational plan (YOP) must be submitted to the Department of Agricultural Resources every year herbicides are intended for use to maintain rights-of-way. The YOP provides a detailed program for vegetation management for the year. A five year Vegetation Management Plan (VMP) was approved by the Department and is available for review at the office of the Department of Public Works, Board of Health, Natural Resources Commission, and Board of Selectmen.

Upon receipt of this YOP, the Department publishes a notice in the Environmental Monitor. The Town must provide a copy of the proposed YOP and Environmental Monitor notice to the Board of Health, Natural Resources Commission, and the Board of Selectmen for the Town of Wellesley, in which the proposed herbicide treatment is proposed. The Department allows a 45-day comment period on the proposed YOP beginning with the publication of the notice and receipt of the YOP and Environmental Monitor notice by the Town.

Public notification of herbicide application to the streets is made at least 21 days in advance of the treatment by a separate notice. Notice is made to the Department of Agricultural Resources, Board of Health, Board of Selectmen and the Natural Resources Commission in the Town of Wellesley.

Any comments on this YOP should be made to the person designated herein as the person supervising the YOP or the person performing the treatment.

Municipal Yearly Operational Plan

This Yearly Operational Plan, approved by the Massachusetts Department of Agricultural Resources pursuant to Rights-of-Way Management Regulations (333 CMR 11.00), has been adopted by the following roadway vegetation management program in the Town of Wellesley. The undersigned hereby acknowledges that the conditions of the Yearly Operational Plan will be adopted and complied with.

Municipality: Town of Wellesley

Name: Michael T. Quinn, Assistant Superintendent
Parks & Trees

Agency: Department of Public Works

Address: 30 Municipal Way, Wellesley MA. 02481

Telephone / Fax: Tel. 781-235-7600, ext.3331 / fax: 781-431-7569

Email: mquinn@wellesleyma.gov

Signature: 

Date: March 21st, 2014

Wetland Determination
Issued by: Town of Wellesley G.I.S. Department

Individual Supervising YOP

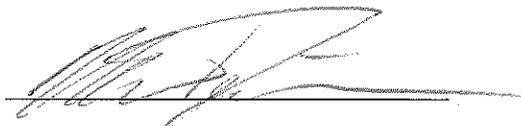
Name and Title: Michael T. Quinn, Assistant Superintendent
Parks & Trees

Department: Department of Public Works

Address: 30 Municipal Way, Wellesley MA. 02481

Telephone: Tel. 781-235-7600, ext.3331 / fax: 781-431-7569
E-mail: mquinn@wellesleyma.gov

Signature:



Municipal Department Performing Herbicide Treatment

A licensed herbicide applicator under contract to the Highway Division will perform the herbicide treatment. Applicators are certified by the Massachusetts Department of Agricultural Resources in the applicator category:

Certified Applicator & License Number:

Park & Tree Staff:

1. Michael T. Quinn, Assistant Superintendent / License # 25890 Category #36 / #37 / #40
2. Cricket Vlass, Landscape Planner / License # 4904, Category #36
3. Kent Warren, General Foreman / License # 23685
4. Susy Jordan, Horticultural Technician / License #34654
5. Adam Wheeler, Athletic Fields Foreman / License # 28069, Category #37
6. Peter Burke, Construction Foreman / License # 26176
7. Wally Caban, Groundskeeper Foreman / License # 31667
8. Timothy Bania, Groundskeeper / License # 42021
9. Gregory Carr, Tree Care Foreman / License # 20034, Category #36
10. Jeremy Fawe, Lead Tree Climber / License # 32177
11. Paul DePhillips, Groundskeeper / License # 39887

Company or Department: Wellesley Department of Public Works

Address: 20 Municipal Way, Wellesley, MA 02481
Telephone Number: 781-235-7600
Email: dpw@wellesleyma.gov

Yearly Operational Plan

The following information is provided as details of the YOP of the Town of Wellesley in accordance with the requirements of 333 CMR 11.06 (2):

Herbicides Proposed

The herbicide(s) proposed for use in calendar year 2014 is:

1. **Aquaneat Aquatic Herbicide / Nu Farms Americas, EPA Reg. # 228-365.** This product is a water-soluble liquid, mixes readily with water and nonionic surfactant to be applied as a foliar spray for the control or destruction of many herbaceous and woody plants. Application rate will be based on the type of application and targeted vegetation as prescribed by manufacture. Even though this product is listed as an aquatic herbicide, it will not be used on aquatic plants which are noted as sensitive areas located on the town's right of way vegetation management plan.
2. **Razor Pro / Nu Farms Americas, EPA Reg. # 228-366.** This product is a post emergent, systemic herbicide with no soil residual activity. It gives broad-spectrum control of many annual weeds, perennial weeds, woody brush and trees. It is formulated as a water-soluble liquid containing surfactant and no additional surfactant is needed or recommended. Application rate will be based on type of application and targeted vegetation as prescribed by manufacture.

Complete information on this product is attached, including the Material Safety Data Sheets for the product. The herbicide fact sheet for the above listed herbicides are attached to and made part of this YOP.

Herbicide Application Techniques and Alternative Control Procedures

The herbicide(s) will be applied in accordance with the instructions in the attached manufacturer's information. Alternative control procedures, applicable at the designated "No Spray Zones" will consist of hand cutting, mowing, or selective trimming. Other alternative controls will include routine street sweeping along with crack and road repairs.

Low volume foliar treatments will be made using the equipment described below. The herbicide solution is applied to lightly wet the target plant. This technique has few limitations with the exception being reduced effectiveness on tall, high-density target vegetation, not expected at all under this YOP.

Cut stump treatments consist of mechanical cutting of target species using chain saws immediately followed by herbicide treatment applied with a squirt bottle, a hand pump sprayer, or painted on the freshly cut surface of the stump. The herbicide is limited to freshly cut surface of the remaining stump. Cut stump treatments will general be preformed to tree species that are susceptible to sprouting stump growth.

A foliar treatment using ready to use procedures, squirt bottles or manual pump application equipment. This treatment will use low pressure, below 60 psi. at the nozzle, for application. The herbicide solution is applied to lightly wet the target plant.

All equipment used for vegetation management programs must be maintained in good working condition, and should be of adequate design and ability to produce the professional quality of work that the Town requires. Because the Town recognizes the vast variety and performance of herbicide application equipment, dictating how that equipment should be calibrated to deliver precise amounts of herbicide to effectively control a host of vegetation conditions is literally impossible. Therefore, the Town insists that the contractor provide the most appropriate application equipment, calibrated to effectively and legally control target vegetation.

Both the Contractor and the Town are responsible to insure that vegetation management activities are conducted in a professional, safe, efficient manner, with special attention directed towards minimal environmental impact. The contractor is qualified, licensed and certified to apply herbicides. "Qualified" means those personnel who have been trained to recognize and identify target and non-target vegetation and are knowledgeable in the safe and proper use of both mechanical and chemical vegetation management techniques. All personnel applying herbicides in Massachusetts must be licensed in the Commonwealth and must work under the on-site supervision of a certified applicator. All contract personnel will also follow all Label instructions regarding Personal Protective Equipment (PPE).

The Town will rely on the independent contractor listed in the YOP for vegetation management applications and requires, in a contractual agreement, that contractors comply with all applicable federal and state laws and regulations. These include, but are not limited to, applicable OSHA, FIFRA and DOT regulations, 333 CMR 1-15.00, Rights-of-Way Management, Chapter 132B, Chapter 85 of the Acts of 2000 (see Appendix IV) and 321 CMR 10.00 as managed by NHESP.

Herbicides will only be applied in a safe and judicious manner, in compliance with all-applicable State and Federal pesticide regulations.

Applicators will at all time exercise good judgment and common sense during herbicide treatment activities, and will immediately cease operations if adverse conditions or other circumstances warrant.

Herbicides will NOT be applied during the following adverse weather conditions:

- A. During high wind velocity, per 333 CMR 11.03
- B. Foliar applications during periods of dense fog, or moderate to heavy rainfall
- C. Foliar applications of volatile herbicides during periods of high temperatures (90 plus degrees Fahrenheit) and low humidity
- D. Cut Stump applications when deep snow (i.e. 6" plus or ice frozen on stem or stump) prevents adequate coverage of target plants to facilitate acceptable control

The contractors or a representative of the Town must complete daily vegetation management reports that include:

- A. Date, name and address of vegetation management contractor(s)
- B. Identification of site or work area
- C. List of crew members
- D. Type of equipment and hours used, both mechanical and chemical
- E. Method of application and description of target vegetation
- F. Amount, concentration, product name of herbicide(s), adjuvants, and dilutants (EPA registration numbers must be on file)
- G. Weather conditions
- H. Notation of any unusual conditions or incidents, including public inquiries
- I. Recording and/or verification of sensitive areas on ROW maps

Identification of Target Vegetation

The target vegetation for this YOP will be poison ivy and vegetation growing between curbing and sidewalks throughout the town.

Vegetation management crews will exercise care to insure that low-growing desirable vegetation and other non-target organisms are not unreasonably affected by the application of herbicides.

Public Nuisance Vegetation

Public nuisance vegetation includes vegetation that grows along public roads and paths that cause allergic or other problems. The overwhelming majority of plant material to be controlled is poison ivy.

Nuisance Grass

In most instances grass is a desirable plant species. Along the shoulders of roads, grass growth is encouraged and maintained through mechanical mowing. However, in some instances, grasses may grow in areas where control is limited to the use of herbicides. These areas include cracks in asphalt, along guardrails, and between sidewalks and adjacent curbing. In these instances, grass will become target vegetation.

Vegetation Posing a Risk to Safety

The vegetation that hampers visibility or impedes movement along roads and trails is considered posing a risk to public safety. M.G.L. Chapter 87, Section 5 authorizes tree wardens to have control of "all public shade trees, shrubs, and growths" along public ways. Mowing and/or hand cutting shall control most plants that interfere with traffic and visibility. However, due to topography, rate of growth, or physical characteristics, certain plant species are best controlled by herbicides.

Vegetation best controlled by herbicides fall into two separate categories: low growing species and tall growing species. Tall growing species include mostly trees. Hardwood

and softwood species that are capable of interfering with pedestrian and traffic safety are either selectively pruned, ground cut, occasionally conditions warrant the treatment of the cut stumps with an herbicide to prevent resprouting. When vegetation is less than 12 feet tall it may be foliar treated

Description of Methods Used to Flag or Otherwise Designate Sensitive Areas

The sensitive areas detailed herein are easily recognizable in the field as described and will be marked with an orange painted line in the street.

Attached is a listing of all Rights-of-Way that will be included in the 2011 YOP. It is the intention of the Town Wellesley to spray the vegetation along the curb lines of all the sidewalks in town. A map identifying these streets is also included. A separate sheet identified the Sensitive Areas where "No Spray Zones" have been established, all of which are clearly identified by structures, houses, or other field methods.

With the assistance of our Conservation Commission Agent sensitive areas will be identified and marked along the ROW prior to any herbicide application.

Procedures and Locations for Handling, Mixing and Loading of Herbicide Concentrates

The herbicide will be mixed in the controlled environment at the Wellesley Department of Public Works Facility, 30 Municipal Way, Wellesley. Although it is expected that all the mixed herbicide will be used, any remaining will be stored at the Highway Garage in accordance with manufacturer's instructions. The absorbent product "Speedi-Dri" will be available for use at the locations of application. If there is a leak in the hose, the pump will be immediately shutoff. Equipment used will be washed at the Department of Public Works Facility.

Herbicides will be handled and applied only in accordance with the label instructions. Contractors will strictly adhere to all mandated safety precautions directed towards the public, the applicator and the environment.

Emergency Contacts

| | |
|--|------------------------------|
| Town of Wellesley Department of Public Works | 781-235-7600 |
| Town of Wellesley Fire Department | 781-235-1300 |
| Town of Wellesley Police Department | 781-235-1212 |
| Town of Wellesley Board of Health | 781-235-0135 |
| Massachusetts Pesticide Bureau | 617-626-1781 |
| Bureau Environmental Health Assessment | 617-624-5757 |
| Mass. Department of Environmental Protection Incident Response Unit | 617-556-1133 888-304-1133 |
| Chem Trec | 800-424-9300 |
| EPA Pesticide Hotline | 800-858-7378 |
| Massachusetts Poison Control Center | 800-682-9211 |
| Nufarm Americas Inc. | 866-241-0612 |

Sensitive Area Restriction Guide (333 CMR 11.04)

| Sensitive Area | No Spray Area | Limited Use Area | Where Identified |
|----------------------------------|--|--|-------------------------------|
| Wetlands and Water Over Wetlands | Within 10 feet (unless provisions of 333 CMR 11.04(4)(c) are followed) | 10 – 100 feet; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | YOP Maps and identify on site |
| Certified Vernal Pool | Within 10 feet | 10 feet to the outer boundary of any Certified Vernal Pool Habitat; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | YOP Maps and identify on site |
| Public Ground Water Supply | Within 400 feet (Zone I) | Zone II or IWPA (Primary Recharge Area); 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | YOP Maps |
| Public Surface Water Supply | Within 100 feet of any Class A public surface water source | 100 feet to the outer boundary of the Zone A; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | YOP Maps |
| | Within 10 feet of any tributary or associated surface water body located outside of the Zone A | 10 feet to the outer boundary of the Zone A; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | |
| | Within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water source | | |

| Sensitive Area | No Spray Area | Limited Use Area | Where Identified |
|----------------------------------|--|--|---------------------------------------|
| | Within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake | Within a lateral distance of between 100 - 200 feet for 400 feet upstream of intake; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | |
| Private Water Supply | Within 50 feet | 50 – 100 feet; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | In YOP well list and identify on site |
| Surface Waters | Within 10 feet from mean annual high-water line | 10 feet from the mean annual high water line and the outer boundary of the Riverfront Area; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications | YOP Maps and identify on site |
| Agricultural and Inhabited Areas | N/A | 0 – 100 feet 12 months must elapse between application; Selective low pressure, using foliar techniques or basal or cut-stump applications. | Identify on site |
| State-listed Species Habitat | No application within habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife | | YOP Maps |

Aqua Neat[®]

Aquatic Herbicide

FOR USE ON EMERGED AQUATIC WEEDS AND BRUSH IN AQUATIC SITES. FOR USE IN FORESTRY (INCLUDING WEED CONTROL IN CHRISTMAS TREE PLANTATIONS), RIGHTS-OF-WAY, HABITAT RESTORATION AREAS, NON-CROP AND OTHER LISTED APPLICATION SITES.

ACTIVE INGREDIENT:

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

53.8%

OTHER INGREDIENTS:.....

46.2%

TOTAL:.....

100.0%

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

**KEEP OUT OF REACH OF CHILDREN
CAUTION / 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. 228-365

Manufactured for
Nufarm Americas Inc.
150 Harvester Drive
Burr Ridge, IL 60527


Nufarm

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCION**

Harmful if inhaled. Avoid breathing spray mist. Remove contaminated clothing and wash clothing before reuse. Wash thoroughly with soap and water after handling.

| FIRST AID | |
|---|---|
| IF INHALED | <ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice. |
| HOT LINE NUMBER | |
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information. | |

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Applicators and other handlers must wear long-sleeved shirt and long pants and shoes plus socks. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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.

Engineering Control Statements: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)], the handler PPE requirements may be reduced or modified as specified in the WPS.

| USER SAFETY RECOMMENDATIONS |
|--|
| <p>Users Should:</p> <ul style="list-style-type: none">• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. |

ENVIRONMENTAL HAZARDS

For aquatic uses, do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

For terrestrial uses, do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

In case of, SPILL OR LEAK, soak up and remove to a landfill. Do not contaminate water when disposing of equipment washwaters or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

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

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

DIRECTIONS FOR USE

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

Read the entire label before using this product. Use strictly in accordance with label precautionary statements and directions.

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 protection 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, and chemical-resistant gloves Category A (such as butyl rubber, natural rubber, neoprene rubber or nitrile rubber) > 14 mils.

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 for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses. Keep people and pets off treated areas until spray solution has dried to prevent transfer of this product onto desirable vegetation.

PRODUCT INFORMATION

DO NOT APPLY THIS PRODUCT USING AERIAL SPRAY EQUIPMENT EXCEPT UNDER CONDITIONS AS SPECIFIED WITHIN THIS LABEL OR CURRENT SUPPLEMENTAL LABELING ISSUED BY MANUFACTURER.

This product, a water-soluble liquid, mixes readily with water and nonionic surfactant to be applied as a foliar spray after dilution and thoroughly mixing with water in accordance with label instructions for the control or destruction of many herbaceous and woody plants. Always use the higher rate of this product per acre within the specified range when vegetation is heavy or dense. When treating dense multi-canopied sites or woody vegetation or difficult-to-control herbaceous or woody plants.

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

Unless otherwise directed on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label.

Unemerged plants arising from unattached underground rhizomes or root stocks of perennials or brush will not be affected by the spray and will continue to grow. For this reason best control of most perennial weeds or brush is obtained when treatment is made at late growth stages approaching maturity.

Always use the higher rate of this product per acre within the specified range when vegetation is heavy or dense.

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

Reduced control may result when applications are made to any weed or brush species that have been mowed, grazed or cut, and have not been allowed to regrow to the recommended stage for treatment.

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the product off the foliage and a repeat treatment may be required.

Mixing this product with herbicides or other materials not instructed in this label may result in reduced performance. However, unless otherwise prohibited on this label or the label of an intended tank mix product may be applied in combination with any herbicide registered for the same site, timing, and method of application. Observe the most restrictive label statements of various tank mix products used. TO THE FULLEST EXTENT PERMITTED BY LAW, BUYER AND ALL USERS ARE RESPONSIBLE FOR ALL LOSS OR DAMAGE IN CONNECTION WITH THE USE OR HANDLING OF MIXTURES OF THIS PRODUCT OR OTHER MATERIALS THAT ARE NOT EXPRESSLY SPECIFIED IN THIS LABEL.

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

When this product comes in contact with soil (on the soil surface or as suspended soil or sediment in water) it is bound to soil particles. Under labeled use situations, once this product is bound to soil particles, it is not available for plant uptake and will not harm off-site vegetation where roots grow into the treatment area or if the soil is transported off-site. Under labeled use conditions, the strong affinity of this product to soil particles prevents this product from leaching out of the soil profile and entering groundwater. The affinity between this product and soil particles remains until this product is degraded, which is primarily a biological degradation process carried out under both aerobic and anaerobic conditions by soil micro flora.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used. Read "WARRANTY DISCLAIMER" and "LIMITATION OF LIABILITY" before buying or using. If items are not acceptable, return at once unopened. Buyer and all users are responsible for all loss or damage in connection with the use of handling of mixtures of this product or other materials that are not expressly specified in this label.

For more product information, call toll-free 1-800-852-5234.

ATTENTION

AVOID CONTACT WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS, OR FRUIT OF CROPS, DESIRABLE PLANTS AND TREES, SINCE SEVERE INJURY OR DESTRUCTION MAY RESULT. AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE PLANTS AND CROPS.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended. The likelihood of plant or crop injury occurring from the use of this product is greatest when winds are gusty or in excess of 5 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID APPLYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. When not in use, keep container closed to prevent spills and contamination.

MIXING AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT, CAPABLE OF DELIVERING DESIRED VOLUMES. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS. NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

TANK MIXTURES

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

1. Place a 20 to 35 mesh screen or wetting basket over filling port.
2. Through the screen, fill the spray tank one-half full with water and start agitation.
3. If a wettable powder is used, make a slurry with the water carrier, and add it SLOWLY through the screen into the tank. Continue agitation.
4. If a flowable formulation is used, premix one part flowable with one part water. Add diluted mixture SLOWLY through the screen into the tank. Continue agitation.
5. If an emulsifiable concentrate formulation is used, premix one part emulsifiable concentrate with two parts water. Add diluted SLOWLY through the screen into the tank. Continue agitation.
6. Continue filling the spray tank with water and add the required amount of this product near the end of the filling process.
7. Where nonionic surfactant is recommended, add this to the spray tank before completing the filling process.
8. Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

Maintain good agitation at all times until the contents of the tank are sprayed. If the spray mixture is allowed to settle, thorough agitation is required to resuspend the mixture before spraying is resumed. To prevent or minimize foam, avoid the use of mechanical agitators, place the filling hose below the surface of the spray solution, terminate by-pass and return lines at the bottom of the tank and if needed use an approved anti-foam or defoaming agent.

Screen size in nozzle or line strainers should be no finer than 50 mesh. Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

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

For best results with conventional ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

When using this product, mix 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution. Use a nonionic surfactant labeled for use with herbicides. The surfactant must contain 50 percent or more active ingredient.

Always read and follow the manufacturer's surfactant label instructions for best results.

These surfactants should not be used in excess of 1 quart per acre when making broadcast applications.

Colorants or marking dyes approved for use with herbicides may be added to spray mixtures of this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's label instructions.

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

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

APPLICATION EQUIPMENT AND TECHNIQUES

This product may be applied with the following application equipment:

Aerial - Fixed Wing and Helicopter

Broadcast Spray

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

Hand-Held and High-Volume Spray Equipment* - Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

*This product is not registered in California or Arizona for use in mistblowers.

Selective Equipment - Recirculating sprayers and wiper applicators. See the appropriate part of this section for specific instructions and rates of application.

APPLICATION INFORMATION

Observe the following directions to minimize off-site movement during aerial application of this herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

AERIAL EQUIPMENT

Use the specified rates of this product and surfactant in 3 to 20 gallons of water per acre as a broadcast spray, unless otherwise specified. See the "WEEDS CONTROLLED" section of this label for specific rates. Unless otherwise specified, do not exceed 1.5 pints per acre. Aerial applications of this product may only be made as specified in this label.

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

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

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

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

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

For use of this product by air in California see additional instructions in "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" Section.

FOR AERIAL APPLICATION IN CALIFORNIA ONLY

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Written Directions

A written direction **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written direction **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

Aerial Applicator Training and Equipment

Aerial application of this herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night

Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

Aquatic and Other Noncrop Sites

When applied as directed and under the conditions described in the "Weeds Controlled" section of the label booklet for this product, this herbicide will control or partially control the labeled weeds growing in the following industrial, recreational and public areas, or other similar sites.

Aquatic Sites-including all bodies of fresh and brackish water which may be flowing, nonflowing or transient. This includes lakes, rivers, streams, ponds, seeps, irrigation and drainage ditches, canals, reservoirs, estuaries and similar sites.

If aquatic sites are present in the noncrop areas and are part of the intended treatment, read and observe the following directions: There is no limit on the use of treated water for irrigation, recreation or domestic purposes.

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

NOTE: Do not apply this product within 1/2 mile upstream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as a lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made **ONLY** in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after application.

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

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

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY

From February 15 through March 31 only. For aerial application outside of these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section printed above.

APPLICABLE AREA

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

- North: Fresno County line
- South: Fresno County line
- East: State Highway 99
- West: Fresno County line

BOOM EQUIPMENT

For control of weed or brush species listed in this label using conventional boom equipment - Use the specified rates of this product and surfactant in 3 to 30 gallons of water per acre as a broadcast spray, unless otherwise specified. See the "WEEDS CONTROLLED" section of this label for specific rates. As density of vegetation increases, spray volume should be increased within the specified range to ensure complete coverage. Carefully select correct nozzle to avoid spraying a fine mist. For best results with ground application equipment, use flat fan nozzles. Check for even distribution of spray droplets.

HAND-HELD AND HIGH-VOLUME EQUIPMENT

Use Coarse Sprays Only

For control of weeds listed in this label using knapsack sprayers or high-volume spraying equipment utilizing handguns or other suitable nozzle arrangements - Prepare a 0.75 to 2 percent solution of this product in water, add a nonionic surfactant and apply to foliage of vegetation to be controlled. For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section in this label.

Applications should be made on a spray-to-wet basis. Spray coverage should be uniform and complete. Do not spray to point of runoff.

This product may be used as a 5 to 8 percent solution plus 0.5 to 1 fluid ounce non-ionic surfactant per gallon spray solution for low-volume directed sprays for spot treatment of trees and brush. It is most effective in areas where there is a low density of undesirable trees or brush. If a straight stream nozzle is used, start the application at the top of the targeted vegetation and spray from top to bottom in a lateral zig-zag motion. Ensure that at least 50 percent of the leaves are contacted by the spray solution. For flat fan and cone nozzles and with hand-directed mist blowers, mist the application over the foliage of the targeted vegetation. Small, open-branched trees need only be treated from one side. If the foliage is thick or there are multiple root sprouts, applications must be made from several sides to ensure adequate spray coverage.

For use in knapsack sprayers, it is suggested that the specified amount of this product be mixed with water in a large container. Fill sprayer with the mixed solution and add the correct amount of surfactant.

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

SPRAY SOLUTION

| DESIRED VOLUME | AMOUNT OF PRODUCT | | | | | |
|----------------|-------------------|--------------|--------------|-------------|-------------|---------------|
| | 0.75% | 1.0% | 1.25% | 1.5% | 5.0% | 8.0% |
| 1 Gallon | 1.0 fl. oz. | 1.33 fl. oz. | 1.66 fl. oz. | 2.0 fl. oz. | 6.0 fl. oz. | 10.25 fl. oz. |
| 25 Gallons | 1.5 pts. | 1.0 qt. | 1.25 qts. | 1.5 qts. | 5.0 qts. | 2.0 gals. |
| 100 Gallons | 3.0 qts. | 1.0 gals. | 1.25 gals. | 1.5 gals. | 5.0 gals. | 8.0 gals. |

2 Tablespoons = 1 fluid ounce

SELECTIVE EQUIPMENT

For terrestrial application, this product may be applied through a shielded applicator, or a wiper applicator after dilution and thorough mixing with water to listed weeds growing in any non-crop site specified on this label.

- A shielded applicator directs the herbicide solution onto weeds, while shielding desirable vegetation from the herbicide.
- A wiper applicator applies the herbicide solution onto weeds by rubbing the weed with an absorbent material containing the herbicide solution.

AVOID CONTACT WITH DESIRABLE VEGETATION.

This section summarizes the general weed control spectrum and rates of application for this herbicide. Additional information specific to individual use patterns is detailed in following sections.

SPRAY DRIFT MANAGEMENT

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

1. The distance of the outer most operating nozzles on the boom 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 downward more than 45 degrees. Where states have more stringent regulations, they must be observed.

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

Importance of Droplet Size

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

Controlling Droplet Size

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's specified 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. Higher pressure reduces droplet size and does not improve canopy protection.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released backwards, parallel to the air stream produces larger droplets than other orientations. Significant deflection from 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.
- **Boom Length** - For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.
- **Application Height** - Applications must not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces 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 field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind

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

Applications must not occur during a local, low level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the 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 the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas

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

WEEDS CONTROLLED

ANNUAL WEEDS

Apply to actively growing annual grasses and broadleaf weeds.

Allow at least 3 days after application before disturbing treated vegetation. After this period the weeds may be mowed, tilled or burned. See "DIRECTIONS FOR USE", "PRODUCT INFORMATION" and "MIXING AND APPLICATION INSTRUCTIONS" for labeled uses and specific application instructions.

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

Hand-Held, High-Volume Application - Use a 3/4 percent solution of this product in water plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution and apply to foliage of vegetation to be controlled.

When applied as directed under the conditions described in this label, this product plus nonionic surfactant WILL CONTROL the following ANNUAL WEEDS:

Balsamapple**

Momordica charantia

Barley

Hordeum vulgare

Barnyardgrass

Echinochloa crus-galli

Bassia, fivehook

Bassia hyssopifolia

Bluegrass, annual

Poa annua

Bluegrass, bulbous

Poa bulbosa

Brome*

Bromus spp.

Buttercup

Ranunculus spp.

Cheat

Bromus secalinus

Chickweed, mouseear

Cerastium vulgatum

Cocklebur

Xanthium strumarium

Corn, volunteer

Zea mays

Crabgrass

Digitaria spp.

Dwarf dandelion

Krigia cespitosa

False dandelion

Krigia cespitosa

Falseflax, smallseed

Camelina microcarpa

Fiddleneck*

Amsinckia spp.

Flax leaf fleabane*

Conyza bonariensis

Fleabane

Erigeron spp.

Foxtail

Setaria spp.

Foxtail, Carolina

Alopecurus carolinianus

Groundsel, common

Senecio vulgaris

Horseweed/Marestall

Conyza canadensis

Kochia*

Kochia scoparia

Lambsquarters, common

Chenopodium album

Lettuce, prickly*

Lactuca serriola

Morningglory

Ipomoea spp.

Mustard, blue

Chorispora tenella

Mustard, tansy

Descurainia pinnata

Mustard, tumble

Sisymbrium altissimum

Mustard, wild

Sinapis arvensis

Oats, wild

Avena fatua

Panicum*

Panicum spp.

(continued)

Pennycress, field
Thlaspi arvense
Pigweed, redroot
Amaranthus retroflexus
Pigweed, smooth
Amaranthus hybridus
Ragweed, common*
Ambrosia artemisiifolia
Ragweed, giant*
Ambrosia trifida
Rocket, London
Sisymbrium lrio
Rye
Secale cereale
Ryegrass, Italian*
Lolium multiflorum

Sandbur, field
Cenchrus spp.
Shattercane
Sorghum bicolor
Shepherd's-purse
Capsella bursa-pastoris
Signalgrass, broadleaf
Brachiaria platyphylla
Smartweed, Pennsylvania
Polygonum pennsylvanicum
Sowthistle, annual*
Sonchus oleraceus
Spanishneedles*
Bidens bipinnata
Spurry, umbrella
Holosteum umbellatum

Stinkgrass
Eragrostis ciliaris
Sunflower*
Helianthus annuus
Thistle, Russian
Salsola kall
Velvetleaf*
Abutilon theophrasti
Wheat
Triticum aestivum
Witchgrass
Panicum capillare

*Apply 3 pints of this product per acre.
 **Apply with hand-held equipment only.

Annual weeds will generally continue to germinate from seed throughout the growing season. Repeat treatments will be necessary to control later germinating weeds.

PERENNIAL WEEDS

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

See individual control instructions for specific weeds following the table. For other perennials listed on this label, apply 4-1/2 to 7-1/2 pints of product per acre as a broadcast spray or as a 3/4 to 1-1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached early head or early bud stage of growth.

Add 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution to the rates of this product given in this list. See the "PRODUCT INFORMATION", "DIRECTIONS FOR USE" and "MIXING AND APPLICATION" sections in this label for specific uses and application instructions.

NOTE: If weeds have been mowed or tilled, do not treat until regrowth has reached the recommended stages. Fall treatments must be applied before a killing frost.

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

When applied as specified under the conditions described, this product plus surfactant WILL CONTROL the following PERENNIAL WEEDS:

Alfalfa
Medicago sativa
Alligatorweed*
Alternanthera philoxeroides
Anise/Fennel
Foeniculum vulgare
Artichoke, Jerusalem
Helianthus tuberosus
Bahiagrass
Paspalum notatum
Bermudagrass
Cynodon dactylon
Bindweed, field
Convolvulus arvensis
Bluegrass, Kentucky
Poa pratensis
Blueweed, Texas
Helianthus ciliaris
Brackenfern
Pteridium spp.
Bromegrass, smooth
Bromus inermis

Canarygrass, reed
Phalaris arundinacea
Cattail
Typha spp.
Clover, red
Trifolium pratense
Clover, white
Trifolium repens
Cogongrass
Imperata cylindrica
Cordgrass
Spartina spp.
Cutgrass, giant*
Zizaniopsis millacea
Dallisgrass
Paspalum dilatatum
Dandelion
Taraxacum officinale
Dock, curly
Rumex crispus
Dogbane, hemp
Apocynum cannabinum

Fescue
Festuca spp.
Fescue, tall
Festuca arundinacea
Guineagrass
Panicum maximum
Hemlock, poison
Conium maculatum
Horsenettle
Solanum carolinense
Horseradish
Armoracia rusticana
Ice Plant
Mesembryanthemum crystallinum
Johnsongrass
Sorghum halepense
Kikuyugrass
Pennisetum clandestinum
Knapweed
Centaurea repens
Lantana
Lantana camara

(continued)

Lespedeza: common, services

Lespedeza striata
Lespedeza cuneata
Loosestrife, purple
Lythrum salicaria
Lotus, American
Nelumbo lutea
Maidencane
Panicum hematomon
Milkweed
Asclepias spp.
Muhly, wirestem
Muhlenbergia frondosa
Mullein, common
Verbascum thapsus
Napiergrass
Pennisetum purpureum
Nightshade, silverleaf
Solanum elaeagnifolium
Nutsedge: purple, yellow
Cyperus rotundus
Cyperus esculentus

Orchardgrass

Dactylis glomerata
Pampas grass
Cortaderia jubata
Paragrass
Brachiaria mutica
Phragmites**
Phragmites spp.
Quackgrass
Agropyron repens
Reed, giant
Arundo donax
Ryegrass, perennial
Lolium perenne
Smartweed, swamp
Polygonum coccineum
Spatterdock
Nuphar luteum
Starthistle, yellow
Centaurea solstitialis
Sweet potato, wild*
Ipomoea pandurata

Thistle, artichoke
Cynara cardunculus
Thistle, Canada
Cirsium arvense
Timothy
Phleum pratense
Torpedograss*
Panicum repens
Tules, common
Scirpus acutus
Vaseygrass
Paspalum urvillei
Velvetgrass
Holcus spp.
Waterhyacinth
Eichornia crassipes
Waterlettuce
Pistia stratiotes
Waterprimrose
Ludwigia spp.
Wheatgrass, western
Agropyron smithii

*Partial control.

**Partial control in southeastern states. See specific instructions below.

Alligatorweed - Apply 6 pints of this product per acre as a broadcast spray or as a 1-1/4 percent solution with hand-held equipment to provide partial control of alligatorweed. Apply when most of the target plants are in bloom. Repeat applications will be required to maintain such control.

Bermudagrass - Apply 7-1/2 pints of this product per acre as a broadcast spray or as a 1-1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and when seedheads appear.

Bindweed, field/Silverleaf Nightshade/Texas Blueweed - Apply 6 to 7-1/2 pints of this product per acre as a broadcast spray west of the Mississippi River and 4-1/2 to 6 pints of this product per acre east of the Mississippi River. With hand-held equipment, use a 1-1/2 percent solution. Apply when target plants are actively growing and are at or beyond full bloom. For silverleaf nightshade, best results can be obtained when application is made after berries are formed. Do not treat when weeds are under drought stress. New leaf development indicates active growth. For best results apply in late summer or fall.

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

Cattail - Apply 4-1/2 to 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and are at or beyond the early-to-full bloom stage of growth. Best results are achieved when application is made during the summer or fall months.

Cogongrass - Apply 4-1/2 to 7-1/2 pints of this product per acre as a broadcast spray. Apply when cogongrass is at least 18 inches tall and actively growing in late summer or fall. Allow 7 or more days after application before tillage or mowing. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control.

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

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

Dogbane, hemp/Knapweed/Horseradish - Apply 6 pints of this product per acre as a broadcast spray or as a 1-1/2 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the late bud-to-flower stage of growth. For best results, apply in late summer or fall.

Fescue, tall - Apply 4-1/2 pints of this product per acre as a broadcast spray or as a 1 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained.

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

Johnsongrass/Bluegrass, Kentucky/Bromegrass, smooth/Canarygrass, reed/Orchardgrass/Ryegrass, perennial/Timothy/Wheatgrass, western - Apply 3 to 4-1/2 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Apply when target plants are actively growing and most have reached the boot-to-head stage of growth. When applied prior to the boot stage, less desirable control may be obtained. In the fall, apply before plants have turned brown.

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

Loosestrife, purple - Apply 4 pints of this product per acre as a broadcast spray or as a 1 to 1-1/2 percent solution using hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost.

Lotus, American - Apply 4 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Treat when plants are actively growing at or beyond the bloom stage of growth. Best results are achieved when application is made during summer or fall months. Fall treatments must be applied before a killing frost. Repeat treatment may be necessary to control regrowth from underground parts and seeds.

Maidencane/Paragrass - Apply 6 pints of this product per acre as a broadcast spray or as a 3/4 percent solution with hand-held equipment. Repeat treatments will be required, especially to vegetation partially submerged in water. Under these conditions, allow for regrowth to the 7- to 10-leaf stage prior to retreatment.

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

Nutsedge: purple, yellow - Apply 4-1/2 pints of this product per acre as a broadcast spray, or as a 3/4 percent solution with hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Apply when target plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control.

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

Phragmites - For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 7-1/2 pints per acre as a broadcast spray or apply a 1-1/2 percent solution with hand-held equipment. In other areas of the U.S., apply 4 to 6 pints per acre as a broadcast spray or apply a 3/4 percent solution with hand-held equipment for partial control. For best results, treat during late summer or fall months when plants are actively growing and in full bloom. Due to the dense nature of the vegetation, which may prevent good spray coverage and uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop.

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

Reed, giant/ice plant - For control of giant reed and ice plant, apply a 1-1/2 percent solution of this product with hand-held equipment when plants are actively growing. For giant reed, best results are obtained when applications are made in late summer to fall.

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

Sweet potato, wild - Apply this product as a 1-1/2 percent solution using hand-held equipment. Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications will be required. Allow the plant to reach the recommended stage of growth before retreatment.

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

Torpedograss - Apply 6 to 7-1/2 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/2 percent solution with hand-held equipment to provide partial control of torpedograss. Use the lower rates under terrestrial conditions, and the higher rates under partially submerged or a floating mat condition. Repeat treatments will be required to maintain such control.

Tules, common - Apply this product as a 1-1/2 percent solution with hand-held equipment. Apply to actively growing plants at or beyond the seedhead stage of growth. After application, visual symptoms will be slow to appear and may not occur for 3 or more weeks.

Waterhyacinth - Apply 5 to 6 pints of this product per acre as a broadcast spray or apply a 3/4 to 1 percent solution with hand-held equipment. Apply when target plants are actively growing and at or beyond the early bloom stage of growth. After application, visual symptoms may require 3 or more weeks to appear with complete necrosis and decomposition usually occurring within 60 to 90 days. Use the higher rates when more rapid visual effects are desired.

Waterlettuce - For control, apply a 3/4 to 1 percent solution using hand-held equipment to actively growing plants. Use higher rates where infestations are heavy. Best results are obtained from mid-summer through winter applications. Spring applications may require retreatment.

Waterprimrose - Apply this product as a 3/4 percent solution using hand-held equipment. Apply to plants that are actively growing at or beyond the bloom stage of growth, but before fall color changes occur. Thorough coverage is necessary for best control.

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

WOODY BRUSH AND TREES

See individual control instructions for specific woody brush and trees to be controlled in the following table. For partial control of other woody brush and trees listed in the table, apply 3 to 7.5 pints of this product per acre as a broadcast spray or as a 0.75 to 10 percent solution with hand-held equipment.

Apply the specified rate of this product plus 2 or more quarts of a nonionic surfactant per 100 gallons of spray solution when plants are actively growing and, unless otherwise directed, after full-leaf expansion. Use the higher rate for larger plants and/or dense areas of growth. On vines, use the higher rate for plants that have reached the woody stage of growth. Best results are obtained when application is made in late Summer or Fall after fruit formation.

Applied as a 5 to 8 percent solution as a directed application as described in the "HAND-HELD AND HIGH-VOLUME EQUIPMENT" section, this product will control or partially control all species listed in this section of the label. Use the higher rate of application for dense stands and larger woody brush and trees.

In arid areas, best results are obtained when application is made in the Spring or early Summer when brush species are at high moisture content and are flowering. Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with Fall treatment.

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

Application Rates¹

| METHOD OF APPLICATION | APPLICATION RATE | SPRAY VOLUME (Gallons/Acre) |
|---|--|--------------------------------|
| Broadcast Aerial Ground | 1.5 to 7.5 qts./ acre 1.5 to 7.5 qts./ acre | 5 to 30 10 to 60 |
| Spray-to-Wet Handgun, Backpack, Mistblower | 0.75% to 2.0% by volume | Spray-to-Wet |
| Low Volume Directed Spray² Handgun, Backpack, Mistblower | 5.0% to 10.0% by volume | Partial Coverage |

¹ Where repeat applications are necessary do not exceed 8.0 quarts per acre per year.

² For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. For best results, coverage of the top one-half of the plant is important.

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

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

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> Alder <i>Alnus</i> spp. Ash* <i>Fraxinus</i> spp. Aspen, quaking <i>Populus tremuloides</i> Bearclover, Bearmat <i>Chamaebatia foliolosa</i> Birch <i>Betula</i> spp. Blackberry <i>Rubus</i> spp. Broom* French <i>Cytisus monspessulanus</i> Scotch <i>Cytisus scoparius</i> Buckwheat, California* <i>Eriogonum fasciculatum</i> Cascara* <i>Rhamnus purshiana</i> | <ul style="list-style-type: none"> Catsclaw* <i>Acacia greggi</i> Ceanothus <i>Ceanothus</i> spp. Chamise <i>Adenostoma fasciculatum</i> Cherry: Bitter <i>Prunus emarginata</i> Black <i>Prunus serotina</i> Pin <i>Prunus pensylvanica</i> Coyote brush <i>Bacharis consanguinea</i> Creeper, Virginia* <i>Parthenocissus quinquefolia</i> Dewberry <i>Rubus trivialis</i> Dogwood <i>Cornus</i> spp. | <ul style="list-style-type: none"> Elderberry <i>Sambucus</i> spp. Elm* <i>Ulmus</i> spp. Eucalyptus, bluegum <i>Eucalyptus globules</i> Hasardia* <i>Haplopappus squamosus</i> Hawthorn <i>Crataegus</i> spp. Hazel <i>Corylus</i> spp. Hickory <i>Carya</i> spp. Holly, Florida; Brazilian Peppertree <i>Schinus terebinthifolius</i> Honeysuckle <i>Lonicera</i> spp. Hornbeam, American <i>Carpinus caroliniana</i> |
|---|--|---|

Kudzu
Pueraria lobata
Locust, black*
Robinia pseudoacacia
Manzanita
Arctostaphylos spp.
Maple:
Red**
Acer rubrum
Sugar
Acer saccharum
Vine*
Acer circinatum
Monkey Flower*
Mimulus guttatus
Oak:
Black*
Quercus velutina
Northern pine
Quercus palustris
Post
Quercus stellata
Red
Quercus rubra
Southern red
Quercus falcata
White*
Quercus alba

Persimmon*
Diospyros spp.
Poison Ivy
Rhus radicans
Poison Oak
Rhus toxicodendron
Poplar, yellow*
Liriodendron tulipifera
Prunus
Prunus spp.
Raspberry
Rubus spp.
Redbud, eastern
Cercis canadensis
Rose, multiflora
Rosa multiflora
Russian-olive
Elaeagnus angustifolia
Sage: black, white
Salvia spp.
Sagebrush, California
Artemisia californica
Salmonberry
Rubus spectabilis
Salt cedar*
Tamarix spp.
Saltbush, Sea myrtle
Baccharis halimifolia

Sassafras
Sassafras albidum
Sourwood*
Oxydendrum arboreum
Sumac:
Poison*
Rhus vernix
Smooth*
Rhus glabra
Winged*
Rhus copallina
Sweet gum
Liquidambar styraciflua
Swordfern*
Polystichum munitum
Tallowtree, Chinese
Sapium sebiferum
Thimbleberry
Rubus parviflorus
Tobacco, tree*
Nicotiana glauca
Trumpet creeper
Campsis radicans
Waxmyrtle, southern*
Myrica cerifera
Willow
Salix spp.

*Partial control

**See below for control or partial control instruction.

See the "DIRECTIONS FOR USE" and "MIXING AND APPLICATION INSTRUCTIONS" sections in this label for labeled use and specific application instructions.

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

Alder/Blackberry/Dewberry/Honeysuckle/Oak, Post/Raspberry - For control, apply 4-1/2 to 6 pints per acre as a broadcast spray or as a 3/4 to 1-1/4 percent solution with hand-held equipment.

Aspen, Quaking/Hawthorn/Trumpet creeper - For control, apply 3 to 4-1/4 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/4 percent solution with hand-held equipment.

Birch/Elderberry/Hazel/Salmonberry/Thimbleberry - For control, apply 3 pints per acre of this product as a broadcast spray or as a 3/4 percent solution with hand-held equipment.

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

Buckwheat, California/Hasardia/Monkey Flower/Tobacco, Tree - For partial control of these species apply a 3/4 to 1-1/2 percent solution of this product as a foliar spray with hand-held equipment. Thorough coverage of foliage is necessary for best results.

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

Cherry: Bitter, Black, Pin/Oak, Southern Red/Sweet Gum/Prunus - For control, apply 3 to 7-1/2 pints of this product per acre as a broadcast spray or as a 1 to 1-1/2 percent solution with hand-held equipment.

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

Dogwood/Hickory/Salt cedar - For partial control, apply a 1 to 2 percent solution of this product with hand-held equipment or 6 to 7-1/2 pints per acre as a broadcast spray.

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

Holly, Florida/Waxmyrtle, southern - For partial control, apply this product as a 1-1/2 percent solution with hand-held equipment.

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

Maple, Red - For control, apply as a 3/4 to 1-1/4 percent solution with hand-held equipment when leaves are fully developed. For partial control, apply 2 to 7-1/2 pints of this product per acre as a broadcast spray.

Maple, Sugar/Oak; Northern Pine, Red - For control, apply as a 3/4 to 1-1/4 percent solution with hand-held equipment when at least 50 percent of the new leaves are fully developed.

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

Rose, multiflora - For control, apply 3 pints of this product per acre as a broadcast spray or as a 3/4 to 1-1/2 percent solution with hand-held equipment. Treatments should be made prior to leaf deterioration by leaf-feeding insects.

Sage, black/Sagebrush, California/Chamise/Tallowtree, Chinese - For control of these species, apply a 3/4 percent solution with hand-held equipment. Thorough coverage of foliage is necessary for best results.

Saltbush, Sea myrtle - For control, apply this product as a 1 percent solution with hand-held equipment.

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

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

NON-CROP USES

See "PRODUCT INFORMATION" and "MIXING AND APPLICATION INSTRUCTIONS" sections of this label for essential product performance information and the following "NON-CROP" sections for specific uses.

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OR SPRAY WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS, DESIRABLE TURFGRASSES, TREES, SHRUBS OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Repeat treatments may be necessary to control weeds regenerating from underground parts or seeds. Where repeat applications are necessary, do not exceed 8 quarts of this product per acre per year.

This product does not provide residual weed control. For subsequent weed control, follow a label-approved herbicide program.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NON-CROP USES", under conditions described, this product may be used to control the listed weeds.

Non-Crop Sites - This product may be used to control the listed weeds in terrestrial noncrop sites and/or in aquatic sites within these areas:

airfields; airports; alleys, lanes, trails & access roads; around commercial or industrial structures or outbuildings; around farm and ranch structures and outbuildings; around ornamental gardens; around ornamental trees & shrubs; bare ground; beaches; campgrounds; construction sites; ditch banks; drive-in theaters; driveways & ramps; dry ditches & canals; fences & fencerows; firebreaks; golf courses; gravel yards; habitat restoration & management areas; highways & roadsides (including aprons, medians, guardrails & right of ways); industrial plant sites; industrial areas; lumber yards; mulched areas; natural areas; paths and trails; parking areas; parks; paved areas; petroleum & other tank farms; pumping installations; pipeline, power, telephone & utility rights-of-way; power stations; preplant to turf & ornamental plants; railroad rights-of-way; recreation areas; refineries; resorts; schools; sidewalks; sports areas; storage areas; substations; tennis courts; uncropped farmstead areas; uncultivated non-agricultural areas; vacant lots; walkways; wastelands; & wildlife habitat areas

When applied as directed for "NON-CROP USES", under conditions described, this product may be used to control the listed weeds in terrestrial non-crop sites within these areas: Habitat Restoration & Management Area, Pipeline, Power, Telephone & Utility Rights-of-Way and Pumping Installations.

This product is a non-selective herbicide that is diluted and applied to the foliage of actively growing weeds as a spot or broadcast application. It is absorbed by the leaves and moves throughout the stem and roots to control the entire plant. Visible symptoms may require a week or more to appear, with burndown usually occurring in 2 to 4 weeks. Symptoms are a gradual wilting and yellowing of the sprayed plant followed by deterioration of both shoots and roots. This product has no herbicide activity in the soil and will not wash or leach to affect nearby vegetation. Any ornamental species may be planted in treated areas 7 days or more after application. For most effective results, delay mowing, clipping, planting or sodding of treated areas for at least 7 days after application. This allows time for this product to move within the plant.

For specific rates of application and instructions for control of particular annual weeds, perennial weeds, woody brush and trees, see the "WEEDS CONTROLLED" section of this label. These applications may be made to large affected areas or as spot treatments. For general use in small areas, see alternative instructions below under "Small Area Treatment With Hand-held Sprayers".

Unless the "Agriculture Use Requirements" on this label are observed, the following restrictions apply:

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climactic modification and being grown in ornamental gardens or parks, or on golf courses or lawns and grounds.

AVOID SPRAY DRIFT CONTACT WITH DESIRABLE LAWN GRASSES, FLOWERS, VEGETABLES, SHRUBS OR TREES. DO NOT CONTACT GREEN BARK OF TREES OR SHRUBS. IF DESIRABLE VEGETATION IS CONTACTED, WASH IMMEDIATELY WITH WATER.

Depending on the type of non-crop application, this product may be applied with boom equipment, high-volume spray equipment and hand-held sprayers as described in the respective portions of the "APPLICATION EQUIPMENT AND TECHNIQUES" section of the label. Additionally, the product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any non-crop site specified on this label. See the "Selective Equipment" part of "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

Small Area Treatment With Hand-held Sprayers

Add 2.25 to 4.5 fluid ounces of this product plus 0.5 to 1 fluid ounce of nonionic surfactant to 1 gallon of clean water. Use the low rate for many grasses and annual weeds. Use the higher specified rate for control of perennials and brush. Use pump-up sprayer, backpack sprayer or other sprayer suitable for small areas. Adjust equipment to deliver a coarse spray pattern. USE OF HOSE-END SPRAYERS OR SPRINKLER-TYPE DEVICES MAY NOT BE USED.

TANK MIXTURES FOR NON-CROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control of the emerged perennial weeds listed in this label. When applied as a tank mixture, the following residual herbicides will provide preemergence control of the weeds listed in the individual product labels.

This product PLUS Diuron
This product PLUS Krovar® I
This product PLUS Princep®, Caliber®90, Simazine 4L, 80W or 90DF
This product PLUS Surflan®75W, Surflan AS
This product PLUS Ronstar®50WP
This product PLUS Spyder or Spyder Extra
This product PLUS ProClipse
This product PLUS Polaris AC Complete

When tank mixing with residual herbicides, add a nonionic surfactant at 0.5 to 1 percent by volume of spray solution. See the "APPLICATION EQUIPMENT AND TECHNIQUES" section of this label before preparing these tank mixtures.

Read and carefully observe the label claims, precautionary statements, specified use rate and all other information on the labels of all products used in these tank mixtures.

Use according to the most restrictive label directions for each product in the mixture.

CONTROL OF EMERGED WEEDS

Note: For backpack sprayer and handgun applications, see the "HAND-HELD AND HIGH VOLUME EQUIPMENT" section for specified rates.

Annual Weeds

Apply 1.5 pints per acre of this product in these tank mixtures when weeds are less than 6 inches tall and 2.25 pints per acre when weeds are more than 6 inches tall.

Perennial Weeds

For partial control of perennial weeds using these tank mixtures, apply 1.5 to 7.5 pints per acre of this product. Follow these recommendations in the "WEEDS CONTROLLED" section of this label for stage of growth and rate of application for specific perennial weeds.

PREEMERGENCE WEED CONTROL

For preemergence weed control, refer to the individual product labels for specific non-crop sites, rates, carrier volumes and precautionary statements.

Mix only the quantity of spray solution which can be used during the same day. Do not allow these tank mixtures to stand overnight as this may result in reduced weed control.

BROADCAST APPLICATION FOR WEED CONTROL IN CHRISTMAS TREE PLANTATIONS

NOTE: IF THIS PRODUCT IS IMPROPERLY APPLIED, IT HAS THE POTENTIAL TO CAUSE SEVERE INJURY TO CHRISTMAS TREES. FOLLOW ALL LABELED DIRECTIONS.

This product may be applied as a broadcast spray over established Christmas trees. To prevent drift onto nearby desirable crops or vegetation, ensure that adequate buffers are maintained.

The following Christmas tree species are approved for this application:

- Douglas Fir (*Pseudotsuga menziesii*)
- Fir species (*Abies* spp.)
- Spruce species (*Picea* spp.)

Do not apply this product until trees have completed at least a full growing season since planting or transplanting. Do not apply within 1 full year prior to tree harvest.

In the fall, applications may only be made after the formation of final conifer resting buds. Final resting buds must be in the dormant stage and fully hardened. If applications are made at any other time, unacceptable Christmas tree injury may occur.

Avoid spray pattern overlap, as injury may result.

Apply 24 fluid ounces of this product per acre in 5 to 30 gallons of water per acre.

NOTE: ADDING SURFACTANTS, ADDITIVES CONTAINING SURFACTANTS, OR ANY OTHER ADDITIVES TO THIS PRODUCT MAY RESULT IN SEVERE CHRISTMAS TREE INJURY.

In some areas, this product may be used at rates from 24 to 48 fluid ounces per acre. Consult your local Nufarm representative for specific instructions if you require rates that exceed 24 fluid ounces per acre.

Do not use drift control additives as they may increase Christmas tree injury. Do not use other herbicides in a tank mix with this product as Christmas trees could be severely injured.

SILVICULTURAL SITES AND RIGHTS-OF-WAY

NOTE: DO NOT USE AS AN OVER-THE-TOP BROADCAST SPRAY IN SILVICULTURAL NURSERIES.

When applied as directed for "NON-CROP USES" under conditions described this product controls undesirable vegetation listed on this label. This product also suppresses or controls undesirable vegetation listed on this label when applied at specified rates for release of established coniferous species listed on this label.

For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label. For specific rates of application for release of listed coniferous species, see the "CONIFER RELEASE" part of this section of the label.

Where repeat applications are necessary, do not exceed 8 quarts of this product per acre per year.

Aerial Application

This product may be applied using aerial spray equipment for silvicultural site preparation, conifer release and rights-of-way treatments. See the "APPLICATION EQUIPMENT and TECHNIQUES" part of the "MIXING AND APPLICATION INSTRUCTIONS APPLICATION EQUIPMENT AND TECHNIQUES" section of this label for information on how to apply this product by air.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

SITE PREPARATION

Following preplant applications of this product, any silvicultural species may be planted.

POST DIRECTED SPRAY

In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

CONIFER RELEASE

For release, apply at the end of the first growing season, except in California. Vegetation of target weeds or trees should not be disturbed prior to treatment or until visual symptoms appear after treatment. Symptoms of treatment are slow to appear, especially in woody species treated in late Fall. **Injury may occur to conifers treated for release, especially where spray patterns overlap or the higher rates are applied or when applications are made during periods of active conifer growth.**

Applications must be made after formation of final conifer resting buds in the fall or prior to initial bud swelling in spring. Some autumn colors on undesirable deciduous species are acceptable provided no major leaf drop has occurred. Use the following rates for conifer release to control or partially control the weeds listed in the "WEEDS CONTROLLED" section of this label.

For release of the following conifer species:

| | | | | |
|--|---------------------------------|-------------------------------------|------------------------------------|------------------------------------|
| Douglas Fir <i>Pseudotsuga menziesii</i> | Fir <i>Abies</i> spp. | Hemlock <i>Tsuga</i> spp. | Pines* <i>Pinus</i> spp. | Spruce <i>Picea</i> spp. |
|--|---------------------------------|-------------------------------------|------------------------------------|------------------------------------|

*Includes all species except eastern white pine, loblolly pine or slash pine.

Apply 2.25 to 3 pints of this product per acre except in Washington and Oregon, west of the crest of the Cascade Mountains. For Spring treatments west of the crest of the Cascade Mountains, apply 1 quart of this product per acre before conifer bud swell for control of annual weeds. For Fall treatments in Washington and Oregon, west of the crest of the Cascade Mountains, apply 1.5 to 2.25 pints of this product per acre before any major leaf drop of deciduous species. Add 10 fluid ounces nonionic surfactant per 2 pints of this product. In Maine, up to 4.5 pints per acre may be used for the control of difficult weeds.

Note for Douglas fir release: Ensure that surfactant has been adequately tested for Douglas fir safety and follow manufacturer's specifications for rate of application.

For release of Western hemlock, apply 1 quart of this product per acre.

For release of the following conifer species:

| | | |
|--|---|--|
| Loblolly Pine <i>Pinus taeda</i> | Eastern white pine <i>Pinus strobus</i> | Slash pine <i>Pinus elliotii</i> |
|--|---|--|

Late Season Application - Apply 2-1/4 to 3 pints of this product in a minimum of 5 gallons of spray solution per acre during early autumn. Nufarm does not recommend the use of a crop oil concentrate or MSO (methylated seed oil) based surfactant for use in southern conifer species release with this product. The addition of a tested and approved southern conifer release surfactant is recommended. Applications made prior to September 1 or when conditions are conducive to rapid growth of conifers will create the potential for increased injury in the form of tip and/or needle burn. Injury may decrease with later applications. Some autumn colors are acceptable at time of application. Apply prior to frost or leaf drop of undesirable plants.

Applications made according to label directions will release loblolly pine, eastern white pine and slash pine by reducing competition from the following species:

| | | | | |
|--|---|--|---|---|
| Ash <i>Fraxinus</i> spp. | Hawthorn <i>Crataegus</i> spp. | Oak, Post <i>Quercus stellata</i> | Poplar, yellow <i>Liriodendron tulipifera</i> | Sumac, Smooth <i>Rhus glabra</i> |
| Cherry, Black <i>Prunus serotina</i> | Locust, Black <i>Robinia pseudoacacia</i> | Oak, Southern Red <i>Quercus falcata</i> | Sassafras <i>Sassafras albidum</i> | Sumac, Winged <i>Rhus copallina</i> |
| Cherry, Pin <i>Prunus pensylvanica</i> | Maple, Red <i>Acer rubra</i> | Oak, White <i>Quercus alba</i> | Sourwood <i>Oxydendrum arboreum</i> | Sweetgum <i>Liquidambar styraciflua</i> |
| Elm <i>Ulmus</i> spp. | Oak, Black <i>Quercus velutina</i> | Persimmon <i>Diospyros</i> spp. | Sumac, Poison <i>Rhus vernix</i> | |

Apply only to those sites where woody brush and trees listed in this label constitute the majority of the undesirable species.

THIS PRODUCT PLUS SPYDER TANK MIXTURES FOR CONIFER RELEASE FROM HERBACEOUS WEEDS

To release Loblolly pines, Slash, Red pine and Virginia pine from herbaceous weeds, tank mixtures of this product with Spyder will provide control of annual weeds listed in the "WEEDS CONTROLLED" section of this and the Spyder label, and partial control of the perennial weeds listed below.

Apply 12 to 18 fluid ounces of this product plus 2 to 4 fluid ounces of Spyder in 10 to 30 gallons of spray solution per acre. Nufarm does not recommend the use of a crop oil concentrate or MSO (methylated seed oil) based surfactant for use in southern conifer species release with this product. The addition of a tested and approved southern conifer release surfactant is recommended. Make application to actively growing weeds as a broadcast spray over the top of the young Loblolly pine, Red pine, Slash pine and Virginia pine.

This tank mixture may be applied using aerial equipment. When applying by air, use the specified rate in 5 to 15 gallons of spray solution per acre. This product plus Spyder tank mixtures may not be applied by air in California.

For control of annual weeds below 12 inches in height (or runner length on annual vines), use the lower rates of both products.

Use the higher rates of both products when annual weeds are in more advanced stages of growth and approaching flower or seed formation.

Use the higher rates of both products for partial control of the following perennial weeds. Use the lower rates for suppression of growth.

| | | | | |
|---|---|--|---|--|
| Bahiagrass <i>Paspalum notatum</i> | Dock, curly <i>Rumex crispus</i> | Fescues, tall <i>Festuca arundinacea</i> | Poorjoe* <i>Diodia teres</i> | Vaseygrass <i>Paspalum urvillei</i> |
| Broomsedge <i>Andropogon virginicus</i> | Dogfennel <i>Eupatorium capilliflorum</i> | Johnsongrass* <i>Sorghum halepense</i> | Trumpet creeper** <i>Campsis radicans</i> | Vervain, blue <i>Verbena hastata</i> |

*Control at the higher rates

**Suppression at the higher rates only.

Pine damage may occur or can be accentuated if treatment takes place when young trees are under stress from drought, flood water, insects or disease, or are in an active growth stage.

Read and observe the cautionary statements and all other information appearing on the labels of all herbicides used.

Note To User: This product must not be used in areas where adverse impact on federally designated endangered/threatened plant or aquatic species is likely. Prior to making applications, the user of this product must determine that no such species are located in or immediately adjacent to the area to be treated.

WIPER APPLICATIONS

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

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

CUT STUMP APPLICATION

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

When used according to directions for cut stump application, this product will control, partially control or suppress many types of woody brush and tree species, some of which are listed below:

| | | | | |
|--|---|--------------------------------------|--|--|
| Alder <i>Alnus</i> spp. | Eucalyptus <i>Eucalyptus</i> spp. | Maple <i>Acer</i> spp. | Reed, Giant <i>Arundo donax</i> | Sycamore <i>Platanus occidentalis</i> |
| Coyote Brush <i>Baccharis consanguinea</i> | Hickory <i>Carya</i> spp. | Oak <i>Quercus</i> spp. | Salt cedar <i>Tamarix</i> spp. | Tan Oak <i>Lithocarpus densiflorus</i> |
| Dogwood <i>Cornus</i> spp. | Madrone <i>Arbutus menziesii</i> | Poplar <i>Populus</i> spp. | Sweet gum <i>Liquidambar styraciflua</i> | Willow <i>Salix</i> spp. |

INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into the living tissue. Apply the equivalent of 1 ml of this product per each 2 to 3 inches of trunk diameter (DBH). This is best achieved by applying a 25 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying diluted material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and after full leaf expansion.

| Control | | Suppression | |
|-----------------|--------------------------------|-------------------|------------------------|
| Oak | <i>Quercus</i> spp. | Black Gum | <i>Nyssa sylvatica</i> |
| Poplar | <i>Populus</i> spp. | Dogwood | <i>Cornus</i> spp. |
| Sweetgum | <i>Liquidambar styraciflua</i> | Hickory | <i>Carya</i> spp. |
| Sycamore | <i>Platanus occidentalis</i> | Maple, Red | <i>Acer rubrum</i> |

WETLAND SITES

This product may be used in and around water (aquatic areas) and wetlands found in forestry and in power, telephone and pipeline rights-of-way sites including where these sites are adjacent to or surrounding domestic water supply reservoirs, supply streams, lakes and ponds. Read and observe the following before making applications in and around water.

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

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

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

Do not spray open bodies of water where woody brush, trees and herbaceous weeds do not exist. The maximum application rate of 3.75 quarts per acre must not be exceeded in a single over-water broadcast application except as follows, where any specified rate may be applied:

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

WILDLIFE HABITAT RESTORATION AND MANAGEMENT AREAS

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

Habitat Restoration and Maintenance

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

Wildlife Food Plots

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

WIPER APPLICATIONS

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

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

CUT STUMP APPLICATION

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

When used according to directions for cut stump application, this product will control, partially control or suppress many types of woody brush and tree species, some of which are listed below:

| | | | | |
|-------------------------------|--------------------------|---------------------|---------------------|--------------------------------|
| Alder | Eucalyptus | Maple | Populus spp. | Sweet gum |
| <i>Alnus</i> spp. | <i>Eucalyptus</i> spp. | <i>Acer</i> spp. | Reed, Giant | <i>Liquidambar styraciflua</i> |
| Coyote Brush | Hickory | Oak | <i>Arundo donax</i> | Sycamore |
| <i>Baccharis consanguinea</i> | <i>Carya</i> spp. | <i>Quercus</i> spp. | Salt cedar | <i>Platanus occidentalis</i> |
| Dogwood | Madrone | Poplar | <i>Tamarix</i> spp. | Tan Oak |
| <i>Cornus</i> spp. | <i>Arbutus menziesii</i> | | | <i>Lithocarpus densiflorus</i> |

INJECTION AND FRILL APPLICATIONS

Woody vegetation may be controlled by injection or frill application of this product. Apply this product using suitable equipment which must penetrate into living tissue. Apply the equivalent of 1 ml of this product per 2 to 3 inches of trunk diameter. This is best achieved by applying 25 to 100 percent concentration of this product either to a continuous frill around the tree or as cuts evenly spaced around the tree below all branches. As tree diameter increases in size, better results are achieved by applying dilute material to a continuous frill or more closely spaced cuttings. Avoid application techniques that allow runoff to occur from frill or cut areas in species that exude sap freely after frills or cutting. In species such as these, make frill or cut at an oblique angle so as to produce a cupping effect and use undiluted material. For best results, applications should be made during periods of active growth and full leaf expansion.

| Control | | Suppression | |
|----------|--------------------------------|-------------|------------------------|
| Oak | <i>Quercus</i> spp. | Black Gum* | <i>Nyssa sylvatica</i> |
| Poplar | <i>Populus</i> spp. | Dogwood | <i>Cornus</i> spp. |
| Sweetgum | <i>Liquidambar styraciflua</i> | Hickory | <i>Carya</i> spp. |
| Sycamore | <i>Platanus occidentalis</i> | Maple, Red | <i>Acer rubrum</i> |

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

INJECTION METHOD FOR CONTROL OF JAPANESE KNOTWEED (*Polygonum cuspidatum*) & GIANT KNOTWEED (*Polygonum polystachyum*)

DIRECTIONS FOR USE

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

This label must be in the possession of the user at the time of application.

All applicable directions and precautions in the AquaNeat Herbicide label booklet must be followed.

See the "PRODUCT INFORMATION" and "MIXING AND APPLICATION INSTRUCTIONS" sections of this product's label booklet for essential product performance information.

This product may be used for control of Japanese knotweed and giant knotweed using individual stem treatment. Individual knotweed stems may be treated by injecting up to 5 ml of undiluted this product directly into the hollow stem just below a node. A hole suitable for injecting the herbicide should be made through both sides of the stem using an awl or other convenient pointed tool about 6 inches above the ground, just below a node. (Nodes are circular thickenings or scars surrounding the stem where leaves are or were previously attached.) The herbicide is then injected into this hole. Each stem of the knotweed plant must be treated.

This product can be injected using any injection device capable of delivering a 5 ml dose. For convenience and accuracy, a hand-operated injection device designed to deliver repeated pre-measured doses from a supply reservoir is recommended.

Commercially available dose measuring equipment may be adapted for this purpose. Calibrate the device to deliver a dose of 5 ml per injection cycle. A sharpened hollow probe for puncturing the stem and delivery of the herbicide can also be integrated into the delivery system.

Restriction: Do not apply more than 7.5 quarts of this product per acre. At 5 ml per stem, 7.5 quarts is sufficient to treat a maximum of 1,420 stems per acre.

**RELEASE OF BERMUDAGRASS OR BAHIAGRASS ON NONCROP SITES
RELEASE OF DORMANT BERMUDAGRASS AND BAHIAGRASS**

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

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

WEEDS CONTROLLED

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

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

WEEDS CONTROLLED OR SUPPRESSED*

**NOTE: C = Control
S = Suppression**

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

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

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

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

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

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

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

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

*Suppression at the higher rate only.

**Johnsongrass is controlled at the higher rate.

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

BAGIAGRASS SEEDHEAD AND VEGETATIVE SUPPRESSION

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

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

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

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

ANNUAL GRASS GROWTH SUPPRESSION

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 3 to 4 ounces of this product in 10 to 40 gallons of spray solution per acre. Mix 2 quarts of a nonionic surfactant per 100 gallons of spray solution. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

AQUATIC SITES

When applied as directed and under the conditions described in the "WEEDS CONTROLLED" section in this label, this product will control or partially control the labeled weeds growing in aquatic sites.

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

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

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

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

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

NOTE: Do not apply this product directly to water within 1/2 mile up-stream of an active potable water intake in flowing water (i.e., river, stream, etc.) or within 1/2 mile of an active potable water intake in a standing body of water such as lake, pond or reservoir. To make aquatic applications around and within 1/2 mile of active potable water intakes, the water intake must be turned off for a minimum period of 48 hours after the application. The water intake may be turned on prior to 48 hours if the glyphosate level in the intake water is below 0.7 parts per million as determined by laboratory analysis. These aquatic applications may be made ONLY in those cases where there are alternative water sources or holding ponds which would permit the turning off of an active potable water intake for a minimum period of 48 hours after the applications. This restriction does not apply to intermittent inadvertent overspray of water in terrestrial use sites.

For treatments after drawdown of water or in dry ditches, allow 7 or more days after treatment before reintroduction of water to achieve maximum weed control. Apply this product within 1 day after drawdown to ensure application to actively growing weeds. Floating Mats of vegetation may require retreatment. Avoid wash-off of sprayed foliage by spray boat or recreational boat backwash or by rainfall within 6 hours of application. Do not re-treat within 24 hours following the initial treatment.

Applications made to moving bodies of water must be made while traveling upstream to prevent concentration of this herbicide in water. When making any bankside applications, do not overlap more than 1 foot into open water. Do not spray in bodies of water where weeds do not exist. The maximum application rate of 7-1/2 pints per acre must not be exceeded in any single broadcast application that is being made over water.

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

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Do not store below 32°F or above 100°F. Store in original container in a well-ventilated area separately from fertilizer, feed, and food stuffs. Avoid cross-contamination with other pesticides.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL [HANDLING]:

[**Note to Reviewer:** The following statement will be included on all Final Printed Labels bearing multiple Container Disposal (Container Handling) statements] **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. [**Note to Reviewer:** The bracketed section headers will be included when multiple container types / sizes are listed on the label.]

[**Nonrefillable Containers 5 Gallons or Less:**] Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **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 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 and, if possible, spray all sides while adding water. If practical, 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.

[**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.

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

LIMITATION OF LIABILITY

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, IN NO EVENT SHALL MANUFACTURER OR SELLER BE LIABLE FOR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN THEIR NATURE OF PENALTIES RELATING TO THE GOODS SOLD, INCLUDING USE, APPLICATION, HANDLING, AND DISPOSAL. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, MANUFACTURER OR SELLER SHALL NOT BE LIABLE TO BUYER OR USER BY WAY OF INDEMNIFICATION TO BUYER OR TO CUSTOMERS OF BUYER, IF ANY, OR FOR ANY DAMAGES OR SUMS OF MONEY, CLAIMS OR DEMANDS WHATSOEVER, RESULTING FROM OR BY REASON OF, OR ARISING OUT OF THE MISUSE, OR FAILURE TO FOLLOW LABEL WARNINGS OR INSTRUCTIONS FOR USE, OF THE GOODS SOLD BY MANUFACTURER OR SELLER TO BUYER. ALL SUCH RISKS SHALL BE ASSUMED BY THE BUYER, USER, OR ITS CUSTOMERS. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S OR USER'S EXCLUSIVE REMEDY, AND MANUFACTURER'S OR SELLER'S TOTAL LIABILITY SHALL BE FOR DAMAGES NOT EXCEEDING THE COST OF THE PRODUCT. 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.

(RV121211)

AquaNeat is a registered trademark of Nufarm, Inc.



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **AquaNeat® Aquatic Herbicide**
 EPA Reg. No.: 228-365
 Synonyms: Isopropylamine Salt of Glyphosate; Glyphosate IPA Salt
 Product Type: Herbicide

Company Name: Nufarm Americas Inc.
 11901 Austin Avenue
 Alsip, IL 60803

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

Date of Issue: October 8, 2013 Supersedes: February 7, 2012
 Sections Revised: 1

2. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance and Odor: Colorless viscous solution with little odor.

Warning Statements: Keep out of reach of children. CAUTION. Harmful if inhaled. Avoid breathing spray mist.

Potential Health Effects:

Likely Routes of Exposure: Skin contact and inhalation.

Eye Contact: Slightly irritating based on toxicity studies.

Skin Contact: Slightly toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed.

Inhalation: Low inhalation toxicity.

Medical Conditions Aggravated by Exposure: None known

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

For aquatic uses, do not contaminate water when disposing of equipment washwaters. Treatment of aquatic weeds can result in oxygen depletion or loss due to decomposition of dead plants. This oxygen loss can cause fish suffocation.

See Section 12: ECOLOGICAL INFORMATION for more information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| COMPONENT | CAS NO. | % BY WEIGHT |
|---|------------|-------------|
| Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt | 38641-94-0 | 53.8 |
| Other Ingredients | | 46.2 |

4. FIRST AID MEASURES

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

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

If on Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable due to aqueous formulation

Autoignition Temperature: Not determined **Flammability Limits:** Not determined

Extinguishing Media: In case of fire, use water (flood with water), dry chemical, CO₂, or alcohol foam.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Containers will burst from internal pressure under extreme fire conditions. If water is used to fight fire or cool containers, dike to prevent runoff contamination of municipal sewers and waterways.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, nitrogen, and phosphorous.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Thoroughly scrub floor or other impervious surface with a strong industrial detergent and rinse with water. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Harmful if inhaled. Avoid breathing spray mist. Remove contaminated clothing and wash clothing before reuse. Wash thoroughly with soap and water after handling.

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

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Storage:

Do not store below 32° F or above 100° F. Store in original container in a well-ventilated area separately from fertilizer, feed, and footstuffs. Avoid cross-contamination with other pesticides. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

| Component | OSHA | | ACGIH | | Unit |
|-----------------------------------|------|------|-------|------|------|
| | TWA | STEL | TWA | STEL | |
| Isopropylamine Salt of Glyphosate | NE | NE | NE | NE | |

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Colorless viscous solution with little odor.

| | | | |
|--------------------------|---------------------|-----------------------------|-----------------|
| Boiling Point: | Not determined | Solubility in Water: | Miscible |
| Density: | 10.00 pounds/gallon | Specific Gravity: | 1.201 @ 20°C |
| Evaporation Rate: | Not determined | Vapor Density: | Not determined |
| Freezing Point: | 10°F (-12°C) | Vapor Pressure: | Not determined |
| pH: | 5.0 - 5.4 | Viscosity: | 67.9 cPs @ 20°C |

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, nitrogen, and phosphorous.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION**Toxicological Data:**

Data from laboratory studies conducted on a similar, but not identical, formulation:

Oral: Rat LD₅₀: >5,000 mg/kg

Dermal: Rabbit LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >4.24 mg/l

Eye Irritation: Rabbit: Minimally irritating

Skin Irritation: Rabbit: Non-irritating

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to glyphosate may decrease body weight gains and effects to liver.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to glyphosate may cause effects to the liver. There was no evidence of carcinogenicity in animal studies using glyphosate. EPA has given glyphosate a Group E classification (evidence of non-carcinogenicity in humans).

Reproductive Toxicity: In laboratory animal studies with glyphosate, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Developmental Toxicity: In animal studies, glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.

Genotoxicity: Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

| |
|-----------------------------------|
| 12. ECOLOGICAL INFORMATION |
|-----------------------------------|

Ecotoxicity:

Data on Glyphosate technical:

| | | | |
|---|-----------|---|-------------|
| 96-hour LC ₅₀ Bluegill: | 120 mg/l | Bobwhite Quail 8-day Dietary LC ₅₀ : | >4,500 ppm |
| 96-hour LC ₅₀ Rainbow Trout: | 86 mg/l | Mallard Duck 8-day Dietary LC ₅₀ : | >4,500 ppm |
| 48-hour LC ₅₀ Daphnia: | 780 mg/l | Bee LD ₅₀ (oral and contact) | >100 ug/bee |
| Green alga growth inhibition EC ₅₀ | 127 mg/ml | Duckweed inhibition EC ₅₀ | 24.4 mg/ml |

Environmental Fate:

In the environment, salts of glyphosate rapidly dissociate to glyphosate, which adsorbs strongly to soil and is expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA (aminomethyl phosphonic acid) that is further degraded to carbon dioxide. Glyphosate and AMPA are unlikely to enter ground water due to their strong adsorptive characteristics. Terrestrially-applied glyphosate has the potential to move into surface waters through soil erosion because it may be adsorbed to soil particles suspended in the runoff. Aquatic applications registered for certain formulations may also result in glyphosate entering surface waters. Complete degradation is slow, but dissipation in water is rapid because glyphosate is bound in sediments and has low biological availability to aquatic organisms. These characteristics suggest a low potential for bioconcentration in aquatic organisms and this has been verified by laboratory investigations of glyphosate bioconcentration in numerous marine and freshwater organisms with and without soil. The maximum whole body bioconcentration factors for fish were observed to be less than 1X. Bioconcentration factors for sediment dwelling mollusks and crayfish tended to be slightly higher, but were always less than 10X. In addition, any residues accumulated in organisms were rapidly eliminated.

| |
|------------------------------------|
| 13. DISPOSAL CONSIDERATIONS |
|------------------------------------|

Waste Disposal Method:

Pesticide wastes are toxic. Wastes resulting from this product may be disposed of on site or at an approved waste disposal facility. Improper disposal of excess pesticide, spray mix, or rinsate is a violation of federal law. If these wastes cannot be disposed of according to label instructions, contact the state agency responsible for pesticide regulation or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **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 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 and, if possible, spray all sides while adding water. If practical, 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.

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.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT

Non Regulated

IMDG

Non Regulated

IATA

Non Regulated

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Immediate

Section 313 Toxic Chemical(s):

None

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not listed

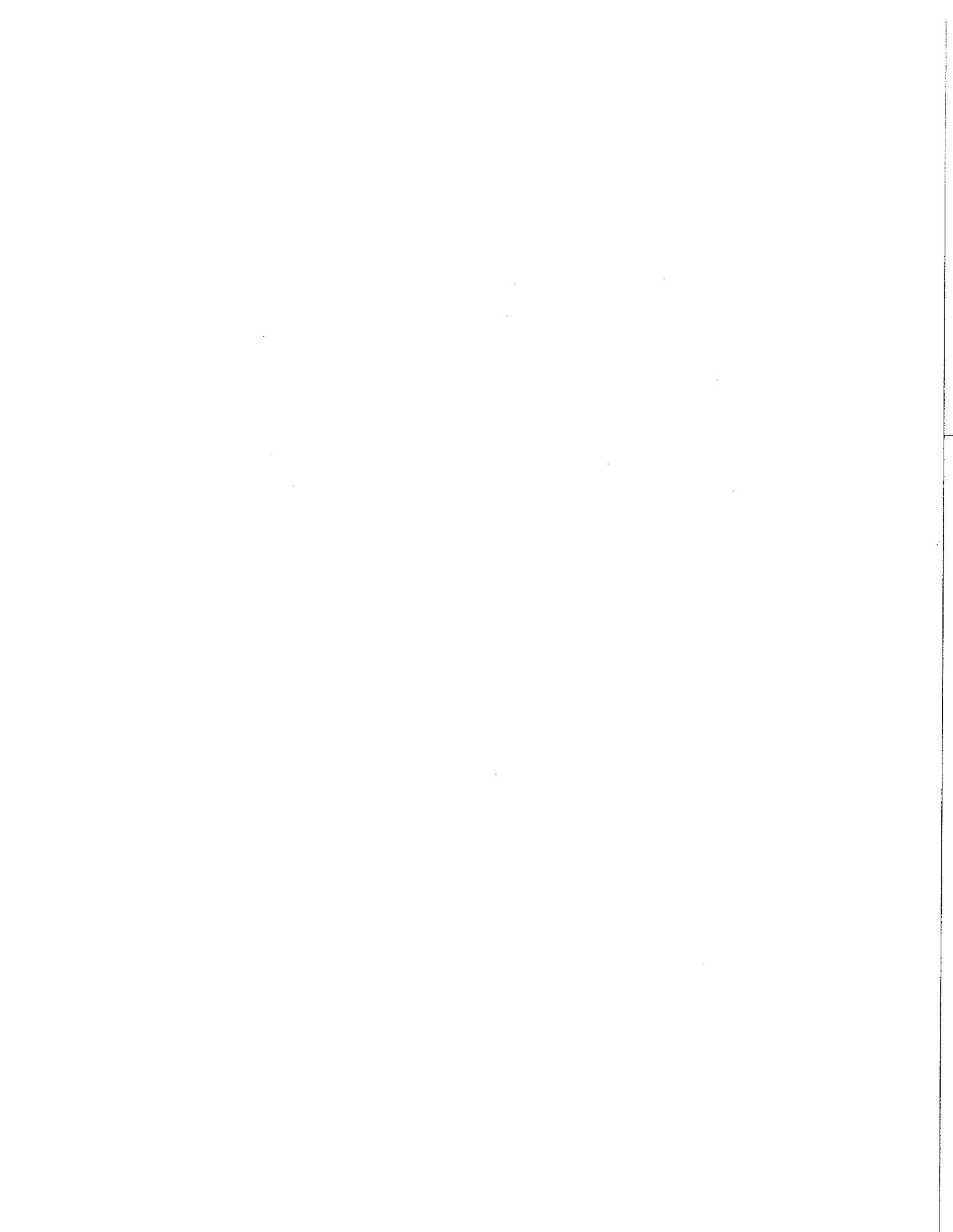
16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, Nufarm Americas Inc. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Nufarm Americas Inc. be responsible for damages of any nature whatsoever resulting from the use of or reliance upon Information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

AquaNeat is a registered trademark of Nufarm Americas Inc.



Group 9 Herbicide

RAZOR[®]

Herbicide

The complete broad spectrum postemergence herbicide for industrial, forestry, turf, vegetation management and ornamental weed control

ACTIVE INGREDIENTS:

Glyphosate, N-(phosphonomethyl) glycine,
in the form of its isopropylamine salt* 41.0%

OTHER INGREDIENTS: 59.0%

TOTAL: 100.0%

* Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt.
Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

**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. 228-366

Manufactured for
Nufarm Americas Inc.
150 Harvester Drive
Burr Ridge, IL 60527



**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION / PRECAUCION**

Causes moderate eye irritation. Harmful if swallowed or inhaled. Do not get in eyes or on clothing. Avoid breathing vapor or spray mist.

| FIRST AID | |
|--|---|
| Have the product container or label with you when calling a poison control center or doctor, or going for treatment. | |
| IF IN EYES | <ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice. |
| IF SWALLOWED | <ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to do so by a poison control center or doctor.• Do not give anything by mouth to an unconscious person. |
| IF INHALED | <ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably mouth-to-mouth, if possible.• Call a poison control center or doctor for further treatment advice. |

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 F on an EPA chemical-resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. **DO NOT** reuse them. 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.

Engineering Controls Statement:

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

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.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, 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.

PHYSICAL OR CHEMICAL HAZARDS

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

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lit cigarette or other ignition source.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. **READ ENTIRE LABEL BEFORE USING THIS PRODUCT.** 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 regulations.

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 4 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, chemical-resistant gloves made of any waterproof material such as barrier laminate or Viton-13, and shoes plus socks.

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 for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep people and pets off treated areas until spray solution has dried.

PRODUCT INFORMATION

Do not apply this product using aerial spray equipment except under conditions as specified within this label.

This product, a water-soluble liquid, mixes readily with water to be applied as a foliar spray for the control or eradication of most herbaceous plants. It may be applied through most standard industrial or field-type sprayers after dilution and thorough mixing with water in accordance with label instructions.

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

Unless otherwise specified on this label, delay application until vegetation has emerged and reached the stages described for control of such vegetation under the "WEEDS CONTROLLED" section of this label.

Always use the higher rate of this product per acre within the specified range when (1) weed growth is heavy or dense, or (2) weeds are growing in an undisturbed (non-cultivated) area.

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

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

Rainfall or irrigation occurring within 6 hours after application may reduce effectiveness. Heavy rainfall or irrigation within 2 hours after application may wash the spray mixture off the foliage and a repeat treatment may be required.

This product does not provide residual weed control. For subsequent residual weed control, follow a label-approved herbicide program. Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

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

DOMESTIC ANIMALS: This product is considered to be relatively nontoxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

If application rates for grass seed, sod production, general non-crop areas, industrial sites, pasture grass and rangeland total 3 quarts per acre or less, no waiting period between treatment and feeding or livestock grazing is required. If the rate is greater than 3 quarts per acre, remove domestic livestock before application and wait 8 weeks after application before grazing or harvesting.

WEED RESISTANCE

Any weed population may contain plants that are naturally resistant to glyphosate, the active ingredient in this product, and to other herbicides with the same mode of action. **ATTENTION:** These resistant weed biotypes will not be controlled by this product. Consult advisors such as your local agricultural extension service for agronomic management practices to minimize the occurrence of glyphosate resistance and considerations for supplemental control measures.

Weed Management

To minimize the occurrence of glyphosate-resistant biotypes, observe the following general weed management instructions:

- Scout your fields before and after herbicide applications.
- Start with a clean field, using either a burndown herbicide application or tillage.
- Control weeds early when they are relatively small.
- Add other herbicides (e.g. a selective and/or a residual herbicide) and cultural practices (e.g. tillage or crop rotation) where appropriate.
- One method for adding other herbicides into a continuous Roundup Ready® system is to rotate to other Roundup Ready crops.
- Utilize the specified label rate for the most difficult to control weed in your field. Avoid tank mixtures with other herbicides that reduce this product's efficacy (through antagonism), or tank mixture that encourage application of this product below specified rates.
- Control weed escapes and prevent weeds from setting seeds.
- Clean equipment before moving from field to field to minimize the spread of weed seed or plant parts.

- Use new commercial seed that is as free of weed seed as possible.
- Report any incidence of repeated non-performance of this product on a particular weed to your Nufarm representative, local retailer, or county extension agent.

Management of Glyphosate-Resistant Biotypes

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

The following good agronomic practices are designed to reduce the spread of confirmed glyphosate-resistant biotypes:

- If a naturally occurring resistant biotype is present in your field, this product should be tank-mixed or applied sequentially with an appropriately labeled herbicide with a different mode of action to achieve control.
- Cultural and mechanical control practices (e.g. crop rotation or tillage) may also be used as appropriate.
- One method for adding other herbicides into a continuous Roundup Ready system is to rotate to other Roundup Ready crops.
- Scout treated fields after herbicide applications and control escaping weeds including resistant biotypes before they set seed.
- Thoroughly clean equipment before leaving fields known to contain resistant biotypes.

ATTENTION

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

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction. The likelihood of injury occurring from the use of this product is greatest when winds are gusty or in excess of 6 miles per hour or when other conditions, including lesser wind velocities, will allow spray drift to occur. When spraying, avoid combinations of pressure and nozzle type that will result in splatter or fine particles (mist) which are likely to drift. AVOID SPRAYING AT EXCESSIVE SPEED OR PRESSURE.

NOTE: Use of this product in any manner not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

For questions or additional rate information contact your Nufarm representative.

MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS

APPLY THESE SPRAY SOLUTIONS IN PROPERLY MAINTAINED AND CALIBRATED EQUIPMENT CAPABLE OF DELIVERING DESIRED VOLUMES. DO NOT APPLY WHEN WIND OR OTHER CONDITIONS FAVOR DRIFT. HAND-GUN APPLICATIONS SHOULD BE PROPERLY DIRECTED TO AVOID SPRAYING DESIRABLE PLANTS.

NOTE: REDUCED RESULTS MAY OCCUR IF WATER CONTAINING SOIL IS USED, SUCH AS WATER FROM PONDS AND UNLINED DITCHES.

MIXING

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

TANK MIXTURES

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

Mix labeled tank mixtures of this product with water as follows:

Add individual formulations to the spray tank as follows: wettable powder, flowable, emulsifiable concentrate, drift control additive, water soluble liquid followed by surfactant.

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

Carefully select proper nozzle to avoid spraying a fine mist. For best results with conventional ground application equipment, use flat fan nozzles.

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

MIXING FOR HAND-HELD SPRAYERS

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

SPRAY SOLUTION:

| DESIRED VOLUME | AMOUNT OF RAZOR HERBICIDE | | | | | |
|----------------|---------------------------|--------------------|----------------|--------------------|--------------------|-----------------|
| | 1/2% | 1% | 1-1/2% | 2% | 5% | 10% |
| 1 Gal. | 2/3 fluid ounce | 1-1/3 fluid ounces | 2 fluid ounces | 2-2/3 fluid ounces | 6-1/2 fluid ounces | 13 fluid ounces |
| 25 Gal. | 1 pint | 1 quart | 1-1/2 quart | 2 quarts | 5 quarts | 10 quarts |
| 100 Gal. | 2 quarts | 1 gallon | 1-1/2 gallon | 2 gallons | 5 gallons | 10 gallons |

2 tablespoons = 1 fluid ounce

For use in knapsack sprayers, it is suggested that the specified amount of this product be mixed with water in a larger container. Fill sprayer with the mixed solution.

ADDITIVES

SURFACTANTS

Nonionic surfactants which are labeled for use with herbicides may be used. Do not reduce rates of this product when adding surfactant. When adding additional surfactants follow manufacturers rates and instructions for use of the surfactant. Read and carefully observe surfactant cautionary statements and other information appearing on the surfactant label.

AMMONIUM SULFATE

The addition of 1 to 2 percent dry ammonium sulfate by weight or 8.5 to 17 pounds per 100 gallons of water may increase the performance of this product, and this product plus 2,4-D, Dicamba or residual herbicide tank mixtures on annual and perennial weeds. The improvement in performance may be apparent where environmental stress is a concern. If ammonium sulfate is added directly to the spray tank, add slowly with agitation. Adding too quickly may clog outlet lines. Ensure that ammonium sulfate is completely dissolved in the spray tank before adding herbicides or surfactant. Thoroughly rinse the spray system with clean water after use to reduce corrosion.

NOTE: The use of ammonium sulfate as an additive does not preclude the need for additional surfactant. When using ammonium sulfate, apply this product at rates specified on this label. Lower rates will result in reduced performance.

COLORANTS OR DYES

Agriculturally-approved colorants or marking dyes may be added to this product. Colorants or dyes used in spray solutions of this product may reduce performance, especially at lower rates or dilutions. Use colorants or dyes according to the manufacturer's instructions.

APPLICATION EQUIPMENT AND TECHNIQUES

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

This product may be applied with the following application equipment:

Aerial - Fixed Wing and Helicopter

Broadcast Spray

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

Hand-Held and High-Volume Spray Equipment - Knapsack and backpack sprayers, pump-up pressure sprayers, handguns, handwands, mistblowers*, lances and other hand-held and motorized spray equipment used to direct the spray onto weed foliage.

*This product is not registered in California or Arizona for use in mistblowers.

Selective equipment - Recirculating sprayers, shielded sprayers, hooded sprayers and wiper applicators. See the appropriate part of this section for specific instructions and rates of application.

AERIAL EQUIPMENT

Use the specified rates of this herbicide in sufficient volume of water to insure thorough coverage unless otherwise specified in this label. See the "WEEDS CONTROLLED" section of this label for specific use rates. Unless otherwise specified, do not exceed 1 quart per acre. Aerial applications of this product may be made in annual cropping conventional tillage systems, fallow and reduced tillage systems, Roundup Ready crops, and preharvest applications. Refer to the individual use area sections of this label for specified volumes and application rates. **FOR AERIAL APPLICATION IN CALIFORNIA, see below.**

Avoid direct application to any body of water.

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

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

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

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

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

This product plus Spider® (Sulfometuron methyl), Diablo® (Dicamba) or 2,4-D tank mixtures may not be applied by air in California.

SPRAY DRIFT MANAGEMENT

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

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

Importance of Droplet Size

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

Controlling Droplet Size

Volume-Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.

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

Number of nozzles-Use the minimum number of nozzles that provide uniform coverage.

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

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

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

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

Swath Adjustment

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

Wind

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

Temperature And Humidity

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

Temperature Inversions

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

Sensitive Areas

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

FOR AERIAL APPLICATION IN CALIFORNIA ONLY

EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT OF SPRAY WITH FOLIAGE, GREEN STEMS, OR FRUIT OF DESIRABLE CROPS, PLANTS, TREES, OR OTHER DESIRABLE VEGETATION SINCE SEVERE DAMAGE OR DESTRUCTION MAY RESULT.

Noncrop Sites

When applied as directed and under the conditions described in the "Weeds Controlled" section of the label booklet for this product, this herbicide will control or partially control the labeled weeds growing in the following industrial, recreational and public areas, such as airports, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial plant sites, lumber yards, manufacturing sites, office complexes, parking areas, parks, petroleum tank farms and pumping installations, pipelines, power and telephone rights-of-way, railroads, roadsides (guideways, shoulders), schools, storage areas, utility substations, warehouse areas and other public areas.

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

Use the following guidelines when aerial applications are made near crops or desirable perennial vegetation after bud break and before total leaf drop, and/or near other desirable vegetation or annual crops.

1. Do not apply within 100 feet of all desirable vegetation or crop(s).
2. If wind up to 5 miles per hour is blowing toward desirable vegetation or crop(s), do not apply within 500 feet of the desirable vegetation or crop(s).
3. Winds blowing from 5 to 10 miles per hour toward desirable vegetation or crop(s) may require buffer zones in excess of 500 feet.
4. Do not apply when winds are in excess of 10 miles per hour or when inversion conditions exist.

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

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

Ensure uniform application - to avoid streaked, uneven or overlapped application, use appropriate marking devices.

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

FOR AERIAL APPLICATION IN FRESNO COUNTY, CALIFORNIA ONLY

From February 15 through March 31 only. For aerial application outside of these dates, refer to the "FOR AERIAL APPLICATION IN CALIFORNIA ONLY" section printed above.

APPLICABLE AREA

This supplement only applies to the area contained inside the following boundaries within Fresno County, California only.

North: Fresno County line
South: Fresno County line
East: State Highway 99
West: Fresno County line

PRODUCT INFORMATION

Always read and follow the label directions and precautionary statements for all products used in the aerial application.

Observe the following directions to minimize off-site movement during aerial application of this herbicide. Minimization of off-site movement is the responsibility of the grower, Pest Control Advisor, and aerial applicator.

WRITTEN RECOMMENDATIONS

A written recommendation **MUST** be submitted by or on behalf of the applicator to the Fresno County Agricultural Commissioner 24 hours prior to the application. This written recommendation **MUST** state the proximity of surrounding crops, and that conditions of each manufacturer's applicable product label(s) and this label have been satisfied.

AERIAL APPLICATOR TRAINING AND EQUIPMENT

Aerial application of this herbicide is limited to pilots who have successfully completed a Fresno County Agricultural Commissioner and California Department of Pesticide Regulation approved training program for aerial application of herbicides. All aircraft must be inspected, critiqued in flight, and certified at a Fresno County Agricultural Commissioner approved fly-in. Test and calibrate spray equipment at intervals sufficient to insure that proper rates of herbicides and adjuvants are being applied during commercial use. Applicator must document such calibrations and testing. Demonstration of performance at Fresno County Agricultural Commissioner approved "fly-ins" constitutes such documentation, or other written records showing calculations and measurements of flight and spray parameters acceptable to the Fresno County Agricultural Commissioner.

Application at night - Do not apply this product by air earlier than 30 minutes prior to sunrise and/or later than 30 minutes after sunset without prior permission from the Fresno County Agricultural Commissioner.

To report known or suspected misuse of this product or for additional information on the proper aerial application of this product, call 1-800-852-5234.

Read the "WARRANTY" section in this label booklet before using this product.

BROADCAST EQUIPMENT

For control of annual or perennial weeds listed on this label using broadcast equipment - Use the specified rates of this product per acre as a broadcast spray unless otherwise specified on this label. See the "WEEDS CONTROLLED" section of this label for specific rates.

CONTROLLED DROPLET APPLICATION (CDA)

Apply these spray solutions in properly maintained and calibrated equipment capable of delivering desired volumes.

The rate of this product applied per acre by vehicle-mounted CDA equipment must not be less than the amount specified in this label when applied by conventional broadcast equipment.

For vehicle-mounted CDA equipment apply [3 to 15 gallons of water per acre] or [in a sufficient volume of water to assure thorough coverage].

For the control of labeled annual weeds with hand-held CDA units, apply a 20 percent solution. For the control of labeled perennial weeds, apply a 20 to 40 percent solution of this product.

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

HAND-HELD AND HIGH-VOLUME EQUIPMENT

Use Coarse Sprays Only

Mix this product in clean water and apply to foliage of vegetation to be controlled. For applications made on a spray-to-wet basis, spray coverage should be uniform and complete. Do spray to the point of runoff.

For control of annual weeds listed on this label, apply a 0.5 percent solution of this product plus nonionic surfactant to weeds less than 6 inches in height or runner length. Apply prior to seedhead formation in grass or bud formation in broadleaf weeds. For agricultural uses, allow 3 or more days before tillage or mowing.

For annual weeds over 6 inches tall, or when not using additional surfactant, or unless otherwise specified, use a 1 percent solution. For best results, use a 2 percent solution on harder-to-control [perennials, such as Bermudagrass, Dock, Field bindweed, Hemp dogbane, Milkweed and Canada thistle.] or [weeds.]

When using application methods which result in less than complete coverage, use a 5 percent solution for annual and perennial weeds and a 5 to 10 percent solution for woody brush.

See the "MIXING FOR HAND-HELD SPRAYERS" section of this label for specific rates.

SELECTIVE EQUIPMENT

This product may be applied through a recirculating spray system, shielded and hooded applicators, or wiper applicators after dilution and thorough mixing with water to listed weeds growing in any noncrop site specified on this label and only when specifically instructed in cropping systems.

AVOID CONTACT WITH DESIRABLE VEGETATION

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

Applications made above the crops should be made when the weeds are a minimum of 6 inches above the desirable vegetation. Better results may be obtained when more of the weed is exposed to the herbicide solution. Weeds not contacted by the herbicide solution will not be affected. This may occur in dense clumps, severe infestations or when the height of the weeds varies so that not all weeds are contacted. In these instances, repeat treatment may be necessary.

SHIELDED AND HOODED APPLICATORS

When applied as directed under conditions described for shielded applicators, this product will control those weeds listed in the "WEEDS CONTROLLED" section of this label. Use the following equation to convert from a broadcast rate per acre to a band rate

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Herbicide Broadcast RATE per acre} = \text{Herbicide Band RATE per acre}$$

$$\frac{\text{Band width in inches}}{\text{Row width in inches}} \times \text{Broadcast VOLUME of solution per acre} = \text{Band VOLUME of solution per acre}$$

Use nozzles that provide uniform coverage within the treated area. Keep shields on shielded sprayers adjusted to protect desirable vegetation. EXTREME CARE MUST BE EXERCISED TO AVOID CONTACT WITH DESIRABLE VEGETATION.

A hooded sprayer is a type of shielded applicator. The spray pattern is completely enclosed on the top and all 4 sides by a hood, thereby shielding the crop from the spray solution. This equipment must be set up and operated in a manner that avoids bouncing or raising the hoods off the ground in any way. If the hoods are raised, spray particles may escape and come into contact with the crop, causing damage or destruction of the crop. The spray hoods must be operated on the ground or skimming across the ground. Tractor speed must be adjusted to avoid bouncing of the spray hoods. Avoid operation on rough or sloping ground where the spray hoods might be raised off the ground.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

WIPER APPLICATORS

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

Equipment must be designed, maintained and operated to prevent the herbicide solution from contacting desirable vegetation. Operate this equipment at ground speeds no greater than 5 mph. Performance may be improved by reducing speed in areas of heavy weed infestations to ensure adequate wiper saturation. Better results may be obtained if 2 applications are made in opposite directions.



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

Do not use wiper equipment when weeds are wet.

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

Do not add surfactant to the herbicide solution for wiper applications.

For Rope or Sponge Wick-Applicators - Mix 1 gallon of this product in 2 gallons of water to prepare a 33 percent solution. Apply this solution to weeds listed in this "WIPER APPLICATORS" section.

For Porous-Plastic Applicators - Solutions ranging from 33 to 100 percent of this product in water may be used in porous-plastic wiper applicators.

When applied as directed under the conditions described for "WIPER APPLICATORS", this product **CONTROLS** the following weeds.

ANNUAL GRASSES

Com Panicum, Texas Rye, common Shattercane

ANNUAL BROADLEAVES

Sicklepod Spanishneedles Starbur, bristly

When applied as directed under the conditions described for "WIPER APPLICATORS", this product **SUPPRESSES** the following weeds.

ANNUAL BROADLEAVES

Beggarweed, Florida Pigweed, redroot, Ragweed, giant Thistle, musk
Dogfennel Ragweed, common Sunflower Velvetleaf

PERENNIAL GRASSES

Bermudagrass Guineagrass Johnsongrass Smudgrass Vaseygrass

PERENNIAL BROADLEAVES

Dogbane Hemp Milkweed Nightshade, silverleaf Thistle, Canada

WEEDS CONTROLLED

This herbicide controls many annual and perennial grasses and broadleaf weeds.

APPLICATIONS RATE TABLE

For annual and perennial weeds and woody brush

| METHOD OF APPLICATION | APPLICATION RATE | SPRAY VOLUME (Gallons/Acre) |
|-----------------------------------|--------------------|-----------------------------|
| Broadcast | | |
| Aerial | 4 fluid ounces to | 5 to 30 |
| Ground | 10 quarts per acre | 3 to 100 |
| Spray-to-Wet | 1 to 2 percent | spray-to-wet |
| Handgun, Backpack, Mistblower | by volume | |
| Low Volume Directed Spray* | 5 to 10 percent | partial coverage |
| Handgun | by volume | |
| Backpack | | |

*For low volume directed spray applications, coverage should be uniform with at least 50 percent of the foliage contacted. For best results, coverage of the top one-half of the plant is important.

NON-AGRICULTURAL USES

When applied as directed under the conditions described, this product will control the following annual weeds. See "APPLICATION RATES TABLE" for specified spray volumes.

| | | | | |
|--------------------|---------------------|----------------------------|------------------------|------------------|
| Barley | Cyabgrass | Horseweed/Marestail | Pusley, Florida | Strangletop |
| Barnyardgrass | Dwarfandelion | Johnsongrass, seedling | Rice, red | Spurge, annual |
| Bluegrass, | Falsefax, smallseed | Lambsquarters, common | Rocket, London | Spurry, umbrella |
| (Annual, Bulbous) | Filaree | Momingglory | Rye | Stinkgrass |
| Brome, downy | Foxtail | Mustard, (Blue, Tansy, | Ryegrass, Italian | Teaweed |
| Buttercup | Foxtail, Carolina | Tumble, Wild) | Sandbur, field | Wheat |
| Cheatgrass | Geranium, Carolina | Oats, wild | Shattercane | Witchgrass |
| Chickenweed | Goatgrass, jointed | Panicum, (tall, Texas) | Sheperdspurse | |
| (Common, Mouseear) | Goosegrass | Pennycress, field | Sicklepod | |
| Cocklebur | Groundsel, common | Pigweed, (Redroot, Smooth) | Signalgrass, broadleaf | |
| Com | Henbit | Primrose, cutleaf evening | Spanishneedles | |



AGRICULTURAL USES

Apply to actively growing grass and broadleaf weeds. To prevent seed production, applications should be made prior to seedhead formation. This product does not provide residual control; therefore, delay application until maximum weed emergence. Repeat treatments may be necessary to control later germinating weeds. For maximum agronomic benefit, apply when weeds are 6 inches or less in height. Allow at least 3 days after treatment before tillage.

LOW-VOLUME BROADCAST APPLICATION (LOW-RATE TECHNOLOGY)

When applied as directed under the conditions described, this product will control the annual weeds listed below in the "ANNUAL WEEDS RATE TABLE" when:

f. Apply in sufficient volume of water to ensure thorough coverage.

NOTE

- Do not tank-mix with soil residual herbicides when using these rates unless otherwise specified.
- For weeds that have been mowed, grazed or cut, allow regrowth to occur prior to treatment.
- Refer to the "TANK MIXTURES" portion of this section for control of additional broadleaf weeds.

ANNUAL WEEDS RATE TABLE

| WEED SPECIES | MAXIMUM HEIGHT/LENGTH (Inches) | USE RATE (Pounds/Acre) |
|------------------------|-----------------------------------|---------------------------|
| Barley | 12 | 12 |
| Barnyardgrass | 6 [0.10-1 14-16.0] | 12 16[1 24] |
| Bluegrass, bulbous | 6 | 16 |
| Bluegrass, annual | 6 | 12 |
| Brome, downy** | 6 | 12 |
| Buttercup | 12 | 16 |
| Cheat | 6 | 16 |
| Chickweed, common | 6 | 16 |
| Chickweed, mouseear | 6 | 16 |
| Cocklebur | 12 | 16 |
| Corn | 6 | 16 |
| Crabgrass | 12 | 16 |
| Dwarf dandelion | 12 | 16 |
| Falseflax, smallseed | 12 | 16 |
| Filaree | 12 | 48 |
| Foxtail | 12 | 8 |
| Foxtail, Carolina | 12 | 16 |
| Geranium, Carolina | 12 | 32 |
| Goatgrass, jointed | 6 | 16 |
| Goosegrass | 12 | 32 |
| Groundsel, common | 6 | 16 |
| Henbit | 6 | 16 |
| Horseweed/Marestail | 6 7 to 12 | 16 24 |
| Johnsongrass, seedling | 12 | 16 |
| Lambsquarters, common | 6 7 to 12 | 12 24 |
| Morningglory | 2 | 16 |

ANNUAL WEEDS RATE TABLE (continued)

| WEED SPECIES | MAXIMUM HEIGHT/LENGTH (Inches) | USE RATE (Fluid Ounces/Acre) |
|---------------------------|-----------------------------------|---------------------------------|
| Mustard, blue | 6 | 12 |
| Mustard, lansy | 6 | 12 |
| Mustard, tumble | 6 | 12 |
| Mustard, wild | 6 | 12 |
| Oats, wild | 12 | 16 |
| Panicum, fall | 12 | 16 |
| Panicum, Texas | 12 | 16 |
| Pennycress, field | 6 | 16 |
| Pigweed, redroot | 12 | 16 |
| Pigweed, smooth | 12 | 16 |
| Primrose, cutleaf evening | 12 | 32 |
| Pustley, Florida | 12 | 32 |
| Rice, red | 4 | 32 |
| Rocket, London | 6 | 16 |
| Rye | 12 | 12 |
| Ryegrass, Italian | 6 | 16 |
| Shattercane | 12 | 12 |
| Shepherdspurse | 6 | 16 |
| Sicklepod | 2 | 16 |
| | 3 to 4 | 24 |
| | 5 to 12 | 32 |
| Signalgrass, broadleaf | 4 | 24 |
| Spanishneedles | 5 to 12 | 32 |
| Sprangletop | 6 | 32 |
| | 12 | 48 |
| Spurge, annual | 6 | 16 |
| | 7 to 12 | 24 |
| Spurry, umbrella | 6 | 12 |
| Stinkgrass | 12 | 12 |
| Teaweed | 4 | 32 |
| Wheat | 18 | 12 |
| Witchgrass | 12 | 16 |

¹ Use these rates to control barnyardgrass in Alabama, Arkansas, Mississippi, Missouri, Louisiana and Texas for preplant treatments.

*For those rates less than 32 fluid ounces per acre, this product at rates up to 32 fluid ounces per acre may be used where heavy weed densities exist.

**For control in no-till systems, use 16 fluid ounces per acre.

HIGH-VOLUME BROADCAST APPLICATIONS

When applied as directed under the conditions described, this product will control the weeds listed below when water carrier volumes are 10 gallons or more for sufficient coverage.

Apply 1 to 1.5 quarts of this product per acre plus additional surfactant according to the manufacturers rates and specifications for of the surfactant. Use 1 quart per acre if weeds are less than 6 inches tall and 1.5 quarts per acre if weeds are over 6 inches tall. If weeds have been mowed, grazed or cut, allow adequate time for new growth to reach specified stages prior to treatment. These rates will also provide control of weeds listed in the "LOW-VOLUME BROADCAST APPLICATION" section.

| | | | |
|------------------|------------------|-------------------------|--------------------|
| Balsamapple* | Fleabane, hairy | Panicum | Sowthistle, annual |
| Bassia, fivehook | Fleabane | Ragweed, common | Sunflower |
| Brome | Kochia | Ragweed, giant | Thistle, Russian, |
| Fiddleneck | Lettuce, prickly | Smartweed, Pennsylvania | Velvetleaf |

*Apply with hand-held equipment only.

PERENNIAL WEEDS

Apply this product as follows to control or destroy most perennial weeds:

When applied as directed under the conditions described, this product WILL CONTROL the following PERENNIAL WEEDS:

| | | | |
|---------------------------------|-----------------|---------------------------|---------------------|
| Alfalfa | Cogongrass | Nightshade, silverleaf | Starthistle, yellow |
| Alligatorweed* | Dallisgrass | Nutsedge (Purple, Yellow) | Sweet potato, wild* |
| Anise (fennel) | Dandelion | Orchardgrass | Thistle, Canada |
| Artichoke, Jerusalem | Dock, curly | Pampasgrass | Thistle, artichoke |
| Bahiagrass | Dogbane, hemp | Paragrass | Timothy |
| Bentgrass | Fescues | Phragmites* | Turpedgrass* |
| Bermudagrass | Fescue, tall | Poison hemlock | Trumpet Creeper* |
| Bermudagrass, water (knotgrass) | Guineagrass | Quackgrass | Vaseygrass |
| Bindweed, field | Horseneilite | Redvine* | Velvetgrass |
| Bluegrass, Kentucky | Horseradish | Reed, giant | Wheatgrass, western |
| Cattail | Ice plant | Ryegrass, perennial | |
| Clover (Red, White) | Mullein, common | Smartweed, swamp | |
| | Napiagrass | Spurge, leafy | |

*Partial control.

This product is not registered in California for use on water Bermudagrass.

PERENNIAL WEEDS RATE TABLE

Apply to actively growing perennial weeds. See "APPLICATION RATES TABLE" for specific spray volumes. For other perennials listed on this label and not found in the table below, apply 3 to 5 quarts of this product per acre. Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses, allow 7 or more days after application before tillage.

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and instructions for use of the surfactant.

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|----------------------|---|---|
| Alfalfa | 1 | |
| | Make application after the last hay cutting in the fall. Allow alfalfa to regrow to a height of 6 to 8 inches or more prior to treatment. For agricultural uses applications should be followed with deep tillage at least 7 days after treatment, but before soil freeze-up. | |
| Alligatorweed | 4 | 1.5 |
| | Partial control. Apply when most of the plants are in bloom. Repeat applications will be required to maintain such control. | |
| Anise (fennel) | - | 1 to 2 |
| | Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds. | |
| Artichoke, Jerusalem | 3 to 5 | |
| | Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses allow 7 or more days after application before tillage. | |
| Bahiagrass | 3 to 5 | |
| | Apply when actively growing and most have reached early head or early bud stage of growth. For agricultural uses allow 7 or more days after application before tillage. | |
| Bentgrass | 1.5 | |
| | For suppression in grass seed production areas. For ground applications only. Ensure entire crown area has resumed growth prior to a fall application. Bentgrass should be actively growing and have at least 3 inches of growth. Tillage prior to treatment should be avoided. Tillage 7 to 10 days after application for best results. Failure to use tillage after treatment may result in unacceptable control. | |

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|---------------------------------|---|---|
| Bermudagrass | 3 to 5 | -- |
| | For control, apply 5 quarts of this product per acre. For partial control, apply 3 quarts per acre. Treat when Bermudagrass is actively growing and seedheads are present. Retreatment may be necessary to maintain control. Allow 7 or more days after application before tillage. | |
| Bermudagrass, water (knotgrass) | 1 to 1.5 | -- |
| | Apply when water Bermudagrass is actively growing and 12 to 18 inches in length. For agricultural uses apply 1.5 quarts of this product per acre. Allow 7 or more days before tilling, flushing or flooding the field. Fall applications only: - Fallow field should be tilled prior to application. Apply prior to frost on water Bermudagrass that is actively growing and 12 to 18 inches in length. For agricultural uses apply 1 quart of this product per acre. Allow 7 or more days before tillage. | |
| Bindweed, field | 1 to 5 | -- |
| | For control, apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts east of the Mississippi River. Apply when the weeds are actively growing and are at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. Also for control, apply 2 quarts of this product plus 0.5 pound a.i. of Dicamba per acre. At these rates, apply using ground application only. Agricultural Uses: The following tank mixes with 2,4-D may be applied using aerial application equipment (except in California) in fallow and reduced tillage systems only. For suppression on irrigated agricultural land, apply 1 to 2 quarts of this product plus 1 pound a.i. of 2,4-D per acre with ground equipment only. Applications should be made following harvest or in fall fallow ground when the bindweed is actively growing and the majority of runners are 12 inches or more in length. The use of at least one irrigation will promote active bindweed growth. For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre in 3 to 10 gallons of water per acre for ground applications and 3 to 5 gallons of water per acre for aerial applications. Applications should be delayed until maximum emergence has occurred and when vines are between 6 to 18 inches in length. In California only, apply 1 to 5 quarts of this product per acre. Actual rate needed for suppression or control will vary within this range depending on local conditions. For suppression on irrigated land where annual tillage is performed, apply 1 quart of this product per acre plus surfactant. Apply to actively growing bindweed that has reached a length of 12 inches or greater. Allow maximum weed emergence and runner growth. Do not treat when weeds are under drought stress as good soil moisture is necessary for active growth. For agricultural uses allow 3 or more days after application before tillage. | |
| Bluegrass, Kentucky | 2 | -- |
| | Apply when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage. | |
| Bluweed, Texas | 3 to 5 | -- |
| | Apply 4 to 5 quarts of this product per acre west of the Mississippi River and 3 to 4 quarts per acre east of the Mississippi River. Apply when weed is actively growing and is at or beyond full bloom. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. New leaf development indicates active growth. For best results, apply in late summer or fall. Fall treatments must be applied before a killing frost. Allow 7 or more days after application before tillage. | |
| Brackenfern | 3 to 4 | 1 to 1.5 |
| | Apply to fully expanded fronds which are at least 18 inches long. | |

(continued)

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|-------------------------|--|---|
| Bromegrass, smooth | 2 | - |
| | Apply when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. For agricultural uses apply to actively growing plants when most have reached 4 to 12 inches in height. and Allow 7 or more days after application before tillage. | |
| Bursage, woollyleaf | 1 to 2 plus 1 pint Dicamba | - |
| | For control, apply 2 quarts of this product plus 1 pint of Dicamba per acre. For partial control, apply 1 quart of this product plus 1 pint of Dicamba per acre. Apply when plants are producing new active growth which has been initiated by moisture for a least 2 weeks and when plants are at or beyond flowering. | |
| Canarygrass, reed | 2 to 3 | - |
| | For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage. | |
| Cattail | 3 to 5 | - |
| | Apply when actively growing and most have reached early head to early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Clover: Red White | 3 to 5 | - |
| | Apply when actively growing and most have reach early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Cogongrass | 3 to 5 | - |
| | Apply when Cogongrass is at least 18 inches tall and actively growing in late summer or fall. Due to uneven stages of growth and the dense nature of vegetation preventing good spray coverage, repeat treatments may be necessary to maintain control. Allow 7 or more days after application before tillage or mowing. | |
| Dallisgrass | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Dandelion | 3 to 5 | - |
| | Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D per acre. | |
| Dock, curly | 3 to 5 | - |
| | Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound a.i. 2,4-D per acre. | |
| Dogbane, hemp | 4 | - |
| | Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage. For suppression, apply 16 fluid ounces of this product plus 0.5 pound a.i. of 2,4-D per acre. Delay applications until maximum emergence of dogbane has occurred. | |
| Fescue (except tall) | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |

(continued)

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|------------------|---|---|
| Fescue, tall | 1 to 5 | - |
| | Apply 3 quarts of this product in per acre to actively growing plants when most have reached boot-to-early seedhead stage of development. Fall applications only: Apply 1 quart of this product per acre. Apply to fescue in the fall when actively growing and plants have 6 to 12 inches of new growth. A sequential application of 1 pint per acre of this product plus nonionic surfactant will improve long-term control and control seedlings germinating after fall treatments or the following spring. Allow 7 or more days after application before tillage. | |
| Guineagrass | 3 | 1 |
| | Apply to actively growing guineagrass when most has reached at least the 7-leaf stage of growth. Ensure thorough coverage when using hand-held equipment. Allow 7 or more days after application before tillage. | |
| Horsenettle | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Horseradish | 4 | - |
| | Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage. | |
| Ice plant | | 1.5 to 2 |
| | Apply to plants that are actively growing. Thorough coverage is necessary for best control. | |
| Johnsongrass | 0.5 to 3 | 1 |
| | In noncrop or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. Use 2 quarts of this product when applying 10 to 40 gallons of water per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate. Allow 7 or more days after application before tillage. For burndown of Johnsongrass, apply 1 pint per acre before the plants reach a height of 12 inches. For this use, allow at least 3 days after treatment before tillage. Spot treatment (partial control or suppression)-Apply a 1 percent solution of this product when Johnsongrass is 12 to 18 inches in height. Coverage should be uniform and complete. | |
| Kikuyugrass | 2 to 3 | - |
| | Spray when most kikuyugrass is at least 8 inches in height (3 or 4-leaf stage of growth) and actively growing. Allow 3 or more days after application before tillage. | |
| Knapweed | 2 to 3 | - |
| | Apply when actively growing and when most weeds have reached the late bud to flower stage of growth. Following crop harvest or mowing, allow weeds to regrow to a mature stage prior to treatment. For best results, apply in late summer or fall. Allow 7 or more days after application before tillage. | |
| Lantana | - | 1 to 1.25 |
| | Apply to actively growing lantana at or beyond the bloom stage of growth. Use the higher application rate for plants that have reached the woody stage of growth. Allow 7 or more days after application before tillage. | |
| Lespedeza | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Milkweed, common | 3 | - |
| | Apply when actively growing and most of the milkweed has reached the late bud to flower stage of growth. Following small grain harvest or mowing, allow milkweed to regrow to a mature stage prior to treatment. Allow 7 or more days after application before tillage. | |

(continued)

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|-------------------------------|---|---|
| Muhly, wirestem | 1 to 2 | -- |
| | Use 1 quart of this product per acre. Use 2 quarts per acre in pasture, sod, or noncrop areas. Spray when the wirestem muhly is 8 inches or more in height and actively growing. Do not till between harvest and fall applications or in the fall or spring prior to spring applications. This product will not provide residual control of wirestem muhly from seeds which germinate after application of this product. Do not tank mix with residual herbicides when using the 1 quart per acre rate. Allow 3 or more days after application before tillage. | |
| Mullein, common | 3 to 5 | |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Napiergrass | 3 to 5 | |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Nightshade, silverleaf | 2 | -- |
| | For control, applications should be made when at least 60 percent of the plants have berries. Fall treatments must be applied before a killing frost. Do not treat when weed is under drought stress as good soil moisture is necessary for active growth. Allow 7 or more days after application before tillage. | |
| Nutsedge: Purple Yellow | 0.5 to 3 | 1 to 2 |
| | Apply 3 quarts of this product per acre as a broadcast spray, or apply a 1 to 2 percent solution from hand-held equipment to control existing nutsedge plants and immature nutlets attached to treated plants. Treat when plants are in flower or when new nutlets can be found at rhizome tips. Nutlets which have not germinated will not be controlled and may germinate following treatment. Repeat treatments will be required for long-term control of ungerminated tubers. Sequential applications of 1 to 2 quarts of this product per acre will provide control. Make applications when a majority of the plants are in the 3 to 5-leaf stage (less than 6 inches tall). Repeat this application, as necessary, when newly emerging plants reach the 3 to 5-leaf stage. Subsequent applications will be necessary for long-term control. For suppression to partial control of existing plants, apply 1 pint to 2 quarts of this product per acre. Treat when plants have 3 to 5 leaves and most are less than 6 inches tall. Repeat treatments will be required to control subsequent emerging plants or regrowth of existing plants. Wait 7 days after treatment before tillage or mowing. | |
| Orchardgrass | 1 to 2 | -- |
| | Apply 2 quarts of this product when the grasses are actively growing and most plants have reached boot-to-early seedhead stage of development. For partial control in pasture or hay crop renovation, apply 1 to 1.5 quarts of this product per acre. Apply to actively growing plants when most have reached 4 to 12 inches in height. Allow 7 or more days after application before tillage. Sods going to no-till corn: Apply 1 to 1.5 quarts of this product per acre. Apply to orchardgrass that is a minimum of 12 inches tall for spring applications and 6 inches tall for fall applications. Allow at least 3 days following application before planting. A sequential application of atrazine will be necessary for optimum results. | |
| Pampasgrass | -- | 1.5 to 2 |
| | Apply to plants that are actively growing. Pampasgrass should be at or beyond the boot stage of growth. Thorough coverage is necessary for best control. | |
| Paragrass | 3 to 5 | -- |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |

(continued)

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|---------------------|---|---|
| Phragmites | 3 to 5 | 1 to 2 |
| | For partial control of phragmites in Florida and the counties of other states bordering the Gulf of Mexico, apply 5 quarts per acre as a broadcast spray or apply a 2 percent solution from hand-held equipment. In other areas of the U.S., apply 3 quarts per acre as a broadcast spray or apply a 1 percent solution from hand-held equipment for partial control. For best results, treat during late summer or fall months or when plants are actively growing and in full bloom. Treatment before or after this stage may lead to reduced control. Due to the dense nature of the vegetation, which may prevent good spray coverage or uneven stages of growth, repeat treatments may be necessary to maintain control. Visual control symptoms will be slow to develop. | |
| Poison hemlock | -- | 1 to 2 |
| | Apply as a spray-to-wet treatment. Optimum results are obtained when plants are treated at the bud to full-bloom stage of growth. Repeat applications may be needed in succeeding years to control plants arising from seeds. | |
| Quackgrass | 1 to 2 | -- |
| | In Annual Cropping Systems, or in Pastures and Sods Followed by Deep Tillage: Apply 1 to 2 quarts of this product per acre. Do not tank mix with residual herbicides when using the 1 quart rate. Spray when quackgrass is 6 to 8 inches in height and actively growing. Do not till between harvest and fall applications or in fall or spring prior to spring application. In pastures or sods, for best results use a moldboard plow. Allow 3 or more days after application before tillage. Pasture or Sod or Other Noncrop Areas Where Deep Tillage is Not Planned Following Application: Apply 2 to 3 quarts per acre. Spray when the quackgrass is greater than 8 inches tall and actively growing. Do not till between harvest and fall application or in fall or spring prior to spring application. Allow 3 or more days after application before tillage. | |
| Redvine | 3/4 to 2 | -- |
| | For suppression, apply 24 fluid ounces of this product per acre at each of two applications 7 to 14 days apart or a single application of 2 quarts per acre. Apply in late September or early October to actively growing plants, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost. | |
| Reed, giant | | 2 |
| | For control. Apply when plants are actively growing. Best results are obtained when applications are made in late summer to fall. | |
| Ryegrass, perennial | 1 to 3 | 1 |
| | In noncrop or areas where annual tillage (no-till) is not performed, apply 2 to 3 quarts of this product per acre. In annual cropping systems apply 1 to 2 quarts of this product per acre. For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth or in the fall prior to frost. Do not tank-mix with residual herbicides when using the 1 quart per acre rate. Allow 7 or more days after application before tillage. | |
| Smartweed, swamp | 3 to 5 | -- |
| | Apply 3 to 5 quarts of this product per acre when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. Also for control, apply 16 fluid ounces of this product plus 0.5 pound active ingredient of 2,4-D per acre in the late summer or fall. Apply when plants are actively growing and most have reached the early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Spurge, leafy | 1/2 | -- |
| | For suppression, apply 1/2 quart of this product plus 0.5 pound active ingredient 2,4-D per acre in the late summer or fall. Apply when plants are actively growing. If mowing has occurred prior to treatment, apply when most of the plants are 12 inches tall. Allow 7 or more days after application before tillage. | |
| Starthistle, yellow | 2 | 2 |
| | Best results are obtained when applications are made during periods of active growth, including the rosette, bolting and early flower stages. | |

(continued)

PERENNIAL WEEDS RATE TABLE (continued)

| PERENNIAL WEEDS | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|---------------------|---|---|
| Sweet potato, wild | - | 3 |
| | Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the specified stage of growth before retreatment. Allow 7 or more days before tillage. | |
| Thistle, artichoke | - | 2 |
| | Apply to actively growing weeds that are at or beyond the bloom stage of growth. Repeat applications may be required. Allow the plant to reach the specified stage of growth before retreatment. Allow 7 or more days before tillage. | |
| Thistle, Canada | 1 to 3 | - |
| | Apply 2 to 3 quarts of this product per acre. Apply to actively growing thistles when most are at or beyond the bud stage of growth. After harvest, mowing or tillage in the late summer or fall, allow at least 4 weeks for initiation of active growth and rosette development prior to the application of this product. Fall treatments must be applied before a killing frost. Allow 30 or more days after application before tillage. For suppression of Canada thistle, apply 1 quart per acre of this product, or 1 pint of this product plus 0.5 pound a.i. 2,4-D per acre, in the late summer or fall after harvest, mowing or tillage. Allow rosette regrowth to a minimum of 6 inches in diameter before treating. Applications can be made as long as leaves are still green and plants are actively growing at the time of application. Allow 30 or more days after application before tillage. | |
| Timothy | 2 to 3 | - |
| | For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage. | |
| Torpedograss | 4 to 5 | - |
| | Partial control. Apply to actively growing torpedograss when most plants are at or beyond the seedhead stage of growth. Repeat application will be required to maintain control. Fall treatments must be applied before frost. Allow 7 or more days after application before tillage. | |
| Trumpet creeper | 2 | - |
| | For control. Apply to actively growing plants in late September or October, which are at least 18 inches tall and have been growing 45 to 60 days since the last tillage operation. Make applications at least 1 week before a killing frost. | |
| Vaseygrass | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Velvetgrass | 3 to 5 | - |
| | Apply when actively growing and most have reached early head or early bud stage of growth. Allow 7 or more days after application before tillage. | |
| Wheatgrass, western | 2 to 3 | - |
| | For best results, apply to actively growing plants when most have reached the boot-to-head stage of growth. Allow 7 or more days after application before tillage. | |

TANK MIXTURES

This product can be tank mixed with additional products to provide residual control of many of the listed hard to control problem species. The addition of specified rates of 2,4-D or Dicamba based products will provide improved control of many annual and perennial weeds. This product may be tank-mixed with other herbicides provided the specific product is registered for use on these sites. When tank mixing, read and observe applicable use directions, precautions and limitations on the respective product labels. Use according to the most restrictive label directions for each product in the mixture.

WOODY BRUSH

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

| | | | |
|------------------------------|--------------------------|---|-----------------------------------|
| Alder | Creepers, Virginia* | Madrone | Salmonberry |
| Ash | Dewberry | Manzanita | Salt cedar |
| Aspen, quaking | Dogwood* | Maple (red, sugar, vine) | Sassafras |
| Bearmat (Bearclover) | Elderberry | Monkey Flower* | Sourwood |
| Beech | Elm* | Oak (Black*, Northern Pin, Post, Red, Southern Red, White*) | Sumac (Poison*, Smooth*, Winged*) |
| Birch | Eucalyptus | Persimmon* | Sweetgum |
| Blackberry | Gorse | Pine | Swordfern |
| Blackgum | Hasardia* | Poison Ivy | Tallowtree, Chinese |
| Bracken | Hawthorn | Poison Oak | Tan Oak |
| Broom (French, Scotch) | Hazel | Poplar, yellow* | Thimbleberry |
| Buckwheat, California* | Hickory* | Raspberry | Tobacco tree* |
| Cascara* | Holly, Florida/Brazilian | Redbud, eastern | Trumpet creeper |
| Catsclaw* | Peppertree* | Rose, multiflora | Waxmyrtle, southern* |
| Ceanothus* | Honeysuckle | Russian-olive** | Willow |
| Chamisa | Hornbeam, American* | Sage (Black, White) | |
| Cherry (Bitter, Black, Pin), | Kudzu | Sagebrush, California | |
| Coyote brush | Locust, black* | | |

* Partial control

** See below for control or partial control instructions.

*** This product is not registered in California for use on Russian-olive.

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

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

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

Ensure thorough coverage when using hand-held equipment. Symptoms may not appear prior to frost or senescence with fall treatments.

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

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

WOODY BRUSH RATE TABLE

See "APPLICATION RATES TABLE" for specific spray volumes.

For Other Woody Brush listed on this label but not found in the table below: For partial control, apply 2 to 5 quarts of this product per acre as a broadcast spray or as a 1 to 2 percent solution with hand-held equipment. For difficult to control perennial weeds and woody brush and trees, where plants are growing under stressed conditions or where infestations are dense, Razor may be used at 5 to 10 quarts per acre for enhanced results. The annual maximum use rate for this product is 10.6 quarts per acre per year.

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and instructions for use of the surfactant.

| WOODY BRUSH | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|----------------------|---|---|
| Alder | For control. 3 to 4 | 1 to 1.5 |
| Ash | For partial control. 2 to 5 | 1 to 2 |
| Aspen, quaking | For control. 2 to 3 | 1 to 1.5 |
| Bearmat (bearclover) | For partial control. 2 to 5 | 1 to 2 |
| Beech | For partial control. 2 to 5 | 1 to 2 |
| Birch | For control. 2 | 1 |
| Blackberry | For control. 3 to 4 | 1 to 1.5 |
| | Make application after plants have reached full leaf maturity. Best results are obtained when applications are made in late summer or fall. After berries have set or dropped in late fall, blackberry can be controlled by applying a 3/4 percent solution of this product with hand-held equipment. For control of blackberries after leaf drop and until killing frost or as long as stems are green, apply 3 to 4 quarts of this product in 10 to 40 gallons of water per acre. | |

WOODY BRUSH RATE TABLE (continued)

| WOODY BRUSH | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|-------------------------------------|---|---|
| Blackgum | For partial control. 2 to 5 | 1 to 2 |
| Bracken | For partial control. 2 to 5 | 1 to 2 |
| Broom: French and Scotch | For control. | 1.5 to 2 |
| Buckwheat, California | For partial control. 2 to 5 | 1 to 2 |
| | Thorough coverage of foliage is necessary for best results. | |
| Cascara | For partial control. 2 to 5 | 1 to 2 |
| Catsclaw | For partial control. | 1 to 1.5 |
| Ceanothus | For partial control. 2 to 5 | 1 to 2 |
| Chamise | For control. | 1 |
| | Thorough coverage of foliage is necessary for best results. | |
| Cherry: Bitter, Black and Pin | For control. 2 to 3 | 1 to 1.5 |
| Coyote brush | For control. | 1.5 to 2 |
| | Apply when at least 50 percent of the new leaves are fully developed. | |
| Creeper, Virginia | For partial control. 2 to 5 | 1 to 2 |
| Dewberry | For control. 3 to 4 | 1 to 1.5 |
| Dogwood | For partial control. 2 to 5 | 1 to 2 |
| Elderberry | For control. 2 | 1 |
| Elm | For partial control. 2 to 5 | 1 to 2 |
| Eucalyptus | For control. | 2 |
| | Apply when eucalyptus resprouts are 6 to 12 feet tall. Ensure complete coverage. Apply when plants are growing actively. Avoid application to drought-stressed plants. | |
| Gorse | For partial control. 2 to 5 | 1 to 2 |
| Hasardia | For partial control. | 1 to 2 |
| | Thorough coverage of foliage is necessary for best results. | |
| Hawthorn | For control. 2 to 3 | 1 to 1.5 |
| Hazel | For control. 2 | 1 |
| Hickory | For partial control. 2 to 5 | 1 to 2 |
| Holly, Florida/Brazilian Peppertree | For partial control. 2 to 5 | 1 to 2 |
| Honeysuckle | For control. 3 to 4 | 1 to 1.5 |
| Hornbeam, American | For partial control. 2 to 5 | 1 to 2 |
| Kudzu | For control. 4 | 2 |
| | Repeat applications will be required to maintain control. | |
| Locust, black | For partial control. 2 to 5 | 1 to 2 |
| Madrone, resprouts | For suppression or partial control. | 2 |
| | Apply to resprouts less than 3 to 6 feet tall. Best results are obtained with spring/early summer treatments. | |
| Manzanita | For partial control. 2 to 5 | 1 to 2 |
| Maple, red | For control. 2 to 4 | 1 to 1.5 |
| | Apply as a 1 to 1.5 percent solution when at least 50 percent of the new leaves are fully developed. For partial control, apply 2 to 4 quarts of this product per acre. | |
| Maple, sugar | For control. | 1 to 1.5 |
| | Apply when at least 50 percent of the new leaves are fully developed. | |

(continued)

WOODY BRUSH RATE TABLE (continued)

| WOODY BRUSH | USE RATE Broadcast Spray (Quarts/Acre) | USE RATE Hand Held Equipment (Percent Solution) |
|----------------------------------|---|---|
| Maple, vine | For partial control. 2 to 5 | 1 to 2 |
| Monkey flower | For partial control. Thorough coverage of foliage is necessary for best results. | 1 to 2 |
| Oak: Black and White | For partial control. 2 to 5 | 1 to 2 |
| Oak: Northern Pin and Red | For control. Apply when at least 50 percent of the new leaves are fully developed. | 1 to 1.5 |
| Oak, post | For control. 3 to 4 | 1 to 1.5 |
| Oak, southern red | For control. 2 to 3 | 1 to 1.5 |
| Persimmon | For partial control. 2 to 5 | 1 to 2 |
| Pine | For partial control. 2 to 5 | 1 to 2 |
| Poison Ivy | For control. 4 to 5 Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color. | 2 |
| Poison oak | For control. 4 to 5 Repeat applications may be required to maintain control. Fall treatments must be applied before leaves lose green color. | 2 |
| Poplar, yellow | For partial control. 2 to 5 | 1 to 2 |
| Raspberry | For control. 3 to 4 | 1 to 1.5 |
| Redbud, eastern | For partial control. 2 to 5 | 1 to 2 |
| Rose, multiflora | For control. 2 Treatments should be made prior to leaf deterioration by leaf-feeding insects. | 1 |
| Russian olive | For partial control. 2 to 5 For control. This product is not registered in California for use on Russian olive. | 1 to 2 |
| Sage, black | For control. Thorough coverage of foliage is necessary for best results. | 1 |
| Sage, white | For partial control. 2 to 5 | 1 to 2 |
| Sagebrush, California | For control. Thorough coverage of foliage is necessary for best results. | 1 |
| Salmonberry | For control. 2 | 1 |
| Salt cedar | For partial control. 2 to 5 | 1 to 2 |
| Sassafras | For partial control. 2 to 5 | 1 to 2 |
| Sourwood | For partial control. 2 to 5 | 1 to 2 |
| Sumac, Poison, Smooth and Winged | For partial control. 2 to 5 | 1 to 2 |
| Sweetgum | For control. 2 to 3 | 1 to 1.5 |
| Swordfern | For partial control. 2 to 5 | 1 to 2 |
| Tallowtree, Chinese | For control. Thorough coverage of foliage is necessary for best results. | 1 |
| Tan oak resprouts | For suppression or partial control. Apply to resprouts less than 3 to 6 feet tall. Best results are obtained with fall applications. | 1 |
| Thimbleberry | For control. 2 | 1 |
| Tobacco, tree | For partial control. Thorough coverage of foliage is necessary for best results | 1 to 2 |

(continued)

WOODY BRUSH RATE TABLE (continued)

| WOODY BRUSH | USE RATE | |
|---------------------|----------------------------------|---|
| | Broadcast Spray (Quarts/Acre) | Hand Held Equipment (Percent Solution) |
| Trumpet creeper | For control. 2 to 3 | 1 to 1.5 |
| Waxmyrtle, southern | For partial control. 2 to 5 | 1 to 2 |
| Willow | For control. 3 | 1 |

NONCROP USES

NONCROP, RECREATIONAL AND PUBLIC AREAS

Additional surfactant may be used. If additional surfactant is to be used follow the manufacturers rates and instructions for use of the surfactant. When applied as directed for "NONCROP USES", under conditions described, this product controls annual and perennial weeds and woody brush listed on this label growing in areas including: airports; around farm, ranch, commercial or industrial structures; around ornamental gardens, trees & shrubs; ditch banks; driveways & ramps; dry ditches & canals; fences & fencerows; golf courses; gravel or ground bark mulches; habitat restoration & management areas; highways & roadsides (including aprons, medians, guardrails & shoulders); industrial plant sites; lanes, trails & access roads; lumberyards; manufacturing sites; office complexes; parking areas; parks; petroleum & other tank farms; pipeline, power, telephone & utility; rights-of ways; preplant to turf & ornamental plants; pumping installations; railroads; schools; sidewalks; similar sites; storage areas; uncropped farmstead areas; utility substations; vacant lots & wastelands; warehouse areas; other public areas and similar industrial or non-crop areas.

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush, see the "WEEDS CONTROLLED" section of this label. This product may be applied with recirculating sprayers, shielded applicators, or wiper applicators in any noncrop site specified on this label. See the Selective Equipment part of "APPLICATION EQUIPMENT and TECHNIQUES" section of this label for information on proper use and calibration of this equipment.

INDUSTRIAL, RECREATIONAL AND PUBLIC AREAS

When applied as directed for "NONCROP USES", under conditions described, this product controls annual and perennial weeds, woody brush and trees listed on this label growing in areas including:

| | |
|---|---|
| Airports Around Farm, Ranch, Commercial or Industrial Structures Around Ornamental Gardens Around Ornamental Trees & Shrubs Ditch Banks Driveways & Ramps Dry Ditches & Canals Fences & Fencerows Golf Courses Gravel or Ground Bark Mulches Habitat Restoration & Management Areas Highways & Roadsides (including aprons, medians, guardrails & shoulders) Industrial Plant Sites Lanes, Trails & Access Roads Lumberyards Manufacturing Sites Office Complexes | Parking Areas Parks Petroleum & Other Tank Farms Pipeline, Power, Telephone & Utility Rights-of Ways Preplant to Turf & Ornamental Plants Pumping Installations Railroads Schools Sidewalks Similar Sites Storage Areas Uncropped Farmstead Areas Utility Substations Vacant Lots & Wastelands Warehouse Areas Other public areas and similar industrial or non-crop areas |
|---|---|

For specific rates of application and instructions for control of various annual and perennial weeds and woody brush and trees, see the "WEEDS CONTROLLED" section of the label.

This product may be applied with recirculation sprayers, shielded applicators, or wiper applicators in any noncrop site specified on the label. See the Selective Equipment part of the "APPLICATION EQUIPMENT and TECHNIQUES" section of the label for information on proper use and calibration of this equipment.

Chemical mowing - Perennials

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing. Use 8 fluid ounces of this product per acre when treating tall fescue, fine fescue, orchardgrass or quackgrass covers. Use 6 fluid ounces of this product per acre when treating Kentucky bluegrass. Apply treatments in sufficient volume of water to ensure thorough coverage.

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

Chemical mowing - Annuals

For growth suppression of some annual grasses, such as annual ryegrass, wild barley and wild oats growing in coarse turf on roadsides or other industrial areas, apply 4 to 5 fluid ounces of this product in sufficient volume of water to ensure thorough coverage.

Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments may cause injury to the desired grasses.

RAILROADS

Bare ground, Ballast and Shoulders, Crossings, and Spot treatment

This product may be used to maintain bare ground on railroad ballast and shoulders. This product may be used to improve line-of-sight at railroad crossings and reduce the need for mowing along rights-of-way, wayside structures, and other similar areas. This product may be tank mixed with other herbicides for ballast, shoulder, spot, bare ground, and crossing treatments UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

Brush control

This product may be used to control woody brush and trees on railroad rights-of-way. Apply 4 to 10 quarts of this product per acre as a broadcast spray, using boom-type or boom-less nozzles. Up to 80 gallons of spray solutions per acre may be used. Apply a 3/4 to 2 percent solution of this product when using high-volume spray-to-wet applications. Apply a 5 to 10 percent solution of this product when using low volume directed sprays for spot treatment. This product may be tank mixed with other products for enhanced control of woody brush and trees UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

Actively Growing Bermudagrass and Bermudagrass Release

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing Bermudagrass. Apply 1 to 3 pints of this product in up to 80 gallons of spray solutions per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

| | | | |
|------------------|--------------|-----------------|------------|
| Bahiagrass | Fescue, tall | Trumpet creeper | Vaseygrass |
| Bluestem, silver | Johnsongrass | | |

This product may be tank-mixed with Spyder (Sulfometuron methyl) if tank-mixed, use no more than 1 to 3 pints of this product with 1 to 2 ounces of Spyder per acre. Use the lower rates of each product to control annual weeds less than 6 inches in height (or runner length) that are listed in this label and the Spyder label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages. These rates will also provide partial control of the following perennial weeds:

| | | | |
|------------------|-------------|--------------|-----------------|
| Bahiagrass | Dallisgrass | Fescue, tall | Trumpet creeper |
| Blackberry | Dewberry | Johnsongrass | Vaseygrass |
| Bluestem, silver | Dock, curly | Poa | Vervain, blue |
| Broomsedge | Dogfennel | Raspberry | |

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Do not repeat applications in the same season as severe injury may occur.

ROADSIDES

Shoulder treatments

This product may be used on road shoulders.

Guardrails and other obstacles to mowing

This product may be used to control weeds growing under guardrails and around signposts and other objects along the roadside.

Spot treatment

This product may be used as a spot treatment to control unwanted vegetation growing along roadsides.

Tank mixtures

This product may be tank mixed with other herbicides for shoulder, guardrail, spot and bare ground treatments UNLESS SPECIFICALLY PROHIBITED BY THE PRODUCT LABEL.

Release of Bermudagrass or Bahiagrass

Dormant applications

This product may be used to control or partially control many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. Treat only when turf is dormant and prior to spring greenup. This product may also be tank-mixed with Spyder (Sulfometuron methyl) for residual control. Tank mixtures of this product with Spyder may delay greenup.

For best results on winter annuals, treat when plants are in an early growth stage (below 6 inches in height) after most have germinated. For best results on tall fescue, treat when fescue is at or beyond the 4- to 8-leaf stage.

Apply 8 to 24 fluid ounces of this product per acre alone or in a tank mixture with 1/4 to 1 ounce per acre of Spyder. Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. To avoid delays in greenup and minimize injury, add no more than 1 ounce of Spyder per acre on bermudagrass and no more than 0.5 ounce of Spyder per acre on bahiagrass and avoid treatments when these grasses are in semi-dormant condition.

Actively growing bermudagrass

This product may be used to control or partially control many annual and perennial weeds for effective release of actively growing bermudagrass. Apply 1 to 3 pints of this product per acre. Use the lower rate when treating annual weeds below 6 inches in height (or runner length). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation. These rates will also provide partial control of the following perennial species:

| | | | |
|------------------|--------------|-----------------|------------|
| Bahiagrass | Fescue, tall | Trumpet creeper | Vaseygrass |
| Bluestem, silver | Johnsongrass | | |



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

| | | | |
|------------------|-------------|--------------|-----------------|
| Bahiagrass | Dallisgrass | Fescue, tall | Trumpet creeper |
| Bluestem, silver | Dock, curly | Johnsongrass | Vaseygrass |
| Broomsedge | Dogfennel | Poojoe | Vervain, blue |

Use only on well-established bermudagrass. Bermudagrass injury may result from the treatment, but regrowth will occur under moist conditions. Do not repeat applications in the same season as severe injury may occur.

Actively growing bahiagrass

For suppression of vegetative growth and seedhead inhibition of bahiagrass for approximately 45 days, apply 6 fluid ounces of this product per acre. Apply 1 to 2 weeks after full greenup or after mowing to a uniform height of 3 to 4 inches. This application must be made prior to seedhead emergence.

For suppression up to 120 days, apply 4 fluid ounces of this product per acre, followed by an application of 2 to 4 fluid ounces per acre about 45 days later. Make no more than 2 applications per year.

TANK MIXTURES FOR NONCROP SITES AND FORESTRY SITE PREPARATIONS

Razor Herbicide plus Spyder (Sulfometuron methyl)

Use on noncrop sites including airports, industrial plants, lumberyards, petroleum tank farms, pumping stations, railroads, roadsides, storage areas or other similar sites where bare ground is desired.

This tank mixture may also be used as a site preparation treatment for sites to be planted to jack pine, loblolly pine, red pine, slash pine, Virginia pine and other conifer species. When applied as directed for "NONCROP USES" under the conditions described, this product plus Spyder provides control of annual weeds listed in the "WEEDS CONTROLLED" section of the label for this product and control or partial control of the perennial weeds listed below.

Apply 1 to 2 quarts of this product with 2 to 4 ounces of Spyder per acre as a broadcast spray to actively growing weeds.

This mixture may be applied by aerial equipment in site prep operations. When applied by air, use the specified rates.

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

For control of annual weeds, use the lower rates of these products.

For control of the listed perennial weeds, use the higher rates of both products. For partial control, use the lower rates.

| | | | |
|---------------|--------------|--------------|------------------|
| Bahiagrass | Dock, curly | Johnsongrass | Trumpet creeper* |
| Bermudagrass* | Dogfennel | Poojoe** | Vaseygrass |
| Broomsedge | Fescue, tall | Quackgrass | Vervain, blue |

*Suppression at the higher rates only.

**Control at the lower rates.

Read and carefully observe the cautionary statements and all other information appearing on the labels of all herbicides used.

TANK MIXTURES NONCROP SITES

When applied as a tank mixture, this product provides control of the emerged annual weeds and partial control to the emerged perennial weeds listed in this label. THIS PRODUCT MAY BE TANK MIXED WITH MOST NONCROP HERBICIDES UNLESS PROHIBITED BY THE SPECIFIC LABEL.

Use according to the most restrictive label directions for each product in the mixture.

FARMSTEAD WEED CONTROL

When applied as directed for "NONCROP USES", under conditions described, this product controls undesirable vegetation listed on this label around farmstead building foundations, along and in fences, shelterbelts and for general nonselective farmstead weed control.

For specific rates of application and instructions for control of various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label.

PRODUCT WEED CONTROL AND TRIM AND EDGE

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

This product may be tank mixed with labeled rates of other products, provided that the specific product used is registered for the same non-crop sites, timing and method of application. Refer to the individual product labels for approved farmstead sites and application rates. Read and follow label directions, restrictions and precautions of all products in the tank mix. Observe the most restrictive label statements of various tank mix products used.

| WEEDS | HEIGHT OF WEED (Inches) | RATE (Fluid Ounces per Acre) |
|-----------------|-------------------------|-------------------------------|
| Annual Weeds | < 6 | 22 |
| | 6 to 12 | 32 |
| | >12 | 44 |
| Perennial Weeds | - - | 44 fluid ounces to 3.3 quarts |





For application of tank mixtures with these products using backpack sprayers, handguns, or other hand-held applicators, see "WEEDS CONTROLLED - APPLICATIONS RATE TABLE" section of the label for specified label rates of this product.

GREENHOUSE AND SHADEHOUSE

This product may be used to control weeds in and around greenhouses and shadehouses. Desirable vegetation must not be present during application and air circulation fans must be turned off until after the application has dried. Do not use in residential greenhouses.

CHEMICAL MOWING

This product will suppress perennial grasses listed in this section to serve as a substitute for mowing.

| GRASSES | RATE (Fluid Ounces per Acre) | USE INSTRUCTIONS |
|---|---------------------------------|---|
| Bahiagrass Fine fescue Kentucky bluegrass Orchardgrass Quackgrass covers Tall fescue | 4 | Apply treatments in a minimum of 10 gallons of spray solution per acre. |
| Bermudagrass | 11 | |
| Paragrass Torpedograss | 44 | |

- Chemical mowing applications may be made along farm ditches and other parts of farmsteads.
- Use only in areas where some temporary injury or discoloration of perennial grasses can be tolerated.

FARM DITCHES

This product will suppress perennial grasses along farm ditches. Apply this product at a rate of 0 to 8 fluid ounces per acre. Use 8 fluid ounces per acre when treating tall (coarse) fescue, fine fescue, orchardgrass or quackgrass covers. For best suppression of these species, add ammonium sulfate at a rate of 1.7 pounds per 10 gallons of spray solution. Use 6 fluid ounces per acre without ammonium sulfate when treating Kentucky bluegrass.

Apply treatments to actively growing perennial grass covers. For best spray distribution and coverage, use flat fan nozzles. Additional surfactant may be used. If additional surfactant is to be used follow the manufacturer's rates and instructions for use of the surfactant. Where broadleaf weed control or suppression is desired, tank mix this product with an appropriate, labeled broadleaf weed herbicide.

CONSERVATION RESERVE PROGRAM (CRP ACRES)

This product can be used to control undesirable vegetation when rotating out of CRP acres or to suppress competitive growth and seed production of undesirable vegetation in CRP acres.

For specific rates of application for various annual and perennial weeds, see the "WEEDS CONTROLLED" section of this label. CRP applications may be made with wiper applicators or conventional spray equipment. For selective applications with broadcast spray equipment, apply 12 to 16 ounces per acre of this product in early spring before desirable CRP grasses, such as crested and tall wheatgrass, break dormancy and initiate green growth. Late fall applications can be made after desirable perennial grasses have reached dormancy. Some stunting of CRP perennial grasses will occur if applications are made when plants are not dormant.

DORMANT RANGELAND

This product will control or suppress weeds in dormant rangeland. Refer to the "WEEDS CONTROLLED SECTION" of this label. Apply 8 to 16 ounces per acre of this product in the early spring when the weeds have greened up, but desirable grasses, such as crested and tall wheatgrass are still truly dormant. Slight discoloration of the desirable grasses may occur, but they will regreen and regrow under moist soil conditions as effects of this product wear off. Do not use additional surfactant or ammonium sulfate when spraying dormant rangeland grasses with this product.

BROMUS SPECIES AND MEDUSAHEAD IN PASTURE AND RANGELANDS

Bromus Species: This product may be used to treat downy brome (*Bromus japonicus*), soft chess (*Bromus mollis*) and cheatgrass (*Bromus setarinus*) found in industrial, rangeland and pasture sites. Apply 8 to 16 fluid ounces of product per acre on a broadcast basis. For best results, treatment should coincide with early seedhead emergence of the most mature plants. Delaying the application until this growth stage will maximize the emergence of other weedy grass flushes. Applications should be made to the same site each year until seed banks are depleted and the desirable perennial grasses are able to become reestablished on the site.

Medusahead: To treat medusahead, apply 16 fluid ounces of this product per acre as soon as plants are actively growing, and prior to the 4-leaf stage. Applications may be made in the fall or spring.

Application Equipment and Techniques: Applications may be made using ground or aerial equipment. Aerial applications for these uses may be made using fixed wing or helicopter equipment. For aerial applications, apply in 2 to 10 gallons of water per acre. For applications using ground equipment, apply in 10 to 20 gallons of water per acre. When applied as directed there are no grazing restrictions.





HABITAT MANAGEMENT

This product is for the restoration and/or maintenance of native habitats and in wildlife management areas. Apply as instructed in the 'NONCROP USES' section of this label.

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

Wildlife Food Plots - This product may be used as a site preparation treatment prior to planting wildlife food plots. Any wildlife food species may be planted after applying this product, or native species may be allowed to repopulate the area. If tillage is needed to prepare a seedbed, wait 7 days after applying this product before tilling.

ORNAMENTALS, NURSERIES (PLANTS AND TREES) AND CHRISTMAS TREES

DO NOT USE THIS PRODUCT AS AN OVER-THE-TOP BROADCAST SPRAY IN ORNAMENTALS AND CHRISTMAS TREES

Note: Desirable plants may be protected from the spray solution by using shields or coverings made of cardboard or other impermeable material.

When applied as instructed for the conditions described for 'NONCROP USES', this product controls undesirable vegetation listed on this label prior to planting, within and around greenhouses and shadehouses, and as a postdirected spray around established ornamentals and Christmas trees. This product may also be used to trim and edge around trees, buildings, sidewalks, roads, potted plants and other objects in a nursery setting.

For specific rates of application and instructions for control of various annual and perennial weeds, see the 'WEEDS CONTROLLED' section of this label.

Where repeat applications are necessary, do not exceed 10.6 quarts of this product per acre per year.

Site Preparation - Following preplant applications of this product, any ornamental, nursery species or Christmas tree species may be planted. Precautions should be taken to protect nontarget plants during site preparation applications.

Greenhouse/Shadehouse Use - This product may be used to control weeds listed on this label which are growing in greenhouses. Desirable vegetation must not be present during application and air circulation fans must be turned off.

Postdirected Spray - Use as a postdirected spray around established woody ornamental species, nursery species or Christmas trees such as those listed below. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of established ornamental species.

| | | | |
|------------|----------|-------------|--------|
| Arborvitae | Euonymus | Lilac | Pine |
| Azalea | Fir | Magnolia | Spruce |
| Boxwood | Hollies | Maple | |
| Crabapple | Jogoba | Oak, privet | |

SILVICULTURAL SITES AND RIGHTS-OF-WAY

NOTE: DO NOT USE FOR USE AS AN OVER-THE-TOP BROADCAST SPRAY IN SILVICULTURAL NURSERIES

When applied as directed for 'NONCROP USES' under conditions described, this product controls undesirable vegetation listed on this label.

For specific rates of application and instructions for control of various brush, annual and perennial weeds, see the 'WEEDS CONTROLLED' section of this label.

Do not exceed 10.6 quarts of this product per acre per year.

Aerial Application - This product may be applied using aerial spray equipment for silvicultural site preparation, and rights-of-way treatments. See the 'APPLICATION EQUIPMENT AND TECHNIQUES' part of the 'MIXING, ADDITIVES AND APPLICATION INSTRUCTIONS' section of this label for information on how to apply this product by air.

DO NOT APPLY THIS PRODUCT BY AIR TO RIGHTS-OF-WAY SITES IN THE STATE OF CALIFORNIA.

SITE PREPARATION

Following preplant applications of this product, any silvicultural species may be planted.

POSTDIRECTED SPRAY

In established silvicultural sites, use as a spray on the foliage of undesirable vegetation. Care must be exercised to avoid contact of spray, drift or mist with foliage or green bark of desirable species.

CUT STUMP TREATMENTS

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

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

| | | | |
|------------|-------------|------------|---------|
| Alder | Oak | Salt cedar | Tan Oak |
| Eucalyptus | Reed, giant | Sweetgum | Willow |
| Madrone | | | |



INJECTION AND FRILL APPLICATIONS

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

This treatment WILL CONTROL the following woody species:

Oak Poplar Sweetgum Sycamore

This treatment WILL SUPPRESS the following woody species:

Blackgum Dogwood Hickory Maple, red

TURFGRASSES AND GRASSES FOR SEED PRODUCTION

PREPLANT AND RENOVATION

When applied as directed for "NONCROP USES", under conditions described, this product controls most existing vegetation prior to the planting or renovation of either turfgrasses or grass seed production areas.

For specific rates of application and instructions for control of various annual and perennial weeds, and woody brush and trees, see the "WEEDS CONTROLLED" section of this label.

For maximum control of existing vegetation, delay planting to determine if any regrowth from escaped underground plant parts occurs. Where repeat treatments are necessary, sufficient regrowth must be attained prior to application. For warm-season grasses, such as bermudagrass, summer or fall applications provide best control.

DO NOT DISTURB SOIL OR UNDERGROUND PLANT PARTS BEFORE TREATMENT. Tillage or renovation techniques such as vertical mowing, coring or slicing should be delayed for 7 days after application to allow proper translocation into underground plant parts.

TURFGRASSES

Where existing vegetation is growing in a field or unmowed situation, apply this product to actively growing weeds at the stages of growth listed in the "WEEDS CONTROLLED" section of this label.

Where existing vegetation is growing under mowed turfgrass management in such sites as apartment complexes, residential areas and sod farms, apply this product after omitting at least one regular mowing to allow sufficient growth for good interception of the spray.

Desirable turfgrasses may be planted following the above procedures.

GRASSES FOR SEED PRODUCTION

Apply this product to actively growing weeds at the stages of growth specified in the "WEEDS CONTROLLED" section of this label prior to planting or renovation of turf or forage grass areas grown for seed production.

DO NOT feed or graze treated areas within 8 weeks after application.

ANNUAL WEED CONTROL IN DORMANT BERMUDAGRASS AND BAHIAGRASS TURF

When applied as directed for "NONCROP USES", under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass and bahiagrass turf. Refer to the rate table for Razor alone under the "RELEASE OF BERMUDAGRASS AND BAHIAGRASS" section of this label for specified rates and volumes on the species to be suppressed or controlled. Treat only when turf is dormant and prior to spring greenup. Spot treatments or broadcast applications of this product in excess of 16 fluid ounces per acre may result in injury or delayed greenup in highly maintained turfgrass areas; i.e., golf courses, lawns, etc. **DO NOT APPLY TANK MIXTURES** of this product plus Spyder (Sulfometuron methyl) in highly maintained turfgrass areas.

RELEASE OF BERMUDAGRASS OR BAHIAGRASS

NOTE: Use only in areas where bermudagrass or bahiagrass are desirable ground covers and where some temporary injury or discoloration can be tolerated. Use tank mixtures of this product plus Spyder (Sulfometuron methyl) only on railroads, highways, utility plant sites, or other right-of-way areas.

When applied as directed for "NONCROP USES" under the conditions described, this product will provide control or suppression of many winter annual weeds and tall fescue for effective release of dormant bermudagrass or bahiagrass. This product may be tank-mixed with Spyder as directed for residual control. Make applications to dormant bermudagrass or bahiagrass. Tank mixtures of this product plus Spyder may delay greenup. To avoid delays in greenup and minimize injury, do not add more than 1 ounce per acre of Spyder on bermudagrass or more than 0.5 ounce per acre on bahiagrass, or treat when these grasses are in a semi-dormant condition.

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

WEEDS CONTROLLED

Rate instructions for control or suppression of winter annuals and tall fescue are listed below:

Apply the specified rates of this product alone or as a tank mixture in sufficient water to ensure thorough coverage.

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

WEEDS CONTROLLED OR SUPPRESSED WITH RAZOR HERBICIDE ALONE*

| WEED SPECIES | RAZOR HERBICIDE (Fluid Ounces/Acre) | | | | | |
|---------------------|-------------------------------------|----|----|----|----|----|
| | 8 | 12 | 16 | 24 | 32 | 64 |
| Barley, little | S | C | C | C | C | C |
| Bedstraw, catchweed | S | C | C | C | C | C |
| Bluegrass, annual | S | C | C | C | C | C |
| Chervil | S | C | C | C | C | C |
| Chickweed, common | S | C | C | C | C | C |
| Clover, crimson | . | S | S | C | C | C |
| Clover, large hop | . | S | S | C | C | C |
| Fescue, tall | . | . | . | . | S | S |
| Geranium, Carolina | . | . | S | S | C | C |
| Henbit | . | S | C | C | C | C |
| Ryegrass, Italian | . | . | S | C | C | C |
| Speedwell, corn | S | C | C | C | C | C |
| Vetch, common | . | . | S | C | C | C |

NOTE: C = Control
S = Suppression

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

WEEDS CONTROLLED OR SUPPRESSED WITH RAZOR HERBICIDE PLUS SPYDER (SULFOMETURON METHYL)*

| WEED SPECIES | RAZOR HERBICIDE (Fluid Ounces/Acre) | | | | | | | |
|---------------------|-------------------------------------|-----|-----|-----|-----|----|----|--|
| | 8 | 12 | 12 | 16 | 16 | 12 | 16 | |
| | + | + | + | + | + | + | + | |
| | Spyder (Ounces/Acre) | | | | | | | |
| | 1/4 | 1/4 | 1/2 | 1/4 | 1/2 | 1 | 1 | |
| Barley, little | C | C | C | C | C | C | C | |
| Bedstraw, catchweed | C | C | C | C | C | C | C | |
| Bluegrass, annual | S | C | C | C | C | C | C | |
| Chervil | C | C | C | C | C | C | C | |
| Chickweed, common | S | C | C | C | C | C | C | |
| Clover, crimson | S | S | S | S | C | C | C | |
| Clover, large hop | . | . | S | S | C | C | C | |
| Fescue, tall | . | . | . | . | . | S | S | |
| Geranium, Carolina | . | S | S | C | C | C | C | |
| Henbit | . | S | C | C | C | C | C | |
| Ryegrass, Italian | . | S | S | C | C | C | C | |
| Speedwell, corn | S | C | C | C | C | C | C | |
| Vetch, common | C | C | C | C | C | C | C | |

NOTE: C = Control
S = Suppression

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

RELEASE OF ACTIVELY GROWING BERMUDAGRASS

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

For control or suppression of those annual species listed on this label, use 1 to 3 pints of this product as a broadcast spray in sufficient water to ensure thorough coverage. Use the lower rate when treating annual weeds below 6 inches in height (or length of runner in annual vines). Use the higher rate as weeds increase in size or as they approach flower or seedhead formation.



Use the higher rate of this product for partial control of the following perennial species. Use the lower rates for suppression of growth. For best results, see the "WEEDS CONTROLLED" section of this label for proper stage of growth.

| | | | |
|------------------|---------------|-------------------|------------|
| Bahiagrass | Fescue, tall | Trumpet creeper** | Vaseygrass |
| Bluestem, silver | Johnsongrass* | | |

*Control at the higher rates.

**Suppression at higher rates only.

This product may be tank-mixed with Spyder. If tank-mixed, use no more than 1 to 2 pints per acre of this product with 1 to 2 ounces of Spyder per acre.

Use the lower rates of both mixtures to control annual weeds below 6 inches in height (or runner length in annual vines) that are listed in the "WEEDS CONTROLLED" section of this booklet and the Spyder label. Use the higher rates as annual weeds increase in size and approach the flower or seedhead stages.

Use the higher rates of this product to provide partial control of the following perennial weeds. Use the lower rates for suppression of growth.

| | | | |
|------------------|--------------|-------------------|---------------|
| Bahiagrass | Dock, curly | Johnsongrass* | Vaseygrass |
| Bluestem, silver | Dogfennel | Poaefoe* | Vervain, blue |
| Broomsedge | Fescue, tall | Trumpet creeper** | |

*Suppression at higher rates only.

**Control at the higher rates.

COOL SEASON TURF GROWTH REGULATION

When applied as directed, this product will suppress growth and seedhead development of listed turf species in noncrop sites.

This product is for management of coarse turf on roadside rights-of-way. Use in areas such as airports, apartment complexes, Christmas tree farms, ditch banks, dry ditches, dry canals, fencerows, golf courses, highways, industrial sites, lumberyards, manufacturing sites, office complexes, ornamental nurseries, parks, parking areas, pipelines, petroleum tank farms and pumping installations, railroads, recreational pipeline areas, residential areas, rights-of-way, roadsides (including guardrails and shoulders), sod or turf seed farms, schools, storage areas, substations and warehouse areas. Do not use on high-quality turf or other areas where some turf color changes cannot be tolerated. Slight turf discoloration may occur but turf will regreen and regrow under most conditions as effects of this product wear off.

Apply 4 to 6 fluid ounces of this product per acre alone or in a tank mixture.

Apply the rates of this product alone or as a tank mixture in sufficient water to ensure thorough coverage.

This product can be used for growth and seedhead suppression of:

TALL FESCUE/SMOOTH BROME

For best results, apply this product in a tank mixture to actively growing turfgrasses after greenup in the spring of the year. For suppression of seedheads, applications must be made before boot-to-seedhead stage of development. Applications made from seedhead emergence until maturity may result in turf discoloration or injury.

After mowing or removal of seedheads, this product in a tank mixture may also be used to suppress the growth of certain turfgrasses. Allow turf to recover from stress caused by heat, drought or mowing before making applications. Applications made to turf under stress may increase the potential for discoloration or injury.

ANNUAL GRASSES

For growth suppression of some annual grasses such as annual ryegrass, wild barley and wild oats, apply 3 to 4 fluid ounces of this product per acre. Applications should be made when annual grasses are actively growing and before the seedheads are in the boot stage of development. Treatments made after seedhead emergence may cause injury to the desired grasses.

TANK MIXTURES

For the following tank mixtures, consult each product label for weeds controlled and the correct stage of application. Do not treat turf under stress.

Tank mixtures plus 2,4-D Amine

For additional weed control benefits, up to 1 pound a.i. per acre of 2,4-D amine may be added to the following tank mixtures. Consult the label for 2,4-D amine for weeds controlled.

TALL FESCUE

This product plus Corsair® (Clorsulfuron)

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.5 ounce of clorsulfuron per acre.

This tank mixture can also be applied after mowing or removal of tall fescue seedheads for turf growth suppression. Make only one of the above applications per growing season.

This product plus Spyder® (Sulfometuron methyl)

For suppression of tall fescue growth and seedheads, and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of sulfometuron methyl per acre.

This product plus Manor® (Metsulfuron methyl)

This tank mixture can be applied after mowing or removal of tall fescue seedheads for turf growth suppression and control or partial control of some annual weeds. Use up to 1/3 ounce of metsulfuron methyl per acre.

SMOOTH BROME

This product plus Spyder® (Sulfometuron methyl)

For suppression of smooth brome growth and seedheads and control or partial control of some annual weeds, apply this tank mixture after greenup and prior to boot-to-seedhead stage of development. Use up to 0.25 ounce of sulfometuron methyl per acre.





STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: STORE ABOVE 10°F(-12°C) TO KEEP PRODUCTS FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F(20°C) for several days to redissolve and shake, roll or agitate to mix well before using.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product that cannot be used or chemically reprocessed must be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all label safeguards until container is destroyed.

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

WARRANTY DISCLAIMER

The directions for use of this product must be followed carefully. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, (1) THE GOODS DELIVERED TO YOU ARE FURNISHED "AS IS" BY MANUFACTURER OR SELLER AND (2) MANUFACTURER AND SELLER MAKE NO WARRANTIES, GUARANTEES, OR REPRESENTATIONS OF ANY KIND TO BUYER OR USER, EITHER EXPRESS OR IMPLIED, OR BY USAGE OF TRADE, STATUTORY OR OTHERWISE, WITH REGARD TO THE PRODUCT SOLD, INCLUDING, BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, USE, OR ELIGIBILITY OF THE PRODUCT FOR ANY PARTICULAR TRADE USAGE. UNINTENDED CONSEQUENCES, INCLUDING BUT NOT LIMITED TO INEFFECTIVENESS, MAY RESULT BECAUSE OF SUCH FACTORS AS THE PRESENCE OR ABSENCE OF OTHER MATERIALS USED IN COMBINATION WITH THE GOODS, OR THE MANNER OF USE OR APPLICATION, INCLUDING WEATHER, ALL OF WHICH ARE BEYOND THE CONTROL OF MANUFACTURER OR SELLER AND ASSUMED BY BUYER OR USER. THIS WRITING CONTAINS ALL OF THE REPRESENTATIONS AND AGREEMENTS BETWEEN BUYER, MANUFACTURER AND SELLER, AND NO PERSON OR AGENT OF MANUFACTURER OR SELLER HAS ANY AUTHORITY TO MAKE ANY REPRESENTATION OR WARRANTY OR AGREEMENT RELATING IN ANY WAY TO THESE GOODS.

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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.

(RV071310)

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| 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION |
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Product Name: Razor® Herbicide
Synonyms: Isopropylamine Salt of Glyphosate; Glyphosate IPA Salt
EPA Reg. No.: 228-366
Product Type: Herbicide

Company Name: Nufarm Americas Inc.
 11901 S. Austin Avenue
 Alsip, IL 60803

Telephone Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,
 Call CHEMTREC Day or Night: 1-800-424-9300
 For Medical Emergencies Only, Call 1-877-325-1840

Date of Issue: September 3, 2013 **Supersedes:** July 16, 2012
Sections Revised: 1

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| 2. HAZARDS IDENTIFICATION |
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Emergency Overview:

Appearance and Odor: Clear, viscous greenish/yellow solution with little odor.

Warning Statements: Keep out of reach of children. CAUTION. Causes moderate eye irritation. Harmful if swallowed or inhaled. Do not get in eyes or on clothing. Avoid breathing vapor or spray mist.

Potential Health Effects:

Likely Routes of Exposure: Skin contact and inhalation.

Eye Contact: The undiluted product may cause pain, redness and tearing based on toxicity studies.

Skin Contact: Slightly toxic and slightly irritating based on toxicity studies.

Ingestion: Slightly toxic based on toxicity studies. No significant adverse health effects are expected to develop if only small amounts (less than a mouthful) are swallowed.

Inhalation: Low inhalation toxicity.

Medical Conditions Aggravated by Exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

See Section 11: TOXICOLOGICAL INFORMATION for more information.

Potential Environmental Effects:

Available data on similar formulations suggest that this product would be slightly to moderately toxic to aquatic organisms and practically non-toxic to avian species, honeybees and earthworms.

See Section 12: ECOLOGICAL INFORMATION for more information.

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| 3. COMPOSITION / INFORMATION ON INGREDIENTS |
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| COMPONENT | CAS NO. | % BY WEIGHT |
|---|------------|-------------|
| Glyphosate, N-(phosphonomethyl) glycine, in the form of its isopropylamine salt | 38641-94-0 | 41.0 |
| Other Ingredients Including: Ethoxylated Tallowamines | 61791-26-2 | 59.0 |

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

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

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 to 20 minutes. Call a poison control center or doctor for treatment advice.

5. FIRE FIGHTING MEASURES

Flash Point: Not applicable due to aqueous formulation

Autoignition Temperature: Not determined

Flammability Limits: Not determined

Extinguishing Media: In case of fire, use water (flood with water), dry chemical, CO₂, or alcohol foam.

Special Fire Fighting Procedures: Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.

Unusual Fire and Explosion Hazards: Containers will burst from internal pressure under extreme fire conditions. If water is used to fight fire or cool containers, dike to prevent runoff contamination of municipal sewers and waterways.

Hazardous Decomposition Materials (Under Fire Conditions): May produce gases such as oxides of carbon, nitrogen, and phosphorous.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 1 Flammability: 1 Reactivity: 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.

Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.

Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.

Methods for Cleanup and Disposal: Pump any free liquid into an appropriate closed container. Thoroughly scrub floor or other impervious surface with a strong industrial detergent and rinse with water. Collect washings for disposal. Decontaminate tools and equipment following cleanup. See Section 13: DISPOSAL CONSIDERATIONS for more information.

Other Information: Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

Handling:

Do not get in eyes or on clothing. Avoid breathing vapor or spray mist. Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing/Personal Protective Equipment (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.

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

DO NOT MIX, STORE OR APPLY THIS PRODUCT OR SPRAY SOLUTIONS OF THIS PRODUCT IN GALVANIZED STEEL OR UNLINED STEEL (EXCEPT STAINLESS STEEL) CONTAINERS OR SPRAY TANKS. This product or spray solutions of this product react with such containers and tanks to produce hydrogen gas which may form a highly combustible gas mixture. This gas mixture could flash or explode, causing serious personal injury, if ignited by open flame, spark, welder's torch, lighted cigarette or other ignition source.

Storage:

STORE ABOVE 10°F (-12°C) TO KEEP PRODUCT FROM CRYSTALLIZING. Crystals will settle to the bottom. If allowed to crystallize, place in a warm room 68°F (20°C) for several days to redissolve and shake, roll or agitate to mix well before using. Do not contaminate water, foodstuff, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:

Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Personal Protective Equipment:

Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. An emergency eyewash or water supply should be readily accessible to the work area.

Skin Protection: To avoid contact with skin, wear long pants, long-sleeved shirt, socks and shoes. An emergency shower or water supply should be readily accessible to the work area.

Respiratory Protection: Not normally required. If vapors or mists exceed acceptable levels, wear NIOSH approved air-purifying respirator with cartridges/canisters approved for use against pesticides.

General Hygiene Considerations: Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material: 1) do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored; 2) wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

| Component | OSHA | | ACGIH | | Unit |
|-----------------------------------|------|------|-------|------|------|
| | TWA | STEL | TWA | STEL | |
| Isopropylamine Salt of Glyphosate | NE | NE | NE | NE | |
| Ethoxylated Tallowamines | NE | NE | NE | NE | |

NE = Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|--------------------|-----------------------------|-----------------|
| Appearance and Odor: Clear, viscous greenish/yellow solution with little odor. | | | |
| Boiling Point: | Not determined | Solubility in Water: | Soluble |
| Density: | 9.67 pounds/gallon | Specific Gravity: | 1.160 @ 20°C |
| Evaporation Rate: | Not determined | Vapor Density: | Not determined |
| Freezing Point: | 10°F (-12°C) | Vapor Pressure: | Not determined |
| pH: | 4.5 – 5.5 | Viscosity: | 29.5 cps @ 20°C |

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Chemical Stability: This material is stable under normal handling and storage conditions.

Conditions to Avoid: Excessive heat. Do not store near heat or flame.

Incompatible Materials: Strong oxidizing agents: bases and acids. This product reacts with galvanized steel or unlined steel (except stainless steel) to produce hydrogen gas that may form a highly combustible gas mixture which could flash or explode.

Hazardous Decomposition Products: Under fire conditions may produce gases such as oxides of carbon, nitrogen, and phosphorous.

Hazardous Reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION**Toxicological Data:**

Data from laboratory studies conducted on a similar, but not identical, formulation:

Oral: Rat LD₅₀: >5,000 mg/kg

Dermal: Rat LD₅₀: >5,000 mg/kg

Inhalation: Rat 4-hr LC₅₀: >2.05 mg/l

Eye Irritation: Rabbit: Moderately irritating

Skin Irritation: Rabbit: Slightly irritating

Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposure to glyphosate may decrease body weight gains and effects to liver. The surfactant component of this product is reported to cause irritation to the eyes and skin and may contribute to the irritation potential reported for this herbicide. Ingestion may produce gastrointestinal irritation, nausea, vomiting and diarrhea.

Carcinogenicity / Chronic Health Effects: Prolonged overexposure to glyphosate may cause effects to the liver. There was no evidence of carcinogenicity in animal studies using glyphosate. EPA has given glyphosate a Group E classification (evidence of non-carcinogenicity in humans).

Reproductive Toxicity: In laboratory animal studies with glyphosate, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Developmental Toxicity: In animal studies, glyphosate did not cause birth defects in animals; other effects were seen in the fetus only at doses which caused toxic effects to the mother.

Genotoxicity: Glyphosate has produced no genetic changes in a variety of standard tests using animals and animal or bacterial cells.

Assessment Carcinogenicity: None listed with ACGIH, IARC, NTP or OSHA.

See Section 2: HAZARDS IDENTIFICATION for more information.

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| 12. ECOLOGICAL INFORMATION |
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Ecotoxicity:

Data on Glyphosate technical:

| | | | |
|---|----------|---|------------|
| 96-hour LC ₅₀ Bluegill: | 120 mg/l | Bobwhite Quail 8-day Dietary LC ₅₀ : | >4,500 ppm |
| 96-hour LC ₅₀ Rainbow Trout: | 86 mg/l | Mallard Duck 8-day Dietary LC ₅₀ : | >4,500 ppm |
| 48-hour LC ₅₀ Daphnia: | 780 mg/l | | |

Environmental Fate:

In the environment, salts of glyphosate rapidly dissociate to glyphosate, which adsorbs strongly to soil and is expected to be immobile in soil. Glyphosate is readily degraded by soil microbes to AMPA (aminomethyl phosphonic acid) that is further degraded to carbon dioxide. Glyphosate and AMPA are unlikely to enter ground water due to their strong adsorptive characteristics. Terrestrially-applied glyphosate has the potential to move into surface waters through soil erosion because it may be adsorbed to soil particles suspended in the runoff. Aquatic applications registered for certain formulations may also result in glyphosate entering surface waters. Complete degradation is slow, but dissipation in water is rapid because glyphosate is bound in sediments and has low biological availability to aquatic organisms. These characteristics suggest a low potential for bioconcentration in aquatic organisms and this has been verified by laboratory investigations of glyphosate bioconcentration in numerous marine and freshwater organisms with and without soil. The maximum whole body bioconcentration factors for fish were observed to be less than 1X. Bioconcentration factors for sediment dwelling mollusks and crayfish tended to be slightly higher, but were always less than 10X. In addition, any residues accumulated in organisms were rapidly eliminated.

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| 13. DISPOSAL CONSIDERATIONS |
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Waste Disposal Method:

Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill approved for pesticide disposal or in accordance with applicable Federal, state or local procedures. Emptied container retains vapor and product residue. Observe all label safeguards until container is destroyed.

Container Handling and Disposal:

Nonrefillable Containers 5 Gallons or Less: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling 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. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. 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 and, if possible, spray all sides while adding 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.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this MSDS.

DOT

Non Regulated – See 49 CFR 173.132(b)(3)

IMDG

Non Regulated – See IMDG 2.6.2.1.3

IATA

Non Regulated – See IATA 3.6.1.5.3

15. REGULATORY INFORMATION

U.S. Federal Regulations:

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370): Immediate

Section 313 Toxic Chemical(s): None

Reportable Quantity (RQ) under U.S. CERCLA: None

RCRA Waste Code: None

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: Not listed

16. OTHER INFORMATION

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that

labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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