

228-538

7/25/2011

10413



**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**Office of Pesticide Programs**  
**Registration Division (7504P)**  
**Ariel Rios Building**  
**1200 Pennsylvania Ave., NW**  
**Washington, D.C. 20460**

EPA Registration  
 Number:  
 228-538

Date of Issuance:  
 JUL 25 2011

NOTICE OF PESTICIDE:  
 Registration  
 Reregistration  
 (under FIFRA, as amended)

Term of Issuance: **Unconditional**

Name of Pesticide Product:  
 NUP-06078 Herbicide

Name and Address of Registrant (include ZIP Code):

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

**Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.**

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

EPA received a label amendment request submitted on July 21, 2011. EPA grants this request under the authority of section 3(c)(5) of the Federal Insecticide, Fungicide and Rodenticide Act, as amended. With this accepted labeling, all requirements set forth in the Reregistration Eligibility Decision (RED) for **imazapyr** have been satisfied. Therefore, EPA reregisters the product listed above. This action is taken under the authority of section 4(g)(2)(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Submit one (1) copy of final printed labeling. Amended labeling will supersede all previously accepted labels. A copy of your label stamped "Accepted" is enclosed for your records. Products shipped after twelve (12) months from the date of this Notice or the next printing of your label, whichever occurs first, must bear the new revised label.

If you have any questions regarding this Notice, please contact Hope Johnson at (703) 305-5410 or at johnson.hope@epa.gov

Signature of Approving Official:

Kable Bo Davis  
 Product Manager 25  
 Herbicide Branch  
 Registration Division (7505P)

Date:

JUL 25 2011

20A13

# NUP-06078 HERBICIDE

FOR USE ON RAILROAD RIGHTS-OF-WAY

**ACTIVE INGREDIENT:**

Isopropylamine salt of Imazapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridinecarboxylic acid)\* ..... 27.7%

OTHER INGREDIENTS: ..... 72.3%

TOTAL: ..... 100.0%

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

**KEEP OUT OF REACH OF CHILDREN  
CAUTION / PRECAUCION**

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

**SEE INSIDE BOOKLET FOR FIRST AID AND ADDITIONAL PRECAUTIONARY STATEMENTS**

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

EPA REG. NO. 228-538  
EPA EST. NO. 228-IL-001

Manufactured For  
NUFARM AMERICAS INC.  
150 Harvester Drive  
Burr Ridge, IL 60527



NET CONTENTS

000228-00538.20110721.EPA IMAZRED.Pending  
NUP-06078

ACCEPTED  
~~with COMMENTS~~  
in EPA Letter Dated  
**JUL 25 2011**

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

228-538

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

Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):**

Some materials that are chemical-resistant to this product are natural rubber 14 mils. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**Mixers, loaders, applicators and other handlers must wear:**

- long-sleeved shirt and long pants
- shoes plus socks
- chemical-resistant gloves for mixers and loaders, plus applicators using handheld equipment.

See engineering controls for additional requirements.

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

**Engineering Control Statement:**

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

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

<b>FIRST AID</b>	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

<b>HOT LINE NUMBER</b>	
<p>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.</p>	

**PHYSICAL AND CHEMICAL HAZARDS**

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

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

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to plants. Drift and run off may be hazardous to plants in water adjacent to treated areas. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean water mark. Do not contaminate water when disposing of equipment washwater or rinsate. See Directions for Use for additional precautions and requirements.

## PRODUCT INFORMATION

This product is an aqueous solution containing surfactant to be mixed in water and applied as a spray for control of most annual and perennial grasses and broadleaf weeds on noncropland areas on railroad rights-of-way.

This product may be applied either preemergence or postemergence to the weeds; however, postemergence application is the method of choice in most situations, particularly for control of perennials. For maximum activity, weeds should be growing vigorously at the time of postemergence application. The preemergence activity of This product will provide residual control of new germination of most weed species following a postemergence application.

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

## DIRECTIONS FOR USE

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application.

Do not enter or allow others to enter treated areas until sprays have dried.

This product must be used only in accordance with instructions on the leaflet label attached to the container. Keep containers closed to avoid spills and contamination.

This product may be used postemergence for control of most annual and perennial grasses and broadleaf weeds on railroad rights-of-way.

## APPLICATION EQUIPMENT AND TECHNIQUES

This product may be applied with the following applications equipment:

**Aerial:** Fixed wing and helicopter.

**Boom:** Conventional boom mounted, manifold mounted, and off-center nozzles.

**Low-volume hand-held spray equipment:** Backpack, knapsack and other pump-up type pressure sprayers and backpack mist blowers used to direct application to weed foliage.

**High-volume spray equipment:** High-pressure handguns and vehicle mounted high-volume directed spray equipment.

## IMPORTANT

Do not use on food or feed crops. Do not treat irrigation ditches, or water used for crop irrigation or for domestic purposes. Keep from contact with fertilizers, insecticides, fungicides and seeds. Do not apply or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways or tennis courts. Do not side-trim desirable vegetation with this product. Prevent drift of spray to desirable plants. Do not USE in California.

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

## MANAGING OFF-TARGET MOVEMENT

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

**Spray Drift:** Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather-related factors determines the potential for spray drift. The applicator and the entity authorizing spraying are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications: 1) The distance of the outer most operating nozzles must not exceed 3/4 the length of the rotor. 2) Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

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

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

The best drift management strategy and most effective way to reduce drift potential are to apply large droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see WIND, TEMPERATURE AND HUMIDITY, and TEMPERATURE INVERSIONS).

#### CONTROLLING DROPLET SIZE

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types, lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is recommended practice. Significant deflection from the horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift. Do not use nozzles producing a mist droplet spray.

#### APPLICATION HEIGHT

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

#### SWATH ADJUSTMENT

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

#### WIND

Drift potential is lowest between wind speeds of 3-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

#### TEMPERATURE AND HUMIDITY

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

#### TEMPERATURE INVERSIONS

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

#### WIND EROSION

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

#### ADJUVANTS

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

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

**Methylated Seed Oils or Vegetable Oil Concentrates:** Instead of a surfactant, a methylated seed oil or vegetable-based seed oil concentrate may be used at the rate of 1.5 to 2 pints per acre. When using spray volumes greater than 30 gallons per acre, methylated seed oil or vegetable based seed oil concentrates should be mixed at a rate of 1 % of the total spray volume, or

alternatively use a nonionic surfactant as described above. Research indicates that these oils may aid in product deposition and uptake by plants under moisture or temperature stress.

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

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

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

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

**TANK MIXES**

This product may be tank-mixed with other herbicides provided that the label for the tank mix product does not prohibit such mixing.

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

**AERIAL APPLICATIONS**

All precautions must be taken to minimize or eliminate spray drift. Both helicopter and fixed wing aircraft can be used to apply this product. Do not make applications by helicopter or fixed wing aircraft unless appropriate buffer zones can be maintained to prevent spray drift out of the target area, or when spray drift as a result of helicopter application can be tolerated.

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

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

**Aerial Applications – Spray Drift Requirements:**

1. Applicators are required to use a Coarse or Coarser droplet size (ASABE S572) or, if specifically using a spinning atomizer nozzle, applicators are required to use a volume mean diameter (VMD) of 385 microns or greater for release heights below 10 feet; Applicators are required to use a Very Coarse or coarser droplet size or, if specifically using a spinning atomizer nozzle, applicators are required to use a VMD of 475 microns or greater for release heights above 10 feet; Applicators must consider the effects of nozzle orientation and flight speed when determining droplet size.
2. Applicators are required to use upwind swath displacement.
3. The boom length must not exceed 60% of the wingspan or 90% of the rotor blade diameter to reduce spray drift.
4. Applications with wind speeds less than 3 mph and with wind speeds greater than 10 mph are prohibited.
5. Applications into temperature inversions are prohibited.
6. Aerial equipment designed to minimize spray drift, such as a helicopter equipped with a Microfoil boom, Thru-Valve boom or raindrop nozzles, must be used and calibrated. Except when applying with a Microfoil boom, a drift control agent may be added at the recommended label rate.

**GROUND APPLICATION (BROADCAST)**

**FOLIAR APPLICATIONS**

**Low Volume Foliar:**

Use equipment calibrated to deliver 5 to 20 gallons of spray solution per acre. To prepare the spray solution, thoroughly mix in water 0.5 to 5% of this product plus surfactant (see the ADJUVANTS section of this label for specific recommendations). A foam reducing agent may be applied at the recommended label rate, if needed. For control of difficult species use the higher concentrations of herbicide and/or spray volumes but do not apply more than 6 pints of this product per acre (1.5 lb ae / acre). Excessive wetting of foliage is not recommended. See the MIXING GUIDE below for some suggested volumes of this product and water.

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

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

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

**Low Volume Foliar with Backpacks:**

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

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

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

**Low Volume Foliar with Hydraulic Handgun Application Equipment:**

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

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

**SPRAY SOLUTION MIXING GUIDE FOR LOW-VOLUME FOLIAR APPLICATIONS**

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

**High Volume Foliar:**

For optimum performance when spraying medium to high-density vegetation and brush, use equipment calibrated to deliver up to 100 gallons of spray solution per acre (GPA). Spray solutions exceeding 100 GPA may result in excessive spray run-off, causing increased ground cover injury, and injury to desirable species. To prepare the spray solution, thoroughly mix the specified amount of this product in water and add a surfactant (see ADJUVANT section for specific recommendations and rates of surfactants). A foam-reducing agent may be added at the recommended label rate, if needed. For control of difficult species use the higher concentrations of herbicide and/or spray volumes, but do not apply more than 6 pints of this product per acre (1.5 lb ae/acre). Uniformly cover the foliage of the vegetation to be controlled but do not apply to run-off. Excessive wetting of foliage is not recommended.

SPRAY SOLUTION MIXING INSTRUCTIONS				
SPRAY VOLUME (GAL/ACRE)	PINTS OF THIS PRODUCT TO MIX PER 100 GALLONS WATER			
	3 PTS/ACRE	4 PTS/ACRE	5 PTS/ACRE	6 PTS/ACRE
50	6	8	10	12
100	3	4	5	6
150	2	2-3/4	3-1/4	4

**IMPORTANT:** Do not exceed the specified dosage rate per acre. See the Weeds Controlled section for specified rates. Do not side-trim desirable vegetation with this product. Clean application equipment after using this product by thoroughly flushing with water.

**Side Trimming:**

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

**Ground Boom Applications – Spray Drift Requirements:**

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



**WEEDS CONTROLLED**

This product will provide postemergence control with residual control of the following target vegetation species at the rates listed. Residual control refers to control of newly germinating seedlings in both annuals and perennials. In general, annual weeds may be controlled by preemergence or postemergence applications of this product; whereas, for established biennials and perennials, postemergence applications of this product may be used. This product must be used only in accordance with the instructions on this label.

GRASSES		
Common Name	Species	Growth Habit
Apply 2-3 pints per acre		
Annual bluegrass	<i>(Poa annua)</i>	A
Broadleaf signalgrass	<i>(Brachiaria platyphylla)</i>	A
Canada bluegrass	<i>(Poa compressa)</i>	P
Downy brome	<i>(Bromus tectorum)</i>	A
Fescue	<i>(Festuca spp.)</i>	A/P
Foxtail	<i>(Setaria spp.)</i>	A
Italian ryegrass	<i>(Lolium multiflorum)</i>	A
Johnsongrass	<i>(Sorghum halepense)</i>	P
Kentucky bluegrass	<i>(Poa pratensis)</i>	P
Lovegrass	<i>(Eragrostis spp.)</i>	A/P
Orchardgrass	<i>(Dactylis glomerata)</i>	P
Paragrass	<i>(Brachiaria mutica)</i>	P
Quackgrass	<i>(Agropyron repens)</i>	P
Sandbur	<i>(Cenchrus spp.)</i>	A
Sand dropseed	<i>(Sporobulus cryptandrus)</i>	P
Smooth brome	<i>(Bromus inermis)</i>	P
Vaseygrass	<i>(Paspalum urvillei)</i>	P
Wild oats	<i>(Avena fatua)</i>	A
Witchgrass	<i>(Panicum capillare)</i>	A
Apply 3-4 pints per acre		
Beardgrass	<i>(Andropogon spp.)</i>	P
Cheat	<i>(Bromus secalinus)</i>	A
Crabgrass	<i>(Digitaria spp.)</i>	A
Fall panicum	<i>(Panicum dichotomiflorum)</i>	A
Goosegrass	<i>(Eleusine indica)</i>	A
Prairie threeawn	<i>(Aristida oligantha)</i>	P
Reed canarygrass	<i>(Phalaris arundinacea)</i>	P
Torpedograss	<i>(Panicum repens)</i>	P
Wild barley	<i>(Hordeum spp.)</i>	A
Apply 4-6 pints per acre		
Bahiagrass	<i>(Paspalum notatum)</i>	P
Bermudagrass	<i>(Cynodon dactylon)</i>	P
Big bluestem	<i>(Andropogon gerardii)</i>	P
Cattail	<i>(Typha spp.)</i>	P
Cogongrass	<i>(Imperata cylindrica)</i>	P
Dallisgrass	<i>(Paspalum dilatatum)</i>	P
Feathertop	<i>(Pennisetum villosum)</i>	P
Guineagrass	<i>(Panicum maximum)</i>	P
Phragmites	<i>(Phragmites australis)</i>	P
Prairie cordgrass	<i>(Spartina pectinata)</i>	P
Saltgrass	<i>(Distichlis stricta)</i>	P
Timothy	<i>(Phleum pratense)</i>	P
Wirestem muhly	<i>(Muhlenbergia frondosa)</i>	P

### BROADLEAF WEEDS

Apply 2-3 pints per acre

Burdock	( <i>Arctiu</i> )	B
Camphorweed	( <i>Heterotheca subaxillaris</i> )	P
Carpetweed	( <i>Mollugo verticillata</i> )	A
Carolina geranium	( <i>Geranium carolinianum</i> )	A
Clover	( <i>Trifolium spp.</i> )	A/P
Common chickweed	( <i>Stellaria media</i> )	A
Common ragweed	( <i>Ambrosia artemisiifolia</i> )	A
Dandelion	( <i>Taraxacum officinale</i> )	P
Dogfennel	( <i>Eupatorium capillifolium</i> )	A
Filaree	( <i>Erodium spp.</i> )	A
Fleabane	( <i>Erigeron spp.</i> )	A
Hoary vervain	( <i>Verbena stricta</i> )	P
Horseweed	( <i>Conyza canadensis</i> )	A
Indian mustard	( <i>Brassica juncea</i> )	A
Lambsquarters	( <i>Chenopodium album</i> )	A
Lespedeza	( <i>Lespedeza spp.</i> )	P
Miners lettuce	( <i>Montia perfoliata</i> )	A
Mullein	( <i>Verbascum spp.</i> )	B
Nettleleaf goosefoot	( <i>Chenopodium murale</i> )	A
Oxeye daisy	( <i>Chrysanthemumleucanthemum</i> )	P
Pepperweed	( <i>Lepidium spp.</i> )	A
Pigweed	( <i>Amaranthus spp.</i> )	A
Plantain	( <i>Plantago spp.</i> )	P
Puncturevine	( <i>Tribulus terrestris</i> )	A
Russian thistle	( <i>Salsola kali</i> )	A
Smartweed	( <i>Polygonum spp.</i> )	A/P
Sorrell	( <i>Rumex spp.</i> )	P
Sunflower	( <i>Helianthus spp.</i> )	A
Sweet clover	( <i>Melilotus spp.</i> )	A/B
Tansymustard	( <i>Descurainia pinnata</i> )	A
Western ragweed	( <i>Ambrosia psilostachya</i> )	P
Wild carrot	( <i>Daucus carota</i> )	B
Wild lettuce	( <i>Lactuca spp.</i> )	A/B
Wild parsnip	( <i>Pastinaca sativa</i> )	B
Wild turnip	( <i>Brassica campestris</i> )	B
Woollyleaf bursage	( <i>Franseria tomentosa</i> )	P
Yellow woodsorrel	( <i>Oxalis stricta</i> )	P

Apply 3-4 pints per acre

Broom snakeweed	( <i>Gutierrezia sarothrae</i> )	P
Bull thistle	( <i>Cirsium vulgare</i> )	B
Cocklebur	( <i>Xanthium strumarium</i> )	A
Desert Camelthorn	( <i>Alhagi pseudalhagi</i> )	P
Diffuse knapweed	( <i>Centaurea diffusa</i> )	A
Dock	( <i>Rumex spp.</i> )	P
Goldenrod	( <i>Solidago spp.</i> )	P
Pokeweed	( <i>Phytolacca americana</i> )	A
Purple loosestrife	( <i>Lythrum salicaria</i> )	P
Purslane	( <i>Portulaca spp.</i> )	A
Rush skeletonweed	( <i>Chondrilla juncea</i> )	B
Saltbush	( <i>Atriplex spp.</i> )	A
Stinging nettle	( <i>Urtica dioica</i> )	P
Yellow starthistle	( <i>Centaurea solstitialis</i> )	A

1  
**Apply 4-6 pints per acre**

Arrowwood	<i>(Pluchea sericea)</i>	A
Canada thistle	<i>(Cirsium arvense)</i>	P
Giant ragweed	<i>(Ambrosia trifida)</i>	A
Japanese bamboo	<i>(Polygonum cuspidatum)</i>	P
Little mallow	<i>(Malva parviflora)</i>	B
Milkweed	<i>(Asclepias spp.)</i>	P
Primrose	<i>(Oenothera kunthiana)</i>	P
Russian knapweed	<i>(Centaurea repens)</i>	P
Silverleaf nightshade	<i>(Solanum elaeagnifolium)</i>	P
Sowthistle	<i>(Sonchus spp.)</i>	A
Texas thistle	<i>(Cirsium texanum)</i>	P

**VINES AND BRAMBLES**

Common Name	Species	Growth Habit
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2  
**Apply 1 pint per acre**

Field bindweed	<i>(Convolvulus arvensis)</i>	P
Hedge bindweed	<i>(Calystegia sepium)</i>	A

**Apply 2-3 pints per acre**

Wild buckwheat	<i>(Polygonum convolvulus)</i>	P
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**Apply 3-4 pints per acre**

Greenbriar	<i>(Smilax spp.)</i>	P
Honeysuckle	<i>(Lonicera spp.)</i>	P
Morningglory	<i>(Ipomoea spp.)</i>	A/P
Poison ivy	<i>(Rhus radicans)</i>	P
Redvine	<i>(Brunnichia cirrhosa)</i>	P
Wild rose	<i>(Rosa spp.)</i>	
Including:		
Multiflora rose	<i>(Rosa multiflora)</i>	P
Macartney rose	<i>(Rosa bracteata)</i>	

**Apply 4-6 pints per acre**

Blackberry	<i>(Rubus spp.)</i>	P
Dewberry	<i>(Rubus spp.)</i>	P
Kudzu	<i>(Pueraria lobata)</i>	P
Trumpet creeper	<i>(Campsis radicans)</i>	P
Virginia creeper	<i>(Parthenocissus quinquefolia)</i>	P
Wild grape	<i>(Vitis spp.)</i>	P

**BRUSH SPECIES**

Common Name	Species	Growth Habit
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**Apply 4-6 pints per acre**

American beech	<i>(Fagus grandifolia)</i>	P
Ash	<i>(Fraxinus spp.)</i>	P
Bald cypress	<i>(Taxodium distichum)</i>	P
Bigleaf Maple	<i>(Acer macrophyllum)</i>	P
Blackgum	<i>(Nyssa sylvatica)</i>	P
Boxelder	<i>(Acer negundo)</i>	P
Cherry	<i>(Prunus spp.)</i>	P
Chinaberry	<i>(Melia azadarach)</i>	P
Chinese tallow-tree	<i>(Sapium sebiferum)</i>	P
Dogwood	<i>(Cornus spp.)</i>	P
Hawthorn	<i>(Crataegus spp.)</i>	P
Hickory	<i>(Carya spp.)</i>	P
Maple	<i>(Acer spp.)</i>	P

1

Apply 4-6 pints per acre

Mulberry	( <i>Morus spp.</i> )	P
Oak	( <i>Quercus spp.</i> )	P
Persimmon	( <i>Diospyros virginiana</i> )	P
Poplar	( <i>Populus spp.</i> )	P
Privet	( <i>Ligustrum vulgare</i> )	P
Russian Olive	( <i>Eleagnus angustifolia</i> )	P
Red Alder	( <i>Alnus rubra</i> )	P
Red Maple	( <i>Acer rubrum</i> )	P
Rubber rabbitbrush	( <i>Chrysothamnus nauseosus</i> )	P
Saltcedar	( <i>Tamarix ramosissima</i> )	P
Sassafras	( <i>Sassafras albidum</i> )	P
Sourwood	( <i>Oxydendrum arboreum</i> )	P
Sumac	( <i>Rhus spp.</i> )	P
Sweetgum	( <i>Liquidia</i> )	
Willow		
Yellow poplar	( <i>Liriodendron tulipifera</i> )	

- 1 The higher specified rates should be used where heavy or well-established infestations occur.
- 2 Growth Habit - A = Annual, B = Biennial, P = Perennial
- 3 For best results early postemergence applications are required.
- 4 The degree of control is species dependent. Some Rubus species may not be completely controlled.
- 5 Use a minimum of 75 GPA - Control of established stands may require repeat applications.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: DO NOT store below 10° F.

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

CONTAINER 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.

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

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