

228-535

12-6-2007

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (H7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:
228-535

Date of Issuance:
DEC 6 2007

Term of Issuance:
Unconditional with
label comments

Name of Pesticide Product:
NUP06097 HERBICIDE

NOTICE OF PESTICIDE:
 Registration
 Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Mr. George Meindl
Nufarm Americas, Inc.
150 Harvester Drive, Suite 200
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.

This product is conditionally registered in accordance with FIFRA sec. 3(c)(7)(A) provided that you:

1. **Submit and/or cite all data required for registration/reregistration of your product when the Agency requires all registrants of similar products to submit such data.**
2. **Make the following changes to your labeling:**
 - a. **Change the registration number to "228-535"**
 - b. **Make all of the changes detailed in the attached document Summary of Comments on 000228-00LGL.20071115. emailed to Tobi on 11.15.2007 NUP06097 RV051407 submitted 5.21.2007. epacomment.pdf"**

12-6-07

c. In the heading of each table and anywhere else it appears on the label change "Rate Recommendations" to "Rates". On page 6 under "Non-Cropland Areas" Broadcast Treatments for Forest Site Preparation" remove recommended from recommended rate.

d. Add the following statement to your labeling:

- Every 2 years starting March 30, 2008, the registrant will offer training to applicators which will cover application techniques and product stewardship particular to their use(s) of this product (Name of Product., Registration No. _____-____). Applicators of this product must be able to provide certification of such training on demand to the State, Tribal or Federal enforcement agent."

3. Submit final labeling for this product within 30 days of the date of this letter.

4. Submit studies of one year storage stability (Guideline 830.6317) and corrosion characteristics (Guideline 830.6320). The observations must be made at 0, 3, 6, 9, and 12 month intervals. The results should be submitted to the Agency in an electronic file and a paper copy.

5. A Picloram Stewardship Program is required to maintain registration of all end use products containing picloram. This letter is to inform you of the minimum requirements of the picloram stewardship program that is a condition of your registration. All picloram end use products, except those containing 5.4 percent picloram for use on cut stems only, must be restricted use products and subject to the requirements for a Picloram Stewardship Program. Your Picloram Stewardship Program must be submitted to the Agency no later than March 30, 2008, and contain at a minimum the elements specified in this notice.

Your Picloram Stewardship Program must at a minimum contain the following elements:

a. Qualified Personnel.

The registrant must employ and upon request demonstrate to the satisfaction of the Agency, that it possesses and continues to possess during the term of its picloram end-use registrations, qualified personnel with appropriate scientific and technical expertise to provide the support and training for the Registrant's picloram end-use products.

Specifically, for so long as the registrant has active end-use picloram registrations, the Registrant shall retain qualified personnel with expertise in appropriate science fields such as field biology, environmental fate, soil science, toxicology, etc for each use pattern for which the registrant's end-use picloram products are labeled. Personnel qualification must be demonstrated by the possession of appropriate college or graduate credits in the appropriate science fields

from a school accredited by accrediting agencies recognized by the United States Department of Education. If the personnel received a degree outside the United States, it must come from an institution with an accreditation equivalent to that of the United States.

b. Training

The Registrant shall provide picloram-specific application training at least every two years to all applicators that apply one or more of Registrant's picloram end-use products. Such training shall include (1) how to identify appropriate picloram application locations, (2) appropriate application techniques, (3) techniques for reducing application rates in sensitive areas, (4) using Individual Plant Treatments (IPTs), (5) how to avoid product spills, (6) promoting product knowledge and stewardship, and (7) appropriate container management programs. Following successful completion of training, Registrant shall certify each such commercial applicator to apply Registrant's end-use picloram products as identified by the EPA Registration number. Registrant shall only have to provide four hours of training to a particular applicator once every two years even if such Approved Picloram Applicator applies more than one of Registrant's end-use picloram products.

The Registrant's certification will consist at a minimum of the applicator's name, the name of the Company providing the training, and the registration number(s) of the registrant's picloram products for which the applicator has received training. All picloram end use products, except those containing 5.4 percent picloram for use on cut stems only, will be restricted use products and subject to these conditions of registration.

c. Technical Support and Education for Land Managers and Extension Educators.

The Registrant shall maintain and provide adequate resources and technical support in connection with the picloram end-use products to land managers, government officials and extension educators. Upon request, the Registrant must make available and readily accessible to land managers, government officials and extension educators, analysis and data interpretation of picloram in soil, water and other matrices of interest such as compost and plant and animal tissues for a minimum of 100 samples per calendar year.

d. Books and Records, Annual Reporting

Upon the effective date of registration or amended registration, the registrant shall maintain accurate, up-to-date books and records of its required activities under these Conditions of Registration which shall include:

Names of personnel stewarding picloram and their qualifications along with the training material offered.

Picloram Retail Locations, training dates and number of people attending the training and the names of those individuals who were trained and the EPA Registration Number of the products they were trained to use.

Registrant agrees to provide EPA, States and Tribes with said records within 30 days upon request. Records must be kept for three years.

On or before January 31 of each year after the Effective Date, starting in 2008 and continuing for five (5) years, registrant shall submit to EPA an annual report for the preceding calendar year describing Registrant's end-use picloram product stewardship activities including:

- a list of all the Registrant's picloram retail locations and any locations where an employee has trained and certified during the preceding calendar year;
- a list of all Registrant's Approved Picloram Applicators including those who were applicator trained and certified during the preceding calendar year;

After the above reporting period, reports will be submitted when requested.

All books, records, and reports maintained and/or furnished in connection with these Conditions of Registration to EPA will be available to the public and cannot be claimed as confidential business information or trade secrets.

e. Labeling

Labeling for all picloram products must state:

- Every 2 years starting January 1, 2008, the registrant will offer training to applicators which will cover application techniques and product stewardship particular to their use(s) of this product (Name of Product., Registration No _____-___). Applicators of this product must be able to provide certification of such training on demand to the State, Tribal or Federal enforcement agent."

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

If you have any questions about this letter, please contact Tobi Colvin-Snyder at 703-305-7801.

Jim Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

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RESTRICTED USE PESTICIDE

MAY INJURE (PHYTOTOXIC) SUSCEPTIBLE, NON-TARGET PLANTS. FOR RETAIL SALE TO AND USE ONLY BY CERTIFIED APPLICATORS OR PERSONS UNDER THEIR DIRECT SUPERVISION AND ONLY FOR THOSE USES COVERED BY THE CERTIFIED APPLICATOR'S CERTIFICATION. COMMERCIAL CERTIFIED APPLICATORS MUST ALSO ENSURE THAT ALL PERSONS INVOLVED IN THESE ACTIVITIES ARE INFORMED OF THE PRECAUTIONARY STATEMENTS.

NUP06097

HERBICIDE



For control of susceptible broadleaf weeds, woody plants and vines on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, ~~non-crop areas~~ including forest planting sites, industrial manufacturing sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, and wildlife openings in forest and ~~non-crop~~ areas.

ACTIVE INGREDIENT:

Picloram: 4-amino-3,5,6-trichloropicolinic acid, potassium salt 24.4%

OTHER INGREDIENTS: 75.6%

TOTAL 100.0%

Acid Equivalent Picloram: 4-amino-3,5,6-trichloropicolinic acid 21.1%, 2 lb/gal

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.
EPA EST. NO.

MANUFACTURED BY
NUFARM AMERICAS INC.
BURR RIDGE, IL 60527



NET CONTENTS

000000.00000.2007051407.NEW

ACCEPTED
with COMMENTS
in EPA Letter Dated
DEC 6 2007

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

228-535

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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Causes moderate eye irritation. Avoid contact with eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers must wear:

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

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

ENGINEERING CONTROLS

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the WPS (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 immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Users should 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.

FIRST AID

IF IN EYES

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

ENVIRONMENTAL HAZARDS

This pesticide is toxic to some plants at very low concentrations. Nontarget plants may be adversely affected if pesticide is allowed to drift from areas of application. 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. Do not contaminate water used for irrigation or domestic purposes by cleaning of equipment or disposal of wastes. Do not allow run-off or spray to contaminate wells, irrigation ditches or any body of water used for irrigation or domestic purposes. Do not make application when circumstances favor movement from treatment site.

~~Picloram is known to leach through soil into ground water under certain conditions as a result of agricultural use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.~~

This chemical can contaminate surface water through spray drift. Under some conditions, picloram may also have a high potential for runoff into surface water (primarily via dissolution in runoff water). These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas over-laying extremely shallow ground water, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

Note: Use in Hawaii limited exclusively to Supplemental Labeling. See "General Use Precautions" for details.

Notice: Read the entire label. Use only according to label directions. Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies elsewhere on this label. If terms are unacceptable, return at once unopened.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

DIRECTIONS FOR USE

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

Read all Directions for Use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

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

- Coveralls
- Waterproof gloves
- 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.

Entry Restrictions for Non-WPS Uses: For applications on rangeland, permanent grass pastures, and non-cropland, do not enter or allow worker entry into treated areas until sprays have dried, unless applicator and other handler PPE is worn.

GENERAL INFORMATION

Use this product to control noxious, invasive, or other broadleaf weeds and listed woody plants and vines on rangeland and permanent grass pastures, fallow cropland, Conservation Reserve Program (CRP) acres, ~~non-crop areas including~~ forest planting sites, industrial manufacturing sites, rights-of-way such as electrical power lines, communication lines, pipelines, roadsides, railroads, and wildlife openings in forest ~~and non-crop areas.~~

This product is NOT for sale or use in the San Luis Valley of Colorado.

USE PRECAUTIONS AND RESTRICTIONS

Use this product only as specified on this label or EPA-accepted Nufarm supplemental labeling. Observe any special use and application restrictions and limitations, including method of application and permissible areas of use as promulgated by state or local authorities.

Use In Hawaii: In Hawaii, approved uses of this product are limited to those described in Supplemental Labeling which may be obtained from your Nufarm representative or chemical dealer. Refer to this Supplemental Labeling for specific use directions and precautions.

To prevent damage to crops and other desirable plants, read and follow all directions and precautions on this label and container before using.

Do not use this product for impregnation of dry fertilizer, unless otherwise specified in use directions on Nufarm supplemental labeling.

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

Grazing Restrictions:

- Meat animals grazing for up to two weeks after treatment should be removed from treated areas three days prior to slaughter.
- Do not graze lactating dairy animals on treated areas within two weeks after treatment.
- When applying more than 0.5 lb a.i. picloram (1 quart of this product) per acre, do not cut grass for feed within two weeks after treatment. There are no restrictions for rates below 1 quart per acre.

Grass Tolerance: This product at rates over 1 quart per acre may suppress certain established grasses, such as brome grass and blue gramma. However, subsequent grass growth should be improved by release from weed competition.

Grazing Poisonous Plants: Herbicide application may increase palatability of certain poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock.

Maximum Use Rates:

- **Non-cropland Areas:** Total use of this product, including retreatments or spot treatments, must not exceed 1.0 lb a.i. picloram (2 quarts) per acre per annual growing season on rights-of-way and other non-crop areas.
- **On forest sites:** No more than 1.0 lb a.i. picloram (2 quarts) per acre may be applied within a period of 2 annual growing seasons.
- **Rangeland and Permanent Grass Pastures:** For control of noxious or invasive weeds as defined by federal, state, or local authorities, do not apply more than 1.0 lb active ingredient (2 quarts of this product) per acre per annual growing season as a broadcast treatment. Spot treatments may be applied at the equivalent broadcast rate of up to 1.0 lb active ingredient (2 quarts) per acre. For control of other broadleaf weeds and woody plants, do not apply more than 0.5 lb active ingredient (1 quart of this product) per acre per annual growing season. Spot treatments may be applied at an equivalent broadcast rate of up to 1.0 lb active

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ingredient (2 quarts) per acre per annual growing season, but not more than 50% of an acre may be treated. Repeat treatments may be applied as necessary, but total use must not exceed the maximum amount specified.

- **Fallow Cropland (Not Rotated to Broadleaf Crops):** Do not apply more than 0.25 lb a.i. picloram (1 pint) per acre as a broadcast treatment per annual growing season.
- **Conservation Reserve Program (CRP) for Seeding to Permanent Grasses Only:** Do not broadcast apply more than 0.5 lb active ingredient (1 quart) per acre of this product per annual growing season or apply more than 1.0 lb active ingredient (2 quarts) per acre per annual growing season as a spot application. **To reduce potential damage to subsequent small grain crops,** use the lower rate or discontinue the use of this product at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay (such as planting strips of the intended broadleaf crop in the treated area) shows that no detectable picloram is present in the soil.

PRECAUTIONS FOR AVOIDING INJURY TO NON-TARGET PLANTS

- **Do not apply to areas that may be rotated to any broadleaf crop.**
- **Do not use manure** from animals grazing treated areas or feeding on treated hay on land used for growing broadleaf crops, ornamentals, orchards or other susceptible, desirable plants. Manure may contain enough picloram to cause injury to susceptible plants.
- **Do not use grass or hay** from treated areas for composting or mulching of susceptible broadleaf plants or crops.
- **Do not transfer livestock** from treated grazing areas (or feeding of treated hay) onto sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated grass pasture (or feeding of untreated hay). Otherwise, urine and manure may contain enough picloram to cause injury to sensitive broadleaf plants.
- **Do not contaminate water intended for irrigation or domestic purposes.** To avoid injury to crops or other desirable plants, do not treat or allow spray drift or run-off to fall onto banks or bottoms of irrigation ditches, either dry or containing water, or other channels that carry water that may be used for irrigation or domestic purposes.
- **Do not use on flood or sub-irrigated land** (such as pastures/meadows areas irrigated by periodic flooding or a shallow water table).
- **Do not rotate to food or feed crops** on treated land if they are not registered for use with picloram until an adequately sensitive bioassay or chemical test shows that no detectable picloram is present in the soil.
- **Do not spray if the loss of forage legumes, including clover cannot be tolerated.** this product may injure or kill legumes. New legume seedlings may not grow for several years following application of this herbicide.
- **Do not apply to snow or frozen ground.** Application during very cold (near freezing) weather is not advisable.
- **This product should not be applied on residential or commercial lawns or near ornamental trees and shrubs.** Untreated trees can occasionally be affected by root uptake of herbicide through movement into the topsoil or by excretion of the product from the roots of nearby treated trees. Do not apply this product within the root zone of desirable trees unless such injury can be tolerated.
- **Conifer planting intervals vary.** Pines planted sooner than six months after treatment with this product may be injured in the South or west of the Cascade Mountains. Other conifers, west of the Cascade mountains, may be injured if planted sooner than 8 to 9 months after treatment. For all conifers, the waiting period between treatment and planting should be 11 to 12 months in the area between the Cascade and Rocky Mountains and 8 to 9 months in the lake States and Northeastern U.S.
- **Do not move treated soil** to areas other than sites for which this product is registered for use. Also, do not use treated soil to grow plants for which use of this product is not registered until an adequately sensitive bioassay or chemical test shows that no detectable residue of picloram is present in the soil.
- **Do not make application when circumstances favor movement from treatment site.**
- **Do not apply this product through a mist blower.**

PRECAUTIONS FOR AVOIDING SPRAY DRIFT

Do not apply or otherwise permit this product or sprays containing this product to contact crops or other desirable broadleaf plants, including but not limited to alfalfa, beans, cotton, grapes, melons, peas, potatoes, safflower, soybeans, sugar beets, sunflower, tobacco, tomatoes, and other vegetable crops, flowers, fruit plants, ornamentals or shade trees or the soil containing roots of nearby valuable plants.

Avoid spray drift. Exposure to very small quantities of spray or drift, which may not be visible, may cause serious injury to susceptible plants during active growth or dormant periods. To minimize spray drift, use low nozzle pressure; apply as a coarse spray; and use nozzles designed for herbicide application that do not produce a fine droplet spray. To aid in further reducing spray drift, a drift control or deposition aid may be used with this product, especially when water alone is used as the carrier. If a drift control aid is used, follow all use recommendations and precautions on the product label. Do not use a thickening agent with Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays.

Ground Equipment: With ground equipment spray drift can be lessened by keeping the spray boom as low as possible; by applying 10 gallons or more of spray per acre; by keeping the operating spray pressures at the manufacturer's recommended minimum pressures for the specific nozzle type used (low pressure nozzles are available from spray equipment manufacturers); by spraying when the wind velocity is low (follow state regulations). Avoid calm conditions which may be conducive to air inversions. Direct sprays no higher than the tops of target vegetation and keep spray pressures low enough to provide coarse spray droplets to minimize drift. A drift control or deposition aid may be used to further reduce the potential for drift.

Aerial Application: 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.

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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 on the boom must not exceed 3/4 the length of the wingspan or 90% of rotor width.
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.

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

[This information is advisory in nature and does not supersede mandatory label requirements.]

AERIAL DRIFT REDUCTION ADVISORY

Information on 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).

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 the recommended practice. Significant deflection from direction of air flow 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 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 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 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 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).

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WOODY PLANTS AND BROADLEAF WEEDS CONTROLLED

Woody Plants and Vines:

acacia, blackbrush	acacia, catclaw	acacia, twisted	aspen	blackberry	broom, Scotch	buttonbush	cactus spp.	camelthorn	cedars (Juniper)	chaparral spp.	dogwood	Douglas fir	fir spp.	gorse	granjeno	guajillo	guava	gums	haw	hemlock	hickory	huisache (suppression only)	junipers/cedars	lantana	locust	maple spp.	mesquite	oak spp.	oak, live	oak, poison	persimmon	pine	poplar spp.	pine, pinyon	plum, java	rabbitbrush, Douglas	rose, Macartney	rose, multiflora	sagebrush, fringed	salmonberry	sassafras	sourwood	spruce	sumac	tallowtree, Chinese	trumpet creeper	willows	wormwood, absinth
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Annual and Perennial Broadleaf Weeds:

bindweed, field (p)	bitterweed (a)	bouncingbet (a)	broomweed, annual (a)	buckwheat, wild (a)	buffalobur (a)	bullnettle (p)	bursage (a)	burweed (p)	cactus sp. (p)	cactus, cholla (p)	camphorweed (a)	carrot, wild (b)	chicory (a)	cinquefoil, sulfur (p)	clover (p)	cocklebur (a)	coneflower, upright prairie (p)	croton (a)	crupina, common (a)	daisy, ox-eye (p)	fleabane (a,b)	dock, curly (p)	garbancillo (Wooten loco) (p)	goldaster, gray (p)	goldaster, narrowleaf (p)	goldenrod, common (p)	goldenweed, Drummond (p)	groundsel (p)	henbane, black (a,b)	horsenettle, Carolina (p)	horsenettle, western (p)	horsenettle, white (p)	horseweed (a)	ironweed (p)	knapweed, diffuse (a)	knapweed, meadow (p)	knapweed, Russian (p)	knapweed, spotted (p)	knapweed, squarrose (p)	lambquarters (a)	larkspur, geyer (p)	larkspur, plains (p)	larkspur, tall (p)	lettuce, prickly (a)	licorice, wild (p)	locoweeds (p)	loco, woolly (p)	loco, Wooten (garbancillo) (p)	lupines (p)	marshelder (sumpweed) (a)	mayweed (a)	milkweed (p)	mullein (b)	mustard, wild (a)	nightshade, silverleaf (p)	parsnip, wild (b)	pennycress (a)	pigweed (a)	pricklypear, plains (p)	pricklypear, lindheimer (p)	ragweed, bur (a)	ragweed, common (a)	ragweed, lanceleaf (a)	ragweed, western (a)	ragwort, tansy (b)	Russian thistle (a)	sage Mediterranean (b)	skeletonweed, rush (p)	smartweed (a)	snakeweed, broom (p)	sneezeweed, bitter (a)	sowthistle, perennial (p)	spurge, leafy (p)	St. Johnswort (p)	starthistle, Iberian (a)	starthistle, purple (a)	starthistle, yellow (a)	sunflower (a)	tasajillo (p)	thistles, annual or biennial, including:	thistle, artichoke (b)	thistle, bull (b)	thistle, distaff (a)	thistle, Italian (b)	thistle, musk (b)	thistle, plumeless (b)	thistle, Scotch (b)	thistles, perennial, including	thistle, Canada (p)	thistle, wavy leaf (p)	toadflax, dalmation (p)	toadflax, yellow (p)	yankeeweed (p)
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(a) - annual; (b) - biennial; (p) - perennial

NON-CROPLAND AREAS

Use this product to control susceptible broadleaf weeds and woody plants on ~~non-cropland areas~~ such as roadsides or other rights-of-way, fence rows, and around farm buildings. Up to 2 quarts of this product per acre may be applied. For general non-crop weed and brush control, See the Rangeland and Permanent Grass Pastures section for specific target weed or woody plant species treatment recommendations. See specific use directions for Forest Site Preparation below.

Broadcast Treatments for Forest Site Preparation (Not for Conifer Release)

For broadcast applications apply the recommended rate of this product in a total spray volume of 5 to 25 gallons per acre by air or 10 to 100 gallons per acre by ground. Use spray volumes sufficient to provide thorough coverage of treated foliage. Use application systems designed to prevent spray drift to off-target sites. Nozzles or additives that produce larger droplets may require higher spray volumes to provide adequate coverage.

Southern States (Alabama, Arkansas, Delaware, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas and Virginia): To control susceptible woody plants and broadleaf weeds, apply this product at a rate of 2 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 2 quarts per acre of this product in tank mix combination with 2 to 4 quarts of Tahoe® 4E herbicide. Where grass control is desired, this product, alone or in combination with Tahoe 4E herbicide, may be tank mixed with 1 to 4 quarts per acre of Razor Pro® or Roundup herbicides, or 8 to 16 fluid ounces per acre of Polaris® AC herbicide. Susceptible woody plants, broadleaf weeds and grasses may also be controlled using a tank mix of 2 quarts per acre of this product with 3 to 5 quarts per acre of Razor Pro or Roundup herbicides, or 16 to 24 fluid ounces of Polaris AC. When applying tank mixes, follow use directions and precautions on each product label.

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In Western, Northeastern, and North Central and Lake States (States Not Listed Above As Southern States): To control susceptible woody plants and broadleaf weeds, apply this product at a rate of 1 to 2 quarts per acre. To broaden the spectrum of woody plants and broadleaf weeds controlled, apply 1 to 2 quarts per acre of this product in tank mix combination with 1.5 to 3 quarts per acre of Tahoe 4E herbicide. Where grass control is also desired, this product, alone or in tank mix combination with Tahoe 4E, may be applied with 1 to 3 quarts per acre of Razor Pro or Roundup herbicide, 2 to 4 ounces per acre of Spyder®, a combination of Razor Pro (or Roundup) plus Spyder at the rates listed, or 8 to 16 fluid ounces of Polaris AC. When applying tank mixes, follow the use directions and precautions on each product label.

RANGELAND AND PERMANENT GRASS PASTURES

Use this product on rangeland and permanent grass pastures to control susceptible broadleaf weeds and woody plants including, but not limited to those shown in the following tables. Many annual weeds at the seedling stage can be controlled at the rate of 1 pt per acre. Where a rate range is recommended, choose the higher rate for dense weed infestations, and for more dependable, longer lasting control. Lower rates will perform best when applied under favorable conditions and at the optimum growth stage, but may provide a lower level of control and require retreatment. For best results treat when weeds are small and actively growing in the spring before full bloom, however, certain weeds may also be treated in late summer to fall. Treatments during full bloom or seed stage of some weeds may not provide acceptable control.

TABLE 1: RATE RECOMMENDATIONS FOR NOXIOUS, INVASIVE, OR OTHER WEED SPECIES PREDOMINANT IN THE PLAINS AND NORTHERN STATES.

Weed Species	Broadcast Application (Rate/acre)	Specific Use Directions
Annual and Biennial Weeds:		
bursage (bur ragweed) crupina, common henbane, black horseweed starthistle, Iberian starthistle, purple starthistle, yellow	1 to 2 pt _a	Apply when there is adequate soil moisture and weeds are actively growing.
thistles, including, bull distaff Italian musk plumeless scotch	Fall: 1/2 to 3/4 pt _a Spring: 1/2 to 3/4 pt of this product + 1 lb ae 2,4-D	General: Apply at the rosette stage before bolting in the spring or in the fall prior to soil freeze up. Distaff Thistle: Apply at rosette stage in spring only. Bolted Musk Thistle: Apply before flowering at the rate of 3/4 to 1 pt of this product + 1 lb ae of 2,4-D/acre.
Mullein, common	1 to 1.5 pt of this product + 1 lb ae 2,4-D	Apply at the rosette stage with surfactant and use at least 30 gallons per acre of water carrier.
Perennial Weeds:		
pricklypear, plains	1/2 to 1 pt _a	Apply at peak of flowering. Use of an oil-water emulsion spray mixture may improve control. Lower rate will provide partial control (stand reduction) and high rate more complete control. Treatment response is slow and may continue for 2 years or longer.
sagebrush, fringed	1/2 to 1 pt of this product + 1 lb ae 2,4-D ester	Apply after seed stalk elongation and early flowering and throughout the summer if growing conditions are favorable.
cinquefoil, sulfur larkspur, geyer larkspur, plains locoweeds snakeweed, broom	1 pt _a	General: Apply when weeds are actively growing. Sulfur cinquefoil: Apply during active growth or fall regrowth. Geyer larkspur: Apply when plant is actively growing between rosette stage and flower bud formation. Locoweeds: Apply from early bud to early bloom stage. See "General Use Precautions" section for note on grazing treated poisonous plants. Broom snakeweed: Apply during active growth between full leaf to early bloom stage.

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TABLE 1: RATE RECOMMENDATIONS FOR NOXIOUS, INVASIVE, OR OTHER WEED SPECIES PREDOMINANT IN THE PLAINS AND NORTHERN STATES. (CONTINUED)

Weed Species	Broadcast Application (Rate/acre)	Specific Use Directions
Perennial Weeds: (continued)		
burroweed daisy, ox-eye goldenrod, common knapweed, diffuse knapweed, meadow knapweed, spotted knapweed, squarrose rabbitbrush, Douglas sage, Mediterranean thistle, artichoke thistle, Canada thistle, wavy leaf wormwood, absinth	1 to 2 pt _a	<p>General: Apply during active growth prior to bud stage. Lower rates in rate range may require annual spot treatments. Control with lower rates may be improved by tank mixing with 1.0 lb ae per acre of 2,4-D.</p> <p>Diffuse or spotted knapweed: Optimum time for application is from rosette to mid-bolting stage or when applied to fall regrowth. Under favorable growing conditions, application in summer can be effective if higher application volumes are used.</p> <p>Thistle (Canada and Wavy Leaf): Apply when most basal leaves have emerged, but before bud stage, or apply to regrowth in the fall. Apply rates less than 1 1/2 pt/acre only under favorable conditions and in combination with 1 lb ae/acre of 2,4-D. Retreatment may be required.</p> <p>Absinth wormwood: Apply in spring or early summer when plants are actively growing.</p> <p>Oxeye Daisy: Use 1.5 to 2 pt/acre with at least 30 gallons per acre of water.</p>
licorice, wild milkweed	2 pt _a	<p>Wild Licorice: Apply at bloom stage.</p> <p>Milkweed: Treat during active growth and tank mix recommended rate of this product with 1 lb ae/acre 2,4-D and surfactant.</p>
bindweed, field gorse lupines knapweed, Russian ragwort, tansy skeletonweed, rush spurge, leafy St. Johnswort toadflax, dalmation	2 to 4 pt _a	<p>General: Annual retreatment of these species will be required at rates at low end of rate range. Control at low end of rate range may be improved by tank mixing with 1 lb ae/acre 2,4-D.</p> <p>Russian Knapweed: Apply during active growth from bud to mid-flowering, or to fall regrowth.</p> <p>Leafy Spurge: Apply at true flower stage of growth or apply to fall regrowth. Re-apply when level of control falls below 80 percent.</p> <p>Dalmation Toadflax: Apply in the fall or summer when plants are actively growing through full bloom stage of growth.</p>
larkspur, tall sowthistle, perennial toadflax, yellow	4 pt _a	<p>General: A retreatment program may be necessary for satisfactory control of these species.</p> <p>Tall Larkspur: For best results apply from 6 inches tall to late bloom stage. For increased control, apply in tank-mix with Ally or Escort herbicide and non-ionic surfactant.</p> <p>See General Use Precautions for note on grazing treated poisonous plants.</p>
Woody Plants:		
juniper	4 qt _a per 100 gallons of spray [†]	† Apply as a high volume foliar spray / individual plant treatment
redcedar, eastern	Eastern redcedar can be controlled with spot concentrate applications of this product in either the spring (April-May) or fall (September-October). For best results, use 3 ml to 4 ml of this product (undiluted) per 3 feet of plant height. Application should precede periods of expected rainfall. Apply directly to soil within the dripline and on the upslope side of the tree. Application to trees taller than 15 feet is not recommended. Do not use more than 2 pints of this product per acre in any one year.	

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TABLE 2: RATE RECOMMENDATIONS FOR BROADLEAF WEEDS AND WOODY SPECIES IN THE SOUTHERN U.S. (ALABAMA, ARKANSAS, GEORGIA, LOUISIANA, MISSISSIPPI, NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE, TEXAS AND VIRGINIA)

This product can be applied alone or in combination with 2,4-D amine or ester or other products labeled for rangeland and pastures to enhance control of certain species. When this product is applied alone, herbicide symptoms will appear more slowly than when tank mixed with 2,4-D

Weed Species	Broadcast Application (Rate/acre)	Specific Use Directions
Annual and Biennial Weeds:		
bitterweed, western broomweed, annual buffalobur bursage (bur ragweed) camphorweed carrot, wild cocklebur croton horseweed lettuce, prickly ragweed, common ragweed, lanceleaf smartweed sneezeweed, bitter sunflower thistle, bull thistle, musk	Early Season 3/4 to 1-1/2 pt Mid to Late Season 1 to 2 pt	General: Apply when there is adequate soil moisture and weeds are actively growing. Early Season: Recommendations are intended only for very early in the season when weeds are no more than 2 to 3 inches tall. Mid to Late Season: Recommendations are for weeds from 3 inches tall to early flowering. Thistles: Apply the lower rate in the rate range when thistles are in the rosette stage before bolting. When bolting, increase rate and add 2,4-D. Lanceleaf Ragweed: Use the higher rate within the recommended rate range.
Perennial Weeds:		
snakeweed, broom	Fall, Early Winter 1 pt	Fall and Early Winter: If rainfall is less than average prior to flowering, apply after flowering is complete. If rainfall is average to above average prior to or during flowering, apply during full flower and/or active pollination, before resumption of new top growth.
bullnettle coneflower, upright prairie dock, curly horsenettle, Carolina horsenettle, western horsenettle, white ironweed nightshade, silverleaf ragweed, western yankeeweed	1 to 2 pt	General: Apply when there is adequate soil moisture and weeds are actively growing. Nettles and Silverleaf Nightshade: Apply when plants begin to flower in spring. Upright Prairie Coneflower: Apply when plants are 2-6 in. tall, before flowering. Curly Dock: Apply up to bolting Ironweed: Apply up to bud stage. Yankeeweed: Apply when plants are 8 to 10 in. tall.
goldaster, gray goldaster, narrowleaf goldenweed, common goldenweed, Drummond (Isocoma spp.)	1 to 2 pt	Gray and Narrowleaf Goldaster: Apply in oil-water emulsion in spring during bud stage (prebloom). Thorough coverage is essential. Goldenweed: Apply in spring (April-June) when there is substantial canopy development as a result of good growing conditions. Add an agricultural surfactant at 0.25% to 0.5% or apply in oil-water emulsion. Increase spray volume, 4-5 gpa by air or 15-20 gpa by ground, to ensure thorough coverage.
Poisonous Plants such as groundsel (Senecio spp.) lambert crazyweed loco, woolly loco, Wooton (garbancillo)	1-1/2 to 2 pt	General: Apply in fall or winter when there is adequate soil moisture and weeds are actively growing. Herbicide application may increase palatability of poisonous plants. Do not graze treated areas until poisonous plants are dry and no longer palatable to livestock. See General Use Precautions for note on grazing treated poisonous plants. Locoweeds: To improve wetting of locoweeds, use an agricultural surfactant at 0.25% to 0.5% or apply in oil-water emulsion.

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TABLE 2: RATE RECOMMENDATIONS FOR BROADLEAF WEEDS AND WOODY SPECIES IN THE SOUTHERN U.S. (ALABAMA, ARKANSAS, GEORGIA, LOUISIANA, MISSISSIPPI, NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE, TEXAS AND VIRGINIA) (CONTINUED)

Cactus	Broadcast Application (Rate/acre)	High Volume Foliar (Rate/100 gal)	Specific Use Directions
cactus sp. cactus, cholla	--	4 q _l	Apply any time of the year with water and surfactant. Good coverage is essential.
Woody Plants:	Note: Consult local recommendations for specific rates within listed rate ranges.		
huisache (suppression)	2 pt of this product + 1 pt Remedy	2 qt of this product + 1 qt Remedy	Fall application is recommended, however, fall applications will not provide satisfactory control of other woody species in the South Texas mixed brush complex. Performance can be erratic.
juniper, including, alligator redberry Utah one-seeded eastern redcedar pinyon pine	--	4q _l	Apply May through July. Complete coverage is essential. Results with ashe juniper may be variable with high volume foliar application.
pricklypear, lindheimer (unburned rangeland)	2 p _l	4 q _l	Application may be made anytime, but optimum time is late August to early November. Onset of herbicidal activity is very slow and may continue for two years or longer. Good coverage is essential.
pricklypear, lindheimer (burned rangeland)	1 p _l	2 q _l	Conduct intense controlled burns from December through March and apply this product mid-April through May. Rainfall following burning can also stimulate prolific resprouting of the burned plants. Good coverage is also essential.
Pricklypear, plains	1-1/2 to 2 p _l	4 q _l	Optimum time for treatment is during flowering. Control may be improved by use of an oil-water emulsion spray mixture. Lower rate will provide partial control (stand reduction) and high rate more complete control. Treatment response is slow and may continue for 2 years or longer.
rose, Macartney rose, multiflora	1 qt of this product + 2 lb ae 2,4-D	1 to 2 qt of this product + 2 to 4 lb ae 2,4-D	Apply in the spring or fall when conditions are favorable for plant growth. Use an agricultural surfactant (0.5% v/v) or apply as an oil-water emulsion. Ensure thorough and uniform coverage by applying at higher spray volume, 5 or more gpa by air or 20 or more gpa by ground. Avoid treatment less than 9 to 12 months after mowing when plants have a high percentage of new growth. Repeat treatment as necessary.
tallowtree, Chinese	1 qt of this product + 2 lb ae 2,4-D or 1 pt Remedy	2 qt of this product or 1 to 2 qt of this product + 2 to 4 lb ae 2,4-D or 1 qt Remedy	Apply in the spring or fall, when conditions are favorable for plant growth. Use an agricultural surfactant (0.5% vol/vol) or use an oil-water emulsion and higher spray volumes, 5 gpa or more by air and 20 gpa or more by ground.

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TABLE 2: RATE RECOMMENDATIONS FOR BROADLEAF WEEDS AND WOODY SPECIES IN THE SOUTHERN U.S. (ALABAMA, ARKANSAS, GEORGIA, LOUISIANA, MISSISSIPPI, NORTH CAROLINA, OKLAHOMA, SOUTH CAROLINA, TENNESSEE, TEXAS AND VIRGINIA) (CONTINUED)

Cactus	Broadcast Application (Rate/acre)	High Volume Foliar (Rate/100 gal)	Specific Use Directions
South Texas mixed brush, including, acacia, blackbrush acacia, catclaw acacia, twisted granjeno guajillo mesquite prickly pear tasajillo	2 pt of this product + 2/3 to 1-1/3 pt Reclaim or 1 to 2 pt Remedy	2 qt of this product + 2 to 3 pt Remedy or 1 to 2 qt Reclaim	Apply in oil-water emulsion. Use 4 or more gpa by air or 20 or more gpa by ground. For application timing for mesquite, see comments in section on mesquite control. Tank mixing this product with Reclaim will provide improved control of pricklypear and legume species such as mesquite and acacias while tank mixing with Remedy will provide improved control of non-legume species such as granjeno, oaks and hackberry.
mesquite	1 to 2 pt of this product + 2/3 to 1-1/3 pt Reclaim or 2 pt of this product + 1 pt Remedy	1 to 2 qt of this product + 1-2 qt Reclaim or 1 1/2-3 pt Remedy	This product Alone: Apply as a water spray or oil-water emulsion (see Mixing Instructions) in 4 or more gpa by air or 10 or more gpa by ground. Increase spray volumes with increasing brush density and height to ensure adequate coverage. Where control of pricklypear cactus is desired, use the 2 pint/acre rate of this product.

This product in Tank Mix: Tank mixing with Reclaim will provide control of pricklypear and improved control of legume species such as mesquite and acacias while tank mixing with Remedy will provide improved control of non-legume species such as granjeno, oaks and hackberry. Regrowth mesquite should be at least 4 ft tall prior to treatment. See labels for Reclaim and Remedy for additional treatment recommendations and information on mesquite control. Within rate ranges given for this product and tank mix products, consult local recommendations.

Timing and Factors in Control: The herbicidal response of mesquite is strongly influenced by environmental conditions as well as foliage condition and stage of growth. For best results, apply when new growth foliage has turned from light to dark green, when the soil temperature has reached 75°F to 83°F at a depth of 12 to 18 inches, and soil moisture is adequate for plant growth. Application should be made within 45 days after the critical soil temperature at the 12 to 18 inch depth has been reached or, if this product is applied in combination with Reclaim, within 60 days. Product performance may be adversely affected if application is made before mesquite foliage has turned from light to dark green or if foliage has been injured or removed by late frost, insects, hail or plant diseases. Do not apply if mesquite exhibits new (light green) growth in response to significant rainfall during the growing season. Soil temperatures at the 12 to 18 inch depth may vary with soil texture and drainage. Coarse-textured (sandy) soils warm up sooner than fine-textured soils (clay) soils and dry soils warm up more quickly than wet soils.

Re-application: Do not reapply in the same growing season. Retreatment will not be effective until woody plants develop sufficient new foliage for interception, uptake, and translocation of the herbicide to plant roots.

Spot Concentrate Application for Juniper Control

ashe juniper eastern redcedar eastern persimmon	<p>General: Apply this product undiluted as a spot concentrate application prior to periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Application to trees taller than 12 feet is not recommended. See directions for "Soil Spot Concentrate" in "Application Methods" section.</p> <p>Ashe Juniper: Apply 4 to 6 ml per 3 ft of plant height in the spring (April-May)</p> <p>Eastern Redcedar: Apply 3 to 4 ml per 3 ft of plant height in either spring (April-May) or fall (September-October)</p> <p>Eastern Persimmon: Apply 2 to 4 ml per inch of stem diameter in spring (March through May)</p>
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SEEDING TO PERMANENT GRASSES, INCLUDING CONSERVATION RESERVE PROGRAM (CRP) ACRES

Newly Seeded Grasses:

This product should be applied only after perennial grasses are well established as indicated by development of a good secondary root system and vigorous growth (usually 45 to 60 days after planting). Most perennial grasses show improved tolerance to the post emergence applications at this stage of development. Generally, wheatgrass species are more tolerant to picloram soil residues.

For best results, apply to actively growing weeds in a spray volume of 2 or more gallons of water per acre by air or 10 or more gallons of water per acre by ground. Refer to the weeds rate chart for information on target weed species and application rates.

Perennial Broadleaf Weeds: Apply this product to actively growing perennial broadleaf weeds at up to 2 pints per acre after the grass is well established. Risk of grass injury is greatest when using the maximum of 2 pint per acre rate.

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Annual Broadleaf Weeds: Apply this product at 1/2 to 3/4 pint per acre to actively growing susceptible annual broadleaf weeds, (including Russian thistle). This product can also be tank mixed with 1/2 to 1 pound ae per acre of 2,4-D where 2,4-D sensitive species are present. Read and follow all directions for use and use precautions on other product labels.

Weed Control Prior to Seeding Cool Season Perennial Grasses: Weed control with this product fits into grass re-vegetation programs where perennial range or reclamation grass species are to be established in non-cropland, rangeland, permanent grass pastures, or CRP areas. This product may be applied in the spring or early summer, depending on the target weed species, and grass seed planted in the fall when conditions are favorable for grass establishment. Alternatively, this product may be applied in the fall and grass seed planted in the winter or spring when conditions are favorable for grass establishment.

Apply this product at 1 qt/acre or less. Refer to the weeds rate chart for information on target weed species and application rates. When this product is applied at 1 qt/acre there may be temporary injury to new plantings of certain perennial grass species, depending on sensitivity. However, temporary grass injury will be more than offset by the benefits to grasses due to decreased weed competition. Germination of annual grass species may be suppressed after treatment.

To optimize weed control it is suggested the application area be disturbed as little as possible by the seeding operation. After application, the site should be left undisturbed for a minimum of 14 days prior to seedbed preparation or seeding. Potential for injury to sensitive grass species can be decreased by increasing the interval between application and seeding operations.

Precautions:

- Do not use this product if legumes are a desired cover during CRP.
- Conditions that stress grasses, such as drought, will increase potential for injury to the grass at all stages of growth.
- Do not rotate to grain sorghum (milo) if greater than 1 pint per acre of this product has been applied. Do not plant grain sorghum within 8 months after application. Do not use this product for sweet sorghum production or on land that will be rotated to sweet sorghum.
- To reduce potential damage to subsequent small grain crops or grain sorghum (milo), use the lower rate or discontinue the use of this product at least 2 years prior to the seeding of small grain crops. After CRP, do not plant broadleaf crops in treated acres until an adequately sensitive bioassay shows that no detectable picloram is present in the soil.
- This product at rates over 2 pints per acre may suppress certain established grasses such as bromegrass and blue gramma. However, subsequent grass growth should be improved by release from weed competition.

**FALLOW CROPLAND
(NOT ROTATED TO BROADLEAF CROPS)**

Apply this product as a post harvest or fallow treatment in continuous grain or during the fallow period. This product may be applied alone or in tank mix combination with 2,4-D or other herbicides registered for this use. Apply in 2 or more gallons of water per acre by air or 5 or more gallons per acre by ground.

APPLICATION RATES

Annual Weeds: To control annual weeds such as Russian thistle and wild buckwheat, apply 1/4 to 1/2 pint per acre of this product in tank mix combination with 1/2 to 1 lb ae of 2,4-D or other herbicides registered for use on fallow land. Apply when weeds are actively growing.

Field Bindweed: Apply 1/2 to 1 pint per acre of this product plus 1/2 to 1 lb ae per acre of 2,4-D when bindweed is actively growing. Optimum time for treatment is when plant runners reach 8 to 12 inches. Use 1/2 pint per acre to control light to moderate infestations under good growing conditions or to reduce the potential for crop injury. Use 1 pint per acre for heavy infestations and to start a treatment program for longterm control. Some regrowth will occur the following season and a retreatment program of 1/2 pint of this product plus 1/2 lb ae of 2,4-D for one to two years will provide stand reduction.

Canada thistle: Apply 1 pint per acre of this product plus 1 lb ae per acre of 2,4-D when the majority of thistle plants are emerged but prior to bud stage.

Crop Rotation

Use only on land to be planted the following year to grass, barley, oats, wheat, grain sorghum (milo) or fallowed. Do not plant grain sorghum within 8 months after application. Do not use this product for sweet sorghum production or on land that will be rotated to sweet sorghum. Many broadleaf crops are extremely sensitive to soil residues of this product. Do not plant sensitive broadleaf crops for 36 months after treatment or until soil residues have declined to a safe level as indicated by an adequately sensitive bioassay using the intended broadleaf crop. A bioassay is recommended following treatment prior to planting any sensitive broadleaf crop.

Preplant Interval

A preplant interval following application of this product prior to planting small grains is recommended to reduce or eliminate potential crop injury and/or yield reduction. The possibility for crop injury or yield reduction to occur depends on application rate, soil organic matter, rainfall, temperature and incidence of cereal diseases. Adequate soil moisture and soil temperature during the preplant interval is important in reducing, but may not eliminate, the risk of crop injury. When considering use of this product on fallow land, growers should consider the benefit of weed control against the risk of crop damage and treat only if the risk of injury to small grains can be tolerated. The following preplant intervals are recommended:

For applications up to 1/2 pint per acre, allow a minimum of **45 days** of soil temperatures above 40°F between application and planting.

For applications of greater than 1/2 pint and up to 1 pint per acre, allow a minimum of **60 days of soil temperatures above 40°F** between application and planting, except in the states of Idaho, North Dakota, Nebraska, Montana, Oregon, South Dakota, Washington and Wyoming, where the minimum preplant interval is **90 days**.

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Restrictions:

- Do not apply more than 1 pint per acre as a broadcast treatment per annual growing season.
- **Spot Treatment:** See "Spot Treatment" in "Mixing and Application Methods" section for directions for calibration, spray volume determination and mixing. Spot treatments of this product at rates over 1 pint per acre can be made on fallow, non-irrigated cropland if the treated areas comprise less than 10% of the immediate field in any one year. This product should not be applied to cropland at rates exceeding 2 quarts per acre. When this product is applied at rates above 1 pint per acre, injury to small grains may result for periods up to two years after treatment.

MIXING AND APPLICATION DIRECTIONS

MIXING INSTRUCTIONS

Mix the required amount of this product in water and apply as a coarse, low-pressure spray using ground equipment or aircraft. Use enough spray volume to provide uniform coverage of the weeds.

Use with Surfactants: Under certain conditions, such as drought or dusty plant surfaces, the addition of a surfactant may improve efficacy. However, if foliar burn occurs too rapidly, translocation of this product will be impaired and control of perennial weeds, such as field bindweed, may be reduced.

Mixing with Water

To prepare the spray, add about half the desired amount of water in the spray tank. Then with agitation, add the recommended amount of this product and other registered tank mix herbicides. Finally, with continued agitation, add the rest of the water and additives such as surfactants or drift control and deposition aids.

Mixing Oil-Water Emulsions (Ground and Aerial Applications)

For aerial application, add oil to the total spray mix at the ratio of 1 part oil to 5 parts water (1:5 ratio). For ground application, add oil to the spray mix at a rate of 5 to 10% of the total mix. Do not use more than 1 gallon of oil per acre for aerial or ground application. Use agricultural spray emulsifiers such as Sponto 712 or Triton X-100 according to mixing instructions given below.

Batch Mixing Instructions

With continuous, vigorous agitation:

1. Add half the amount of water to be used to the spray tank.
2. Add the required amount of water-soluble herbicides such as this product, ~~Takeo~~^{Takeo} 3A, Reclaim[®] herbicide or 2,4-D Amine.
3. With continued, vigorous agitation slowly add a premix of oil, emulsifier and oil soluble herbicides such as ~~Takeo~~^{Takeo} 4E, Remedy[®] herbicide or a 2,4-D ester as required. Note: Do not add water or mixtures containing water to the premix or oil soluble herbicide since a thick "invert" (water in oil) emulsion may be formed that will be difficult to break. An invert emulsion will also form if the premix is added to the mixing tank before the addition of water.
4. Finish filling the spray tank and maintain sufficient agitation to ensure uniformity of the spray mixture during application.

Invert Emulsions (Non-food Crop Use Only)

This product may be applied with Envert 171 Woody Plant Herbicide an approved inverting agent to provide a thick invert water-in-oil spray emulsion designed to minimize spray drift. Consult label directions for Envert 171 or inverting agent for use directions. Invert emulsions may be used only for non-food uses.

Where root-suckering species such as sumac, sassafras, locust and black gum predominate, mix 3 gallons of Envert 171 plus 1-1/2 quarts this product with 9 gallons of water for each acre to be sprayed.

Where harder-to-control species such as red maple, elm or oaks are present, mix 5 to 6 gallons of Envert 171 plus 1 to 2 quarts of this product with 15 to 18 gallons of water for each acre to be sprayed.

Mixing With Sprayable Liquid Fertilizer Solutions

This product is compatible with most non-pressurized liquid fertilizer solutions; however, a compatibility test (jar test) should be made prior to mixing. Jar tests are particularly important when a new batch of fertilizer or pesticide is used, when water sources change, or when tank mixture ingredients or concentrations are changed. Compatibility may be determined by mixing the spray components in the desired order and proportions in a clear glass jar before large scale mixing of spray components in the spray tank. **Note:** The lower the temperature of the liquid fertilizer, the greater the likelihood mixing problems. Use of a compatibility aid such as Complex or E-Z Mix may help obtain and maintain a uniform spray solution during mixing and application. Compatibility is best with straight liquid nitrogen fertilizer solutions. Mixing with N-P-K fertilizer solutions or suspensions is more difficult and should not be attempted without first conducting a successful jar test. Agitation in the spray tank must be vigorous to be comparable with jar test agitation. For best results, liquid fertilizer rates should not exceed 50% of the total spray volume. Premix this product with water and add to the liquid fertilizer/water mixture while agitating contents of the spray tank. Apply the spray the same day it is prepared while maintaining continuous agitation. Rinse spray tank thoroughly after use.

Note: Foliar applied liquid fertilizers used as carrier for this product can cause yellowing or leaf burn of grass foliage.

Tank Mixing

This product may be applied in tank mix combination with labeled rates of 2,4-D or other products provided (1) the tank mix product is labeled for the timing and method of application for the use site to be treated; and (2) tank mixing is not prohibited by the label of the tank mix product.

Tank Mixing Precautions:

- Read carefully and follow all applicable use directions, precautions, and limitations on the respective product labels.
- Do not exceed ~~recommended~~ application rates. If products containing the same active ingredient are tank mixed, do not exceed the maximum allowable active ingredient use rates.

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- For products packaged in water soluble packaging, do not tank mix with products containing boron or mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment has been adequately cleaned. (See "Sprayer Clean-Out" below.)
- For direct injection or other spray equipment where the product formulations will be mixed in undiluted form, special care should be taken to ensure tank mix compatibility.
Note: Undiluted this product can be incompatible with certain amine formulations of 2,4-D. This incompatibility can usually be overcome by diluting one or both products with 50% water prior to mixing.
- Always perform a (jar) test to ensure the compatibility of products to be used in tank mixture.

Tank Mix Compatibility Testing: A jar test is recommended prior to tank mixing to ensure compatibility of this product and other pesticides or carriers. Use a clear glass jar with lid and mix the tank mix ingredients in their relative proportions. The tank mixture is compatible if the materials mix readily when the jar is inverted several times. The mixture should remain stable after standing for 1/2 hour or, if separation occurs, should readily mix if agitated. An incompatible mixture is indicated by separation into distinct layers which do not readily remix when agitated and/or the presence of flakes, precipitates, gels, or heavy oily film on the jar.

Do not use spray equipment used to apply this product for other applications to land planted to, or to be planted to susceptible crops or desirable sensitive plants, unless it has been determined that all phytotoxic residue of this herbicide has been removed by thorough cleaning of equipment.

Local conditions may affect the use of herbicides. State agricultural experiment stations or extension service weed specialists in many states issue recommendations to fit local conditions. Be sure that use of this product conforms to all applicable regulations.

Sprayer Clean-Out

To avoid injury to desirable plants, equipment used to apply this product herbicide should be thoroughly cleaned before reusing to apply any other chemicals.

1. Rinse and flush application equipment thoroughly after use. Dispose of rinse water in non-cropland area away from water supplies.
2. Rinse a second time, adding 1 quart of household ammonia for every 25 gallons of water. Circulate the solution through the entire system so that all internal surfaces are contacted (15 to 20 minutes). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out the spray tank through the boom.
4. Rinse the system twice with clean water, recirculating and draining each time.
5. Nozzles and screens should be removed and cleaned separately.

APPLICATION METHODS

Ground or Aerial Broadcast

Use this product as a broadcast treatment by ground or by air to control listed broadleaf weeds and woody plants. Apply this product as a coarse low-pressure spray at the recommended rates in a spray volume of 2 or more gallons per acre by air or 10 or more gallons per acre by ground. For non-crop applications it is recommended that ground applications of this product be made in 15 or more gallons of total spray mixture per acre. For aerial applications, the use of 5 to 20 gallons per acre of spray mixture is recommended.

High-Volume Foliar Applications

Spray to thoroughly wet foliage and stems of individual plants. An approved surfactant should be added at the manufacturer's recommended rate. Do not apply more than the maximum application rate of this product specified for a given treatment site.

Modified High Volume Applications

For modified high volume leaf-stem treatments of woody brush mix 1 to 3 quarts of this product in 100 gallons of water. To control a wider range of plant species, mix 1 to 3 quarts of this product with 1-3 quarts of Tahoe 4E herbicide or 1 to 4 quarts of Tahoe 3A herbicide and dilute to make 100 gallons of spray. Apply after the foliage is well developed and in a manner which thoroughly wets all leaves, stems, and root collars.

The amount of spray mixture applied per acre will vary with plant size and density. It is recommended that the total amount of spray mixture applied per acre is 40 to 60 gallons. The total use of this product must not exceed 2 quarts per acre.

Spot Treatment

Use application rates as suggested in the "Approved Uses" section of this label or recommended by your area weed control specialist. Apply in a total spray volume of 20 to 100 gallons per acre. To prevent misapplication, spot treatments should be applied with a calibrated boom or with hand sprayers according to directions provided below. Do not exceed maximum application rates for this product for a given treatment site. On rangeland and permanent grass pastures, spot treatments may be applied at an equivalent broadcast rate of up to 2 quarts per acre per annual growing season, but not more than 50% of an acre may be treated (unless the target weed is a noxious weed which allows higher broadcast use rates). Repeat treatments may be applied as necessary, but total use must not exceed the maximum amount specified.

Hand-Held Sprayers: Hand-held or backpack sprayers may be used for spot applications of this product if care is taken to apply the spray uniformly and at a rate equivalent to a broadcast application. Application rates in the table are based on an area of 1,000 sq ft. Mix the amount of this product (fl oz or ml) corresponding to the desired broadcast rate in 0.5 to 2.5 gallons of water, depending on the spray volume required to treat 1000 sq ft. To calculate the amount of this product required for larger areas, multiply the table value (fl oz or ml) by the area to be treated in "thousands" of square feet, e.g., if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calc. $3,500 \div 1,000 = 3.5$). An area of 1000 sq ft is approximately 10.5 X 10.5 yards (strides) in size.

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Amount of this product per 1,000 sq ft to Equal Specified Broadcast Rate					
1/4 pt/acre	1/3 pt/acre	1/2 pt/acre	2/3 pt/acre	1 pt/acre	1 qt/acre
1/10 fl oz† (2.7 ml)	1/8 fl oz (3.6 ml)	1/5 fl oz (5.4 ml)	1/4 fl oz (7.3 ml)	3/8 fl oz (11 ml)	3/4 fl oz (22 ml)

†1 fl oz = 29.6 (30) ml

SPECIAL APPLICATION METHODS

Soil Spot Concentrate: This product may be applied undiluted as a spot concentrate application to control ashe juniper, eastern redcedar and eastern persimmon. (See specific use directions for these plant species under the Rangeland and Permanent Grass Pasture section of this label.) Applications should precede periods of expected rainfall. Apply directly to the soil within the dripline and on the upslope side of the tree. Applications to trees taller than 12 feet is not recommended.

Broadcast Cut Stubble Treatment

To prevent re-sprouting of susceptible woody species after mowing or hand cutting on non-crop areas and rights-of-way, use this product Herbicide at the rate of 2 quarts per acre in 15 or more gallons of a water spray mixture. Best results may be obtained when applications are made before or during periods of active root growth. Applications should not be made when the soil is frozen or covered by snow or standing water. It is recommended that applications be made soon after cutting, before sprouting of woody species has occurred. The "Brown Brush Monitor" is recommended for this type of application.

Special Ground Sprayer Equipment: To control annual and perennial weed species using special low-volume, minimum drift equipment, such as the hooded Forage Chemical Mower, apply 1 to 2 pt of this product in total volumes ranging from 1 gal to 5 gal per acre in water alone or as an oil-water emulsion at a 1:5 and 1:4 oil-to-water ratio for a 1 gal and 5 gal per acre solutions, respectively.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: If this product is exposed to subfreezing temperatures, the active ingredient may crystallize and settle out of solution. Under these conditions the product should be warmed to at least 40°F and agitated well to dissolve any crystallized material prior to use.

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

Container Disposal (Metal): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Container Disposal (Plastic): Do not reuse container. Triple rinse (or equivalent). Puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

General: Consult federal, state or local disposal authorities for approved alternative procedures.

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