34704-1001

5/12/2008

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UNITED STATES	U.S. ENVIRONMENTAL PROTECTION AGENCY	EPA Reg. Number:	Date of Issuance:	
AND	Office of Pesticide Programs Registration Division (7505C) 1200 Pennsylvania Ave., N.W. Washington, D.C. 20460	34704-1001	MAY 12 2008	
(under FIER A as amended)	OTICE OF PESTICIDE: <u>X</u> Registration Reregistration	Term of Issuance: Conditional		
		Name of Pesticide Prod LPl Metsulfuror	Name of Pesticide Product: LP1 Metsulfuron	
Name and Address of Registr	cant (include ZIP Code):			
Loveland Products, 1 P. O. Box 1286	Inc			
Greeley, CO 80632-	1286			
Note: Changes in labeling diff Registration Division prior to (ering in substance from that accepted in connection with this regis ise of the label in commerce. In any correspondence on this prod	tration must be submitted to a act always refer to the above E	nd accepted by the PA registration number	
On the basis of information fur and Rodenticide Act.	nished by the registrant, the above named pesticide is hereby regi	stered/reregistered under the F	ederal Insecticide, Fungicide	
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 section 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 label changes before you release the product for shipment:				
a. Add the phrase the	e "EPA Registration No. 34704-1001."			
	$\sim \Lambda$			
Signature of Approving Offi James A Tompkins Herbicide Branch, I	, Product Manager (25) Registration Division (7505P)	Date: 5-12-08	· · · ·	
EPAForm 85/0-6			,	

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b. On the first page, the left column, under Important, revise the first sentence to read similar to "Do not use on food or feed crops except as **instructed** by this label or supplemental labeling. This comment also pertains to the fifth paragraph on page 2, under Directions for Use. The Agency no longer allows use of the word "recommended" in this context.

c. On the first page, top of the right column, the first bullet, delete the phrase "(except as recommended)" and replace with a phrase similar to "(except as instructed). The Agency no longer allows use of the word "recommended" in this context.

d. There are numerous places throughout this label where the phrases "This product is recommended..." or "also recommended..." is used to begin a sentence or a paragraph. The word "recommended" must be deleted from these areas of your label and replaced with a word such as "**labeled**" or "**registered**". The Agency no longer allows use of the word "recommended" when referring to use sites.

e. There are numerous places throughout this label where the phrases "rates recommended", "recommended rates" or "rate recommended" are used. The word "recommended" must be deleted from these places and replaced with a word such as "**labeled**". The Agency no longer allows use of the word "recommended" when referring to application rates.

f. On page 2, under Directions for Use, revise the second paragraph to read similar to "This product should only be used in accordance with **instructions** on this label or in separate published Loveland Products, Inc. **instructions.**" The Agency no longer allows the use of the word "recommendations" in this context.

3. Submit one copy of revised final printed label for the record before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 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.

LPI METSULFURON



ACCEPTED while COMMENTS In EPA Letter Dated: MAY 12 2008

Under she Federal Insertivity Furficile, ord Roderninite Arts, as aneaded, for the posticide registered under RPA Rep. Nac 34704 - (001

Herbicide Dry Flowable

KEEP OUT OF REACH OF CHILDREN CAUTION

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

FIRST AID

If on skin or clothing:	 Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
If in eyes:	 Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

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

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976.

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EPA EST. NO. 34704-MS-001

NET CONTENTS 21/2 GALS. (9.46 L)

01/08

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION! Causes eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing dust or spray mist.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: Long-sleeved shirt and long pants and 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.

USER SAFETY RECOMMENDATIONS

Users should:

Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This herbicide is injurious to plants at extremely low concentrations. Nontarget plants may be adversely effected from drift and run-off.

IMPORTANT

DO NOT USE ON FOOD OR FEED CROPS EXCEPT AS RECOMMENDED BY THIS LABEL OR SUPPLEMENTAL LABELING. Injury to or loss of desirable trees or other plants may result if the precautions listed below are not followed.

- Do not apply LPI Me(sulfuroir (except as recommended), 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 product may be washed or moved into contact with their roots.
- . Do not use on lawns, walks, driveways, tennis courts, or similar areas.
- · Prevent drift of spray to desirable plants.
- . Do not contaminate any body of water, including irrigation water.
- . Keep from contact with fertilizers, insecticides, fungicides and seeds.

Low rates of this product can kill or severely injure most crops. Following this product's application, the use of spray equipment to apply other pesticides to crops on which this product is not registered may result in their damage. The most effective way to reduce this crop damage potential is to use dedicated mixing and application equipment.

GENERAL INFORMATION

This product is a dispersible granule that is mixed in water and applied as a spray by ground or aerial application.

This product is recommended for the control of annual and perennial weeds and unwanted woody plants on private, public and military lands, on rights-of-way, industrial sites, non-crop areas, ditchbanks of dry drainage ditches, certain types of unimproved turf grass, and conifer and hardwood plantations, including grazed areas on these sites. Do not use on irrigation ditches.

This product is also recommended for the control of broadleaf weeds, brush and several woody vine species in forage grasses growing in pasture and rangeland.

This product controls weeds and woody plants primarily by postemergent activity. Although this product has preemergence activity, best results are generally obtained when this product is applied to foliage after emergence or dormancy break. Generally, for the control of annual weeds, this product provides the best results when applied to young, actively growing weeds. For the control of perennial weeds, applications made at the bud/bloom stage or while the target weeds are in the fall rosette stage may provide the best results. The use rate depends upon the weed species and size at the time of application.

The degree and duration of control may depend on the following:

- weed spectrum and infestation intensity
- weed size at application
- · environmental conditions at and following treatment
- soil pH, soil moisture, and soil organic matter.

This product may be applied on conifer and hardwood plantations, and non-crop sites that contain areas of temporary surface water caused by the collection of water between planting beds, in equipment ruts, or in other depressions created by management activities. It is permissible to treat intermittently flooded low lying sites, seasonally dry flood plains and transitional areas between upland and lowland sites when no water is present. It is also permissible to treat marshes, swamps and bogs after water has receded as well as seasonally dry flood deltas. DO NOT make applications to natural or man-made bodies of water such as lakes, reservoirs, ponds, streams and canals.

ENVIRONMENTAL CONDITIONS AND BIOLOGICAL ACTIVITY

This product is absorbed primarily through the foliage of plants, and by the roots to a lesser degree. Plant cell division is generally inhibited in sensitive plants within a few hours following uptake. Two to 4 weeks after application, leaf growth slows followed by discoloration and tissue death. The final affects on annual weeds are evident about 4 to 6 weeks after application. The ultimate affect on perennial weeds and woody plants occurs in the growing season following application.

Warm, moist conditions following treatment promote the activity of this product, while cold, dry conditions may reduce or delay activity. Weeds and brush hardened off by cold weather or drought stress may not be controlled.

The use of a surfactant is recommended to enhance the control of susceptible plants, except where noted. Apply at a minimum rate (concentration) of $\frac{1}{6}$ v/v (1 quart per 100 gallons of spray solution), or at the manufacturer's recommended rate. Use only EPA approved surfactants containing at least 80% active ingredient. Certain types of surfactants, such as those incorporating accelic acid (i.e. LI 700), may not be compatible with this product and may result in decreased performance. Certain surfactants may not be suitable for use on desirable plants, such as turf and conifers, listed on this label. Consult the surfactant manufacturer's label for appropriate uses. Weed and brush control may be reduced if rainfall occurs soon after application.

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RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturallyoccurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

DIRECTIONS FOR USE

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

This product should be used only in accordance with recommendations on this label or in separately published Loveland Products, Inc. recommendations.

Loveland Products, Inc. will not be responsible for losses or damages resulting from the use of this product in any manner not specifically recommended by Loveland Products, Inc. User assumes all risks associated with such non-recommended use.

Do not apply more than 4 ounces of this product per acre per year.

Do not use on food or feed crops except as recommended by this label or supplemental labeling.

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

For any requirements specific to your state or tribe, consult the agency in your state responsible for pesticide regulation.

TANK MIXES

This product may be tank mixed with other herbicides registered for the use sites described in this label. Use only those tank mix partners which are labeled for the appropriate use site. When tank mixing, use the most restrictive label limitations for each of the products being used in the tank mix.

SURFACTANTS

Nonionic Surfactant (NIS)

• Apply 0.06 to 0.50% v/v ($^{\prime\prime}_{2}$ to 4 pints per 100 gallons of spray solution). See TANK MIXTURES section for additional information.

- When using a nonionic surfactant (NIS) Loveland Products, Inc. recommends Activator 90.
- Surfactant products must contain at least 60% nonionic surfactant with a hydrophilic/lipophilic balance (HLB) greater than 12.

AGRICULTURAL USES

AGRICULTURAL USE REQUIREMENTS

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

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: Coveralls and shoes plus socks

CONIFER PLANTATIONS

Application Information

This product is recommended for the control of many species of weeds and deciduous trees on sites where conifers are growing or are to be planted. Apply by ground equipment or by air (helicopter only). Refer to the WEEDS CONTROLLED and BRUSH SPECIES CONTROLLED for a listing of susceptible species.

Application Timing

Apply this product af ds have emerged or after undesirable hardwoods have broken winter dormanc, and have reached the point of full leaf expansion.

Conifer Site Preparation-Application Before Transplanting

After consulting the WEEDS CONTROLLED and BRUSH SPECIES CONTROLLED tables, apply the rates of this product recommended for the most difficult to control species on the site.

Southeast-Apply up to 4 ounces per acre for loblolly and slash pines. Transplant the following planting season.

Northeast and Lake States-Apply up to 2 ounces per acre for red pine. Transplant the following planting season. Apply up to 2 ounces per acre for black, white and Norway spruce. Transplant the following spring.

West-Apply up to 2 ounces per acre prior to planting Douglas Fir, Sitka Spruce, Western Red Cedar, Western Hemlock, Ponderosa Pine, and Grand Fir in the Coast Rangeland and western slope of the Cascades in Oregon and Washington. These conifer species listed can be planted anytime after application. Other conifer species can be planted providing the user has prior experience indicating acceptable tolerance to this product's soil residues.

Without prior experience, it is recommended that other species be planted on a small scale to determine selectivity before large-scale plantings are made as unacceptable injury may occur. Loveland Products, Inc. will not assume responsibility for injury to any conifer species not listed on this label.

Tank Mix Combinations

For broader spectrum control, the following products are recommended in combination with this product.

Glyphosate (4 pound active per galion)

Tank mix 1 to 2 ounces of this product with 2 to 10 quarts of glyphosate per acre. Refer to the product container for a list of species controlled.

Imazapyr (4 pound active per gallon)

Tank mix 1 to 2 ounces of this product with 10 to 24 fluid ounces of imazapyr per acre. Loblolly and slash pines may be transplanted the planting season following application. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam, persimmon, oaks (red, white and water), sassafras, sweetgum, Vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon, hickories, and red maple.

Glyphosate (4 pound active per gallon) + Imazapyr (4 pound active per gallon)

Tank mix 1/2 to 1 ounce of this product with 16 to 64 fluid ounces of glyphosate and 10 to 12 fluid ounces of imazapyr per acre. Slash and loblolly pines may be transplanted the planting season following application. This combination controls cherry, dogwood, elms, oaks (red and water), persimmon, sassafras, sweetgum and suppresses hickory.

Velpar L or Velpar DF

Tank mix 1 to 2 ounces of this product per acre with Velpar L or Velpar DF at the rates recommended on the container for various soil textures. Loblolly and slash pines may be transplanted the planting season following application. Refer to the product container for a list of species controlled.

Oust Extra

Tank mix 1/2 to 11/2 ounces of this product with 2 to 3 ounces of Oust Extra per acre for herbaceous weed control. Refer to the product container and the WEEDS CONTROLLED section of this label for a listing of the weeds controlled. Loblolly and slash pines may be transplanted the planting season following application. Tank mix 2 ounces of this product with 3 ounces of Oust Extra per acre for herbaceous weed control and early spring suppression of bull thistle and Canada thistle in the Coast Rangeland and western slope of the Cascade Mountains. Douglas fir may be transplanted at least 90 days following application.

Release—Hardwood Control and Suppression

This product is recommended for application over the top of established slash and loblolly pine to control the species listed in WEEDS CONTROLLED and BRUSH SPECIES CONTROLLED section of this label. Apply 1 to 4 ounces per acre to control the species indicated, including kudzu.

Tank Mix Combinations

For broader spectrum control, the following products are recommended in combination with this product.

Imazapyr (4 pounds active per gallon) Tank mix 1 to 2 ounces of this product with 8 to 16 fluid ounces of imazapyr per acre for application to loblolly pine. Refer to the imazapyr label regarding the use of surfactants and the appropriate application timing with respect to the age and development stage of the pines. This combination controls ash, black gum, cherry, hawthorn, honeysuckle, hophornbeam, oaks (red, white and water), sassafras, sweetgum, Vaccinium species, and suppresses blackberry, dogwood, elms, myrtle dahoon, hickories, persimmon, and red maple.

Velpar L or Velpar DF

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Tank mix 1 to 2 ounces of this product with Velpar L or Velpar DF at the rates recommended on the container for various soil textures. This combination may be applied to loblolly and slash pines.

Release—Herbaceous Weed Control

This product may be applied to transplanted loblolly and slash pine for the control

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of herbaceous competition. Consult the WEEDS CONTROLLED for a listing of the susceptible species and recommended application rates. Best results are obtained when this product is applied just before weed emergence until shortly after weed emergence.

Tank Mix Combinations

For broader spectrum control, the following products are recommended in combination with this product.

Imazapyr (4 pound active per gallon)

Tank mix ½ to 1 ounce of this product with 4 fluid ounces of imazapyr per acre. The tank mix may be used on loblolly pine.

Velpar L or Velpar DF

Tank mix ½ to 1 ounce of this product with Velpar L or Velpar DF at the rates recommended on the container for various soil textures. This combination may be applied to loblolly and slash pines.

Release - Directed Spray in Conifers

Western US

To release conifers from competing brush species, such as, blackberry, salmonberry, snowberry, thimbleberry and wild roses, mix 2 to 4 ounces of this product per 100 gallons of spray solution. Direct spray onto the foliage of competing brush species using a knapsack or backpack sprayer. For best results, apply any time after the brush species have reached full leaf stage but before autumn coloration. At application, the majority of the brush species should be less than six feet in height to help ensure adequate spray coverage. Thorough coverage of the target foliage is necessary to optimize results. Care should be taken to direct this product spray solution away from the conifer foliage.

NOTE:

This product may cause temporary yellowing and or growth suppression when the spray solution contacts conifer foliage. The use of a surfactant with this product may improve brush control results. When using a surfactant with this product, extra precaution must be taken to avoid contact with conifer foliage. Excessive drift onto conifers may result in severe injury.

IMPORTANT PRECAUTIONS-CONIFER PLANTATIONS ONLY

- Applications of this product made to conifers that are suffering from loss of vigor caused by insects, diseases, drought, winter damage, animal damage, excessive soil moisture, planting shock, or other stresses may injure or kill the trees.
- Applications of this product made for herbaceous release should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- . Do not apply this product to conifers grown as ornamentals.
- Applications of this product may result in damage and mortality to other species
 of conifers when they are present on sites with those listed in the preceding
 recommendations for conifer plantations.

HARDWOOD PLANTATIONS

Application Information This product is recommended at rates of up to 2 ounces per acre for the control of many weed species on sites where yellow poplar is growing or is to be planted, and on sites where red alder is to be planted. Apply by ground equipment or by air (helicopter only). Refer to the WEEDS CONTROLLED sections of this label for a listing of susceptible species.

Application Timing

This product may be applied as a site preparation treatment prior to planting red alder or yellow poplar. As a prior to planting site preparation treatment for red alder, this product may be tank mixed with other herbicides labeled for this use.

This product may also be applied over-the-top of planted yellow poplar seedlings after the soil has settled around the root system, but before the seedlings have broken dormancy (prior to bud break).

Release—Herbaceous Weed Control

This product may be applied to yellow poplar for the control of herbaceous competition. Consult the WEEDS CONTROLLED for a listing of the susceptible species and recommended application rates. Best results are obtained when this product is applied just before weed emergence until shortly after weed emergence.

Tank Mix Combinations

Tank mix ½ ounce of this product with 4 to 6 pints of Velpar L as recommended on the package label for RELEASE--HERBACEOUS WEED CONTROL in pine plantations in the eastern U.S. Follow the Velpar L label recommendations regarding altering the application rate by soil texture.

IMPORTANT PRECAUTIONS-HARDWOOD PLANTATIONS ONLY

- Application of Velpar L and this product made to yellow poplar that are suffering from loss of vigor caused by insects, disease, drought, winter damage, animal damage, excessive soil moisture, planting shock or other stresses may injure or kill the seedlings.
- Applications of this product made for release should only be made after adequate rainfall has closed the planting slit and settled the soil around the roots following transplanting.
- The use of surfactant is not recommended for applications made over the tops of trees.

• Careful consideratiç['] t be given by an experienced and knowledgeable forester to match th i irements of yellow poplar and/or red alder to the conditions of the site. Ineatment of yellow poplar and/or red alder planted on a site inadequate to meet its requirements may injure or kill the seedlings.

PASTURE AND RANGELAND

This product is recommended for the control of broadleaf weeds, brush and several woody vine species in forage grasses growing in pasture and rangeland.

This product may be tank mixed with other pesticides labeled for use in pasture and rangeland. Read and follow the labels on all products used in the tank mix. Observe the most restrictive precautions on each of the product's labels.

Application of this product to pasture and rangeland may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the targeted weeds with the equipment being used. In Idaho, Oregon and Washington use a minimum application volume of 3 gallons of spray solution per acre.

APPLICATION INFORMATION FOR GRASS ESTABLISHMENT IN PASTURE AND RANGELAND

This product is recommended for the control or suppression of broadleaf weeds to aid in the establishment of the following perennial native or improved grasses planted in pasture and rangeland:

3lue Grama	Lovegrasses	Wheatgrasses –
Bluestems	Atherstone	Bluebunch
Big	Sand	Crested
Little	Weeping	Intermediate
Plains	Wilman	Pubescent
Sand	Orchardgrass	Siberian
W W spar	Sideoats grama	Slender
Buffalograss	Switchgrass -	Steambank
Green sprangletop	Blackwell	Tall
Kleingrass		Thickspike
•		Western
		Wildrye grass –
		- · · ·

Maximize potential for grass establishment by consulting with the Natural Resource and Conservation Service of other government agencies or local experts concerning planting techniques and other cultural practices.

Performance from this product may not always be satisfactory due to the inability of newly planted grass stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed.

Use Rates and Application Timing for Grass Establishment in Pasture and Rangeland Preplant (prior to planting) or Preemergence (after planting but before grass emergence)

Do not use more than 1/10 ounce per acre of this product for grass establishment in pasture and rangeland.

Apply this product at 1/10 ounce per acre on all labeled grasses except orchardgrass and Russian wildrye grass. Do not apply this product preplant or preemergence to orchardgrass and Russian wildrye grass as severe crop injury may result.

Early postemergence to new plantings

Apply this product at ¹/10 ounce per acre, plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution on all labeled grasses anytime after grass emergence.

Do not use a spray adjuvant other than non-ionic surfactant. Because grass species differ in time of emergence, apply only after the majority of grasses are in the 3 to 4 leaf stage.

Postemergence to Stands with 1 to 5 Leaf Grasses Planted the Previous Season.

Apply this product at 1/10 ounce per acre plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution, on all labeled grasses when the majority of the grasses have one or more leaves.

Do not use a spray adjuvant other than non-ionic surfactant.

APPLICATION INFORMATION FOR ESTABLISHED GRASSES IN PASTURE AND RANGELAND

Use Rates for Established Grasses in Pasture and Rangeland

Apply up to 1 ounce this product per acre as a broadcast application to established grasses in pasture and rangeland. For spot applications, use 1 ounce per 100 gallons of water. Do not apply more than 1 ²/₃ ounces of this product per acre per year in pasture and rangeland.

Refer to the WEEDS CONTROLLED section of the section 3 label for a listing of the weeds controlled by this product and the appropriate use rate to obtain control.

Application Timing-Established Grasses in Pasture and Rangeland

This product may be applied to established native grasses such as bluestems and grama, and on other established grasses such as bermudagrass, bluegrass, orchardgrass, bromegrass, fescue and timothy that were planted the previous growing season (or earlier) and are fully tillered, unless otherwise directed on this label.

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Specific application timing information on several of these grass species follows Minimum time from

	Grass establishment
Grass	LPI Metsulfuron application
Bermudagrass	2 months
Bluegrass, Bromegrass,	
Orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

Note that this product may temporarily stunt tall fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions.

- · Do not use more than 4/10 ounce per acre of this product
- Tank mix this product with 2.4-D
- Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 to 1 pint per 100 gallons of spray solution
- . Make application later in the spring after the new growth is 5 to 6 inches tall, or in the fall
- . Do not use surfactant when liquid nitrogen is used as a carrier
- . Do not use a spray adjuvant other than non-ionic surfactant

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with this product.

Timothy Precautions:

Timothy should be at least 6 inches tall at application and be actively growing. Applications of this product to timothy under any other conditions may cause crop yellowing and/or stunting. To minimize these symptoms, take the following Do not use more than 4/10 ounce per acre of this product

- . Tank mix this product with 2, 4-D
- · Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at 1/2 pint per 100 gallons of spray solution (1/16%)
- · Make applications in the late summer or fall
- . Do not use surfactant when liquid nitrogen is used as a carrier
- . Do not use spray adjuvant other than non-ionic surfactant

Application of this product to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of forage.

Other Pasture and Rangeland Grasses

Varieties and species of forage grasses differ in their tolerance to herbicides. When using this product on a particular grass for the first time, limit use to a small area. If no injury occurs throughout the season, larger acreage may be treated the following season

Broadleaf forage species, such as alfalfa and clover, are highly sensitive to this product and will be severely stunted or injured by this product.

SPOT TREATMENTS

This product is recommended for use as spot treatment to control noxious and troublesome weeds on pasture and rangeland.

Application informa

This product is record ed to control many species of weeds, including noxious eeds, in forage grasses growing on pasture and rangeland. Refer to the WEEDS CONTROLLED section of the package label or supplemental labeling for a listing of susceptible weed species. If the sprayer is calibrated, consult the package label or other supplemental labeling to select the application rate per acre of this product appropriate for the target weeds. Or mix one gram of this product per one gallon of water along with a suitable surfactant. Spray to the point of wetting the entire surface of the target weeds, approximately 40 gallons of solution per acre. When applied in this manner there is no grazing restrictions following the use of this product. Applications may be made at anytime of the year, except when the soil is frozen.

CROP BOTATION

Before using this product, carefully consider your crop rotation plans and options. For rotational flexibility, do not treat all of your pasture or rangeland acres at the same time.

Minimum Rotational Intervals

Minimum rotation intervals* are determined by the rate of breakdown of this product applied. This product's breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase this product breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow this product breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature, and to a greater extent, soil moisture, can vary significantly from year to year and from area to area. For this reason, soil temperatures and soil moisture should be monitored regularly when considering crop rotations.

* The minimum rotation interval represents the period of time from the last application to the anticipated date of the next planting.

Soil pH Limitations

This product should not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, this product could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of this product.

Checking Soil pH

Before using this product, determine the soil pH of the areas of intended use. To btain a representative pH value for the test area, take several 0 to 4 inch samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay must be completed before rotating to any crop or grass species/variety not listed in the ROTATION INTERVALS table, or if the soil pH is not in the specified range, or if the use rate applied is not specified in the table. To conduct a field bioassay, grow test strips of the crop(s) or grass(es) you plan to grow the following year in fields previously treated with this product. Crop or grass response to the bioassay will indicate whether or not to rotate the crop(s) or grass(es) grown in the test strips. If a field bioassay is planned, check with your local agricultural dealer or Loveland Products, Inc. representative for information detailing the field bioassay procedure.

Maximum

Rotation Intervals in Pasture and Rangeland for Overseeding and Benovation

		Maximum	4
		LPI Metsulfuron	Minimum
		Rate on Pasture	Rotation
		and Rangeland	Interval
Location	Crop or Grass Species	(ounces per acre)	(months)
AL, AR, FL, GA, KY, LA, MS,	Alfalfa, red clover, white clover, sweet clover,	1/10 to 3/10	4
NC, OK, SC, TN, TX, VA, WV	bermudagrass, bluegrass, ryegrass, tall fescue		
	Wheat (except durum)	1/10 to 3/10	1
	Durum, barley, oat	1/10 to 3/10	10
ALL STATES NOT INCLUDED	Red clover, white clover, and sweet clover	1/10 to 2/10	12
ABOVE	Bermudagrass, bluegrass, ryegrass	1/10 to 2/10	6
	Tall Fescue	1/10 to 2/10	18
	Wheat (except durum)	1/10 to 2/10	1
	Durum, barley, oat	¹ /10 to ² /10	10
ALL AREAS WITH SOIL PH	Russian wildrye	1/10 to 1/2	1
OF 7.5 OR LESS	Green needlegrass, switchgrass, sheep fescue	1/10 to 1	1
•	Meadow brome, smooth brome, alta fescue, red	1/10 to 1	2
	fescue, meadow foxtail, orchardgrass,		
	Russian wildrye, timothy		
ALL AREAS WITH SOIL PH	Alkali sacoton, mountain brome, blue grama	1/10 to 1	1
OF 7.9 OR LESS	thickspike wheatgrass		
	Sideoats grama, switchgrass	1/10 to 1/2	2
	Western wheatgrass	1/10 to 1	2
	Sideoats grama, switchgrass, big bluestem	1/10 to 1	3

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GRAZING/HAYING

When used as directed, there is no grazing or haying restriction for use rates of $1^{2/3}$ ounces per acre and less. Coveralls, shoes plus socks must be worn if cutting within 4 hours of treatment.

IMPORTANT PRECAUTIONS

- Do not apply more than 12/3 ounces of this product per acre per year on pasture or rangeland.
- Grass species or varieties may differ in their response to various herbicides. Loveland Products, Inc. recommends that you first consult your state experiment station, university, or extension agent as to sensitivity to any herbicide. If no information is available, limit the initial use of this product to a small area. Components in a grass seed mixture will vary in tolerance to this product so the final stand may not reflect the seed ratio.
- Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after this product application, temporary discoloration and/or grass injury may occur. This product should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.
- Applications of this product to pasture and rangeland undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of this product.
- Applications made to some established grasses may cause temporary stunting, vellowing or seetbead suppression (i.e. fessue, timothy)
- Applications made to newly established grasses less than 2 years from seeding may result in injury or loss.
- Do not apply to forage grasses known to be sensitive to this product such as ryegrass (Italian and perennial), bahia or Garrison's creeping foxtail.
- Broadleaf forage species, such as alfalfa and clover, are highly sensitive to this
 product and will be severely injured or killed.
- The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.

NON-AGRICULTURAL USES

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.

Do not enter or allow others to enter the treated area until sprays have dried. Non-crop Industrial weed control and selective weed control in turf (industriai, unimproved only) are not within the scope of the Worker Protection Standard.

NON-CROP SITES

Application Information This product is recommended for general weed control on private, public and military lands as follows: Uncultivated nonagricultural areas (such as airports, highway, railroad and utility rights-of-way, sewage disposal areas, etc.); uncultivated agricultural areas - non-crop producing (such as farmyards, fuel storage areas, fence rows, soil bank land, barrier strips, etc.); industrial sites - outdoor (such as lumberyards, pipeline and tank farms, etc.) including grazed areas on these sites. It is also recommended for the control of certain noxious and troublesome weeds.

Consult the WEEDS CONTROLLED and BRUSH SPECIES CONTROLLED tables to determine the appropriate application rate.

This product may be applied in tank mixture with other herbicides labeled for use on non-crop sites. Fully read the labels and follow all directions and restrictions on each label.

Applications may be made by ground or air. Use a sufficient volume of water to ensure thorough coverage of the target vegetation with the application equipment being used.

NATIVE GRASSES

This product is recommended for weed control and suppression in the establishment and maintenance of native grasses. It may be used where blue grama, bluestems (big, little, plains, sand, ww spar) bromegrasses (meadow), buffalograss, green sprangletop, indiangrass, kleingrass, lovegrasses (atherstone, sand, weeping, wilman), orchardgrass, sideoats grama, switchgrass (blackwell), wheatgrass (bluebunch, intermediate, pubescent Siberian, slender, streamband, tall, thickspike, western), and Russian wildrye are established. It may also be applied over these species in the seedling stage, except for orchardgrass and Russian wildrye.

Application Information

Apply this product at the rate of ¹/10 ounce per acre for the control and suppression* of bur buttercup (testiculate), common purslane, common sunflower*, cutleaf eveningprimrose*, flixweed*, lambsquarters* (common and slimleaf), marestail*, pigweed (redroot and tumble), snow speedwell, tansymustard* and tumble mustard (Jim Hill mustard).

* Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Degree of suppression will vary with the size of weed and environmental conditions following treatment.

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Application Timing /

For established gras, ply when weeds are in the seedling stage. For grasses in the seeduring stage, apply preplant or preemergence where the soil (seed bed) has been cultivated.

IMPORTANT PRECAUTIONS---NATIVE GRASSES

 Grass species or varieties may differ in their response to various herbicides. If no information is available, limit the initial use of this product to a small area. Components in a grass seed mixture will vary in tolerance to this product, so the final stand may not reflect the seed ratio.

 Under certain conditions such as heavy rainfall, high pH, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after this product application, temporary discoloration and/or grass injury may occur. This product should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage as grass injury may result. Severe winter stress, drought, disease, or insect damage before or following application also may result in grass injury.

GRASS REPLANT INTERVALS

Following an application of this product to non-crop areas, the treated sites may be replanted with various species of grasses at the intervals recommended below.

For soils with a pH of 7.5 or less, observe the following replant intervals:				
	Rate	Replant Interval		
Species	(ounces/acre)	(months)		
Brome, Meadow	1/2 to 1	2		
	1 to 2	3		
Brome, Smooth	1⁄2 to 1	2		
	1 to 2	4		
Fescue, Alta	1/2 to 1	2		
	1 to 2	· 4		
Fescue, Red	1/2 to 1	2		
	1 to 2	4		
Fescue, Sheep	1/2 to 1	1	-	
•	1 to 2	4		
Foxtail, Meadow	1/2 to 1	2	_	
	1 to 2	4		
Green Needlegrass	1/2 to 2	1	_	
Orchardgrass	1/2 to 1	2	_	
	1 to 2	4		
Russian wildrye	½ to 1	1	_	
	1	2		
	2	3		
Switchgrass	1/2 to 1	1		
	1 to 2	3		
Timothy	1/2 to 1	2	_	
	1 to 2	4		
Wheatgrass, Western	1/2 to 1	2	_	
	12	3		

For soils with a pH of 7.5 or greater observe the following replant intervals:

Species	Rate (ounces/acre)	Replant Interval (months)	
Alkali Sacaton	1/2 to 1	1	
	1 to 2	3	
Bluestem, Big	1/2 to 2	3	
Brome, Mountain	1⁄2 to 1	1	
	1 to 2	2	
Grama, Blue	1/2 to 2	1	
Grama, Sideoats	1/2	2	
	>1/2	>3	
Switchgrass	1/2	2	
	>1⁄2	>3	
Wheatgrass, Thickspike	11/2 to 2	1	
Wheatgrass, Western	1 to 2	2	
•	1⁄2 to 1	3	

The recommended intervals are for applications made in the spring to early summer. Because this product's degradation is slowed by cold or frozen soils, applications made in the late summer or fall should consider the intervals as beginning in the spring following treatment.

Testing has indicated that there is considerable variation in response among the species of grasses when seeded into areas treated with this product. If species other than those listed above are to be planted into areas treated with this product, a field bioassay should be performed, or previous experience may be used, to determine the feasibility of replanting treated sites.

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ADDITIONAL GRASS INFORMATION

APPLICATION INFORMATION FOR GRASS ESTABLISHMENT

This product is recommended for the control or suppression of broadleaf weeds to aid in the establishment of the following perennial native or improved grasses: вι

Blue Grama	Switchgrass –
Bluestems	Blackwell
Big	Wheatgrasses -
Little	bluebunch
Plains	crested
Sand	intermediate
W W spar	pubescent
Buffalograss	Siberian –
Green sprangletop	slender
Kleingrass	steambank
Lovegrasses	tall
Atherstone	thickspike
Sand	western
Weeping	Wildrye grass
Wilman	Russian
Orchardgrass	
A	

Sideoats grama

Maximize potential for grass establishment by consulting with the Natural Resource and Conservation Service of other government agencies or local experts concerning planting techniques and other cultural practices.

Performance from this product may not always be satisfactory due to the inability of newly planted grass stands to sufficiently compete with weeds, and the severity of weed pressure in new grass stands.

An additional herbicide application or mowing may be needed.

Use Rates and Application Timing for Grass Establishment Preplant (prior to planting) or Preemergence (after planting but before grass emergence) Do not use more than 1/10 ounce per acre of this product for grass establishment.

Apply this product at 1/10 ounce per acre on all labeled grasses except orchardgrass and Russian wildrye grass. Do not apply this product preplant or preemer-gence to orchardgrass and Russian wildrye grass as severe crop injury may result.

Early Postemergence to New Plantings

Apply this product at 1/10 ounce per acre, plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution on all labeled grasses anytime after grass emergence.

Do not use a spray adjuvant other than non-ionic surfactant.

Because grass species differ in time of emergence, apply only after the majority of grasses are in the 3 to 4 leaf stage.

Postemergence to Stands with 1 - 5 Leaf Grasses Planted the Previous Season

Apply this product at 1/10 ounce per acre plus a non-ionic surfactant at the rate of 2 to 4 pints per 100 gallons of spray solution, on all labeled grasses when the majority of the grasses have one or more leaves.

Do not use a spray adjuvant other than non-ionic surfactant.

APPLICATION INFORMATION FOR ESTABLISHED GRASSES

Use Rates for Established Grasses

Apply up to 1 ounce this product per acre as a broadcast application to established grasses. For spot applications, use 1 ounce per 100 gallons of water. Do not apply more than 1 2/3 ounces of this product per acre per year.

Refer to the WEEDS CONTROLLED section of this label for a listing of the weeds controlled by this product and the appropriate use rate to obtain control.

Application Timing – Established Grasses

Rotation Intervals for Overseeding and Renovation

This product may be applied to established native grasses such as bluestems

and grama, and on of tablished grasses such as bermudagrass, bluegrass, orchardgrass, brom , fescue and timothy that were planted the previous growing season (or earner) and are fully tillered, unless otherwise directed on this label. Specific application timing information on several of these grass species follows:

Grass	Minimum time from Grass establishment LPI Metsulfuron application
Bermudagrass	2 months
Bluegrass, bromegrass, Orchardgrass	6 months
Timothy	12 months
Fescue	24 months

Fescue Precautions:

Note that this product may temporarily stunt tail fescue, cause it to turn vellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions:

- Do not use more than 4/10 ounce per acre of this product
- Tank mix this product with 2,4-D
- · Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at ½ to 1 pint per 100 gallons of spray solution . Make application later in the spring after the new growth is 5 to 6 inches tall, or
- in the fall · Do not use surfactant when liquid nitrogen is used as a carrier
- Do not use a spray adjuvant other than non-ionic surfactant

The first cutting yields may be reduced due to seedhead suppression resulting from treatment with this product.

Timothy Precautions:

Timothy should be at least 6 inches tall at application and be actively growing. Applications of this product to timothy under any other conditions may cause crop yellowing and/or stunting. To minimize these symptoms, take the following precautions:

- Do not use more than 4/10 ounce per acre of this product
- Tank mix this product with 2, 4-D
 Use the lowest recommended rate for target weeds
- Use a non-ionic surfactant at ½ pint per 100 gallons of spray solution (1/16%)
- Make applications in the late summer or fall
- Do not use surfactant when liquid nitrogen is used as a carrier
- · Do not use spray adjuvant other than non-ionic surfactant

Application of this product to Pensacola bahiagrass, ryegrass (Italian or perennial) and Garrison's creeping foxtail may cause severe injury to and/or loss of forage.

Other Grasses:

Varieties and species of forage grasses differ in their tolerance to herbicides. When using this product on a particular grass for the first time, limit use to a small area. If no injury occurs throughout the season, larger acreage may be treated the following season.

Broadleaf forage species, such as alfalfa and clover, are highly sensitive to this product and will be severely stunted or injured by this product.

CROP ROTATION

Before using this product, carefully consider your crop rotation plans and options.

Minimum Rotational Intervals

Minimum rotation intervals* are determined by the rate of breakdown of this product applied. This product's breakdown in the soil is affected by soil pH, presence of soil microorganisms, soil temperature, and soil moisture. Low soil pH, high soil temperature, and high soil moisture increase this product's breakdown in soil, while high soil pH, low soil temperature, and low soil moisture slow this product's breakdown.

Of these 3 factors, only soil pH remains relatively constant. Soil temperature, and to a greater extent, soil moisture, can vary significantly from year to year and from area to area. For this reason, soil temperatures and soil moisture should be monitored regularly when considering crop rotations.

* The minimum rotation interval represents the period of time from the last application to the anticipated date of the next planting.

Location	Crop or Grass Species	Maximum LPI Metsulfuron Rate (ounces/acre)	Minimum Rotation Interval (months)
AL, AR, FL, GA, KY, LA, MS, NC, OK, SC, TN, TX, VA, WV	Alfalfa, red clover, white clover, sweet clover, bermudagrass, bluegrass, ryegrass, tall fescue	¹ /10 to ³ /10	4
· ·	Wheat (except durum)	1/10 to 3/10	1
	Durum, barley, oat	¹ /10 tO ³ /10	10
ALL STATES NOT INCLUDED	Red clover, white clover, and sweet clover	¹ /10 tO ² /10	12
ABOVE	Bermudagrass, bluegrass, ryegrass	¹ /10 tO ² /10	6
	Tall Fescue	¹ /10 tO ² /10	18
	Wheat (except durum)	1/10 tO 2/10	1
	Durum, barley, oat	1/10 tO 2/10	10

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Rotation Intervals for Overseeding and Renovation cont'd .:

Location	Crop or Grass Species	Maximum LPI Metsulfuron Rate (ounces/acre)	Minimum Rotation Interval (months)	
ALL AREAS WITH SOIL PH	Russian wildrye	1/10 to 1/2	1	
OF 7.5 OR LESS	Green needlegrass, switchgrass, sheep fescue	1/10 to 1	1	
	Meadow brome, smooth brome, alta fescue, red fescue, meadow foxtail, orchardgrass, Russian wildrye, timothy	¹ /10 to 1	2	
ALL AREAS WITH SOIL PH OF 7.9 OR LESS	Alkali sacoton, mountain brome, blue grama thickspike wheatgrass	¹ /10 to 1	1	
	Sideoats grama, switchgrass	1/10 to 1/2	2	
	Western wheatgrass	1/10 to 1	2	
	Sideoats grama, switchgrass, big bluestern	¹ /10 to 1	3	

Soil pH Limitations

This product should not be used on soils having a pH above 7.9, as extended soil residual activity could extend crop rotation intervals beyond normal. Under certain conditions, this product could remain in the soil for 34 months or more, injuring wheat and barley. In addition, other crops planted in high-pH soils can be extremely sensitive to low concentrations of this product.

Checking Soil pH

Before using this product, determine the soil pH of the areas of intended use. To obtain a representative pH value for the test area, take several 0 to 4 inch samples from different areas of the field and analyze them separately. Consult local extension publications for additional information on recommended soil sampling procedures.

BIOASSAY

A field bioassay must be completed before rotating to any crop or grass species/variety not listed in the ROTATION INTERVALS table, or if the soil pH is not in the specified range, or if the use rate applied is not specified in the table.

To conduct a field bioassay, grow test strips of the crop(s) OR grass(es) you plan to grow the following year in fields previously treated with this product. Crop or grass response to the bioassay will indicate whether or not to rotate to the crop(s) or grass(es) grown in the test strips.

If a field bioassay is planned, check with your local agricultural dealer or Loveland Products, Inc. representative for information detailing the field bioassay procedure.

When used as directed, there is no grazing or having restriction for use rates of 12/3 ounce per acre or less. At use rates greater than 12/3 ounce per acre and up to 31/3 ounce per acre, forage grasses may be cut for hay, fodder or green forage and fed to livestock, including lactating animals, 3 days after treatment.

IMPORTANT PRECAUTIONS

Grass species or varieties may differ in their response to various herbicides. If no information is available, limit the initial use of this product to a small area.
Components in a grass seed mixture will vary in tolerance to this product so the

- Under certain conditions such as heavy rainfall, high pH, prolonged cold
- Order Certain Colonitors such as neavy raman, high pri, prolonged cold weather, or wide fluctuations in day/night temperatures prior to or soon after this product's application, temporary discoloration and/or grass injury may occur. This product should not be applied to grass that is stressed by severe weather conditions, drought, low fertility, water-saturated soils, disease, or insect damage as grass injury may result. Severe winter stress, drought, disease, or insect demage before or following application also may result in grass injury.
- Applications of this product to lands undersown with legumes may cause injury.
 Applications of this product to lands undersown with legumes may cause injury to the legumes. Legumes in a seeding mixture may be severely injured or killed following an application of this product.
- The control of weeds in wheel track areas may be reduced if ground applications are made when dry, dusty field conditions exist. The addition of 2,4-D or MCPA should improve weed control under these conditions.

WEEDS CONTROLLED

1/3 to 1/2 ounce per acre

Annual sowthistle Aster Bahiagrass Beebalm Bittercress Bitter sneezeweed Blackeyed-susan Blue mustard Bur buttercup Chicory Clover Cocklebur Common chickweed Common groundsel Common purslane Common yarrow Conical catchfly Corn cockle Cow cockle Crown vetch Dandelion Dogfennel False chamomile Fiddleneck tarweed Field pennycress Flixweed Goldenrod Lambsquarters Marestail/horseweed***** Maximilion sunflower Miners lettuce Pennsylvania smartweed Plains coreopsis Plantain Redroot pigweed Redstem filaree Rough fleabane Shepherd's purse Silky crazyweed (locoweed) Smallseed falseflax Smooth pigweed

 ½ to 1 ounce per acre

 Blackberry

 Black henbane

 Broom snakeweed*

 Buckhorn plantain

 Bull thistle

 Common crupina

 Common sunflower

 Curly dock

 Dewberry

 Dyer's woad

 Garlic mustard

 Gorse

 Halogeton

 Henbit

1 to 2 ounces per acre Common mullein Common tansy Field bindweed** Greasewood Gumweed Houndstongue Lupine Old world climbing fern (Lygodium) Perennial pepperweed Poison hemlock

<u>1½ to 2 ounces per acre</u> Canada thistle**

Dalmation toadflax** Duncecap larkspur Russian knapweed**

<u>3 to 4 ounces per acre</u> Kudzu

*Apply fall through spring.

- ** Suppression, which is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. Apply as a full coverage spray for best performance.
- ***Certain biotypes of musk thistle are more sensitive to this product and may be controlled with rates of ¼ to ½ ounce per acre. Treatments of this product may be applied from rosette through bloom stages of development.
- ****Certain biotypes of marestail/horsetail are less sensitive to this product and may be controlled by tank mixes with herbicides with a different mode of action.

Problem Weed Control

For broader spectrum control and for use on certain biotypes of broadleaf weeds which may be resistant to this product and herbicides with the same mode of action, the following tank mixes are recommended.

Sweet clover Tansymustard Treacle mustard Tumble mustard Wild carrot Wild garlic Wild fettuce Wild nustard Wooly croton Wood sorrel Yankeweed 9/12

Honeysuckle Multiflora rose and other wild roses Musk thistle*** Oxeye daisy Plumeless thistle Prostrate knotweed Rosering gaillardia Seaside arrowgrass Sericea lespedeza Tansy ragwort Teasel Wild caraway

Purple loosestrife Purple scabious Scotch thistle Scouringrush Salsify Snowberry St. Johnswort Sulphur cinquefoil Western salsify Whitetop (hoary cress) Wild Iris

Tall larkspur Wild parsnip Yellow toadflax**

LPI MET URON

Dicamba + 2,4-D

Weed	Rate of LPI Metsulfuron	Rate of dicamba (fluid ounces/acre)	Rate of 2,4-D (fluid ounces/acre)
Kochia			• • • • • • • • • • • • • • • • • • • •
control	1/2	8	16
Spotted			
knapweed			
control	1/2	8	16
Rush			
skeletonweed			
suppression	1	8	16

TURF, INDUSTRIAL (UNIMPROVED ONLY)

Application Information

This product is recommended for selective weed control in unimproved industrial turf where certain grasses are well established and desired as ground cover. This product is also recommended for the control of certain noxious and troublesome weeds in turf.

In addition to conventional spray equipment, this product may also be applied with invert emulsion equipment. When using an invert emulsion, mix the prescribed rate of this product in the water phase.

Consult the WEEDS CONTROLLED table to determine which weeds will be controlled by the following recommendations:

	Rate of	
	LPI Metsulfuron (ounces/acre)	
Turf Type		
Fescue and Bluegrass	1/4 to 1/2	
Crested Wheatgrass and Smooth Brome	1/4 to 1	
Bermudagrass	1/4 to 2	

Application Timing

Applications may be made at anytime of the year, except when the soil is frozen. When a spring application is made on fescue or bluegrass, a second application may be made during the summer after full seedhead maturation.

Growth Suppression and Seedhead Inhibition (Chemical Mowing) Application Information

This product is recommended for growth suppression and seedhead inhibition in well established fescue and bluegrass turf at the use rate of ¼ to ½ ounce per acre.

Tank Mix Combination

This product may be tank mixed with Embark for improved performance in the regulation of growth and seedhead suppression. Tank mix ¼ to ½ ounce of this product with 1/8 to 1/4 pint of Embark.

Application Timing

Application may be made after at least 2 to 3 inches of new growth has emerged until the appearance of the seed stalk.

Fescue Precautions:

This product may temporarily stunt tall fescue, cause it to turn yellow, or cause seedhead suppression. To minimize these symptoms, take the following precautions: • Do not use more than 4/10 ounce per acre of this product.

- Tank mix this product with 2,4-D.
- · Use the lowest recommended rate for target weeds.
- Use a non-ionic surfactant at 1/2 to 1 pint per 100 gallons of spray solution.
- Make application later in the spring after the new growth is 5 to 6 inches tall, or in the fall.
- . Do not use a surfactant when liquid nitrogen is used as a carrier.
- . Do not use a spray adjuvant other than non-ionic surfactant.
- . The yields from the first cutting may be reduced due to seedhead suppression resulting from treatment with this product.

IMPORTANT PRECAUTIONS—INDUSTRIAL TURF ONLY • An application of this product may cause temporary discoloration (chlorosis) of the grasses. Use the lower recommended rates for minimum discoloration.

- · With fescue and bluegrass, sequential applications made during the same or consecutive growth periods (i.e. spring and fall) may result in excessive injury to turf.
- •Excessive injury may result when this product is applied to turf that is under stress from drought, insects, disease, cold temperatures (winter injury) or poor fertility.
- . This product is not recommended for use on bahiagrass.

BRUSH CONTROL

Application Information

This product is recommended for the control of undesirable brush growing in noncrop areas including grazed areas on these sites. Applications may be made by air, high volume ground application, low volume ground application and ultra-low volume ground application. Except as noted for multiflora rose, this product should be applied as a spray to the foliage.

The application volume required will vary with the height and density of the brush and the application equipment used. Generally, aerial applications will require 15 to 25 gallons of water per acre; high volume ground application will require 100 to 400 gallons of water per, w volume ground application will require 20 to 50 gallons of water per ac Jultra-low volume ground application will require 10 to 20 gallons of water per usre.

Regardless of the application volume and equipment used, thorough coverage of the foliage, particularly the terminal growing points, is necessary to optimize results.

BRUSH SPECIES CONTROLLED

	High Volume	Broadcast
	Rate	Rate
Species	(ounces/100 gallon)	(ounces/acre)
Ash	1 to 2	1 to 3
Aspen	1 to 2	1 to 3
Black locust	1 to 2	1 to 3
Blackberry	1 to 2	1 to 3
Camelthorn	1 to 2	1 to 3
Cherry	1 to 2	1 to 3
Cottonwood	1 to 2	2 to 3
Eastern red cedar	1 to 2	2 to 3
Elder	1 to 2	2 to 3
Elm	1 to 2	1 to 3
Firs	3	1 to 2
Hawthorn	1 to 2	1 to 3
Honeysuckle	1 to 2	1⁄2 to 1
Mulberry	1 to 2	2 to 3
Multiflora rose	1 to 2	1 to 3
Muscadine (wild grape)	1 to 2	2 to 3
Oaks	1 to 2	1 to 3
Ocean spray (Holodiscus)	1 to 2	2 to 3
Osage orange	1 to 2	2 to 3
Red maple	1 to 2	2 to 3
Salmonberry	½ to 1	1 to 3
Snowberry	½ to 1	1 to 3
Spruce (black and white)	3	2 to 3
Thimbleberry	1/2 to 1	1 to 3
Tree of heaven (Ailanthus)	1 to 2	1 to 2
Wild roses	1/2 to 1	1 to 3
Willow	1/2 to 1	1 to 3
Yellow poplar	1/2 to 1	1 to 3

For low volume and ultra-low volume ground applications, mix 4 to 8 ounces of this product per 100 gallons of spray solution.

Application Timing

Make a foliar application of the recommended rate of this product during the period from full leaf expansion in the spring until the development of full fall coloration on deciduous species to be controlled. Coniferous species may be treated at anytime during the growing season.

Spot Treatment

This product is recommended for the control of many species of weeds including noxious/invasive weeds in certain established grasses growing on non-crop areas.

Refer to the WEEDS CONTROLLED section for a listing of susceptible weed species and the application rate per acre per the target weed.

Or, mix 1 gram of this product per 1 gallon of water along with a surfactant. Spray to the point of wetting the entire surface of the target weeds, approximately 40 gallons of solution per acre.

Tank Mix Combinations

This product may be tank mixed with any product labeled for non-crop brush control at the application rates specified on the companion product's label for the pests specified on the product's companion label. Read and follow the label instructions of both products when tank mixing. Follow the most restrictive limitations of any of the product labels being tank mixed.

Low Rate Applications

imazapyr (2 pound active per gallon)

Combine 1 to 2 ounces of this product with 1 to 4 pints of imazapyr herbicide per acre and apply as a broadcast spray. Aerial applications should use a minimum of 15 gallons per acre spray volume. In addition to species listed above controlled by this product, this combination controls black gum, hophornbeam, sassafras, sweetgum, Vaccinium species, dogwood, myrtle dahoon, hickories, and persimmon.

Picloram (2 pound active per gallon) + Imazapyr (2 pound active per gallon) Combine 1 to 1½ ounces of this product with 2 to 8 fluid ounces of imazapyr and 1 to 2 pints of picloram per 100 gallons of water. Apply as a high volume spray. This tank mix controls cherry, elles, box elder, maples, hackberry, redbud, ash, oaks (including shingle oak), black locust and sassafras.

*Picloram is a restricted use pesticide.

Spotgun Basal Soil Treatment

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For control of multiflora rose, prepare a spray suspension of this product by mixing 1 ounce per gallon of water. Mix vigorously until this product is dispersed and agitate periodically while applying the spray suspension.

Apply the spray preparation with an exact delivery handgun applicator. Apply at the rate of 4 milliliters for each 2 feet of rose canopy diameter. Direct the treatment to

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the soil within 2 feet of the stem union. When treating large plants and more than one delivery is required, make applications on opposite sides of the plant.

Applications should be made from early spring to summer.

IMPORTANT PRECAUTIONS-NON-CROP BRUSH ONLY

When using tank mixtures of this product with companion herbicides, read and follow all use instructions, application rates, warnings and precautions appearing on the labels. Follow the most restrictive label instructions for each of the herbicides used.

SPRAY EQUIPMENT

Low rates of this product can kill or severely injure most crops. Following this prod-uct's application, the use of spray equipment to apply other pesticides to crops on which this product is not registered may result in their damage. The most effective way to reduce this crop damage potential is to use dedicated mixing and application equipment.

The selected sprayer should be equipped with an agitation system to keep this product suspended in the spray tank.

Use a sufficient volume of water to thoroughly cover the foliage of undesirable weeds, generally 10 to 40 gallons per acre. Select a spray volume and delivery system that will deliver a uniform spray pattern. Be sure the sprayer is calibrated before use. Avoid overlapping and shut off spray booms while starting, turning, slowing or stopping to avoid injury to desired plants.

Refer to the brush control section of this label for information unique to that particular use.

MIXING INSTRUCTIONS

- 1. Fill the tank ¼ to 1/3 full of water.
- 2. While agitating, add the required amount of this product.
- 3. Continue agitation until the this product is fully dispersed, at least 5 minutes. 4. Once this product is fully dispersed, maintain agitation and continue filling tank with water. This product should be thoroughly mixed with water before
- adding any other material. 5. As the tank is filling, add tank mix partners (if desired) then add the necessary
- volume of nonionic surfactant. Always add surfactant last. 6. If the mixture is not continuously agitated, settling will occur. If settling occurs,
- thoroughly re-agitate before using.
- 7. This product's spray preparations are stable if they are pH neutral or alkaline and stored at or below 100° F.
- 8. If this product and a tank mix partner are to be applied in multiple loads, presturry this product in clean water prior to adding to the tank. This will prevent the tank mix partner from interfering with the dissolution of this product.

USE PRECAUTIONS

- Do not drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the product may be washed or moved into contact with their roots, as injury or loss of desirable trees or other plants may result
- Treatment of powdery, dry soil or light, sandy soil when there is little likelihood of rainfall soon after treatment may result in off target movement and possible damage to susceptible crops when soil particles are moved by wind or water. Injury to crops may result if treated soil is washed, blown, or moved onto land used to produce crops. Exposure to this product may injure or kill most crops. Injury may be more severe when the crops are irrigated. Do not apply this product when these conditions are identified and powdery, dry soil or light or sandy soils are known to be prevalent in the area being treated.
- Applications made where runoff water flows onto agricultural land may injure crops. Applications made during periods of intense rainfall, to soils saturated with water, to surfaces paved with materials such as asphalt or concrete, or to soils through which rainfall will not readily penetrate may result in runoff and movement of this product. Do not treat frozen soil. Treated soil should be left undisturbed to reduce the potential for this product's movement by soil erosion due to wind or water.
- Do not use on lawns, walks, driveways, tennis courts or similar areas.
- Do not apply through any type of irrigation system.
- When used as directed, there are no grazing or having restrictions for use rates of 12/3 ounces per acre and less. At use rates of 12/3 to 31/3 ounces per acre, forage grasses may be cut for hay, fodder or green forage and fed to live stock, including lactating animals, 3 days after treatment.
- Do not use this product in the following counties of Colorado: Saguache, Rio Grande, Alamosa, Costilla and Conejos.
- Do not use this product in California.

SPRAYER CLEANUP

Spray equipment must be cleaned before this product is sprayed. Follow the cleanup procedures specified on the labels of previously applied products. If no directions are provided, follow the six steps outlined below.

At the End of the Day When multiple loads of this product are applied, it is recommended that at the end of each day of spraying, the interior of the tank be rinsed with fresh water and then partially filled, and the boom and hoses flushed. This will prevent the buildup of dried pesticide deposits that can accumulate in the application equipment.

1. Drain tank; thoroug? se spray tanks, boom, and hoses with clean water. Loosen and physic move any visible deposits. 2. Fill the tank with clean water and 1 gallon of household ammonia* (contains "/12

- 3% active) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Flush the hoses, boom, and nozzles again with the cleaning solution, and then drain the tank.
- 3. Remove the nozzles and screens and clean separately in a bucket containing cleaning agent and water.
- Repeat step 2.
- 5. Rinse the tank, boom, and hoses with clean water.
- 6. If only ammonia is used as a cleaner, the rinsate solution may be applied back to the crop(s) recommended on this label. Do not exceed the maximum labeled use rate. If other cleaners are used, consult the cleaner label for rinsate disposal instructions. If no instructions are given, dispose of the rinsate on site or at an approved waste disposal facility.
- Equivalent amounts of an alternate-strength ammonia solution or a

Loveland Products, Inc. approved cleaner can be used in the cleanout procedure. Carefully read and follow the individual cleaner instructions. Consult your agricultural dealer, applicator, or Loveland Products, Inc. representative for a listing of approved cleaners

Notes:

- 1. Attention: Do not use chlorine bleach with ammonia, as dangerous gases will form. Do not clean equipment in an enclosed area.
- 2. Steam-cleaning aerial spray tanks is recommended prior to performing the above cleanout procedure to facilitate the removal of any caked deposits.
- 3. When this product is tank mixed with other pesticides, all required cleanout procedures should be examined and the most rigorous procedure should be , followed.
- 4. In addition to this cleanout procedure, all precleanout guidelines on subsequently applied products should be followed as per the individual labels.

SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 -200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. APPLYING LARGER DROPLETS REDUCES DRIFT POTENTIAL, BUT WILL NOT PREVENT DRIFT IF APPLICA-TIONS ARE MADE IMPROPERLY OR UNDER UNFAVORABLE ENVIRONMEN-TAL CONDITIONS! See Wind, Temperature and Humidity, and Temperature Inversions sections of this label.

Controlling Droplet Size - General Techniques

- Volume Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. WHEN HIGHER FLOW RATES ARE NEEDED, USE A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.
- 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.

Controlling Droplet Size - Aircraft

- Number of Nozzles Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- Nozzle Orientation Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- Nozzle Type Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.
- Boom Length The boom length should not exceed 34 of the wing or rotor length - longer booms increase drift potential.
- Application Height Application more than 10 ft above the canopy increases the potential for spray drift.

BOOM HEIGHT

Setting the boom at the lowest labeled height (if specified) which provides uniform coverage reduces the exposure of droplets to evaporation and wind. For ground equipment, the boom should remain level with the crop and have minimal bounce. WIND

Drift potential increases at wind speeds of less than 3 mph (due to inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. AVOID GUSTY OR WINDLESS CONDITIONS. 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 hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Temperature inversions are characterized by increasing temperature 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.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

STORAGE AND DISPOSAL

PESTICIDE STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. PESTICIDE DISPOSAL: Do not contaminate water, food, or feed by disposal.

PESTICIDE DISPOSAL: Do not contaminate water, food, or feed by disposal. Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by state and local authorities. For Fiber Drums With Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner. For Bags Containing Water Soluble Packets: Do not reuse the outer box or the reseatable plastic bag. When all water-soluble packets are used, the outer packaging should be clean and may be disposed of in a sanitary landfill or by incineration, or if allowed by state and local authorities, by open burning. If burned, stay out of smoke. If the resealable plastic bag contacts the formulated product in any way, the bag must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer wrap as described above. For Metal Containers (non aerosol): Triple rinse (or equivalent) the container. 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. For Paper and Plastic Bags: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

For help with any spill, leak, fire or exposure involving this material, call day or night CHEMTREC - 1-800-424-9300.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY BEFORE BUYING OR USING THIS PRODUCT, read the entire Directions for Use and the following Conditions of Sale and Limitation of Warranty and Liability. By buying or using this product, the buyer or user accepts the following Conditions of Sale and Limitation of Warranty and Liability, which no employee or agent of LOVE-LAND PRODUCTS, INC. or the seller is authorized to vary in any way.

Follow the Directions for Use of this product carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop or other plant injury, ineffectiveness, or other unintended consequences may result from such risks as weather or crop conditions, mixture with other chemicals not specifically identified in this product's label, or use of this product contrary to the label instructions, all of which are beyond the control of LOVELAND PRODUCTS, INC. and the seller. The buyer or user of this product assumes all such inherent risks.

Subject to the foregoing inherent risks, LOVELAND PRODUCTS, INC. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use when the product is used in strict accordance with such Directions for Use under normal conditions of use. EXCEPT AS WARRANTED IN THIS LABEL, THIS PRODUCT IS SOLD AS IS TO THE EXTENT ALLOWED BY APPLICABLE LAW. LOVELAND PRODUCTS, INC. MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ELIGIBILITY OF THIS PRODUCT FOR ANY PARTICULAR TRADE USAGE.

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TO THE EXTENT ALLOWED BY APPLICABLE LAW, THE BUYER'S OR USER'S EXCLUSIVE REMEDY FOR ANY INJURY, LOSS, OR DAMAGE RESULTING FROM THE HANDLING OR USE OF THIS PRODUCT, INCLUDING BUT NOT LIMITED TO CLAIMS OF BREACH OF WARRANTY OR CONTRACT, NEGLI-GENCE, STRICT LIABILITY, OR OTHER TORTS, SHALL BE LIMITED TO ONE OF THE FOLLOWING, AT THE ELECTION OF LOVELAND PRODUCTS, INC. OR

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