



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

December 27, 2006

Theodore D. Head  
Product Registration Manager  
Nufarm Americas, Inc.  
1333 Burr Ridge Pkwy., Suite 125A  
Burr Ridge, IL 60521

SUBJECT: Application for Pesticide Notification – SD, OR, and NY State Changes  
Clean Slate™ EPA Reg. No. 228-491  
Application Dated November 27, 2006

Dear Mr. Head:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the product above. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the actions requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" received but not reviewed and will be placed in our records.

If you have any questions, please me directly at 703-305-6249 or Terri Stowe of my staff at 703-305-6117.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs



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Nufarm Americas, Inc.  
150 Harvester Drive, Suite 200  
Burr Ridge, IL 60527  
Telephone: (630) 455.2000 Facsimile: (630) 455.2001  
www.us.nufarm.com

November 27, 2006

**NOTIFICATION**

**DEC 27 2006**

Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U. S. Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

Attention: Miller, PM 23  
Herbicide Branch

Subject: Minor label changes for Clean Slate EPA Reg. No. 228-491

Dear Joanne:

The states of South Dakota ,Oregon and New York have requested that we add some minor state language to this label.

South Dakota has requested that we include eyewear protection in the Agriculture Use Requirements Box. This was an oversight on Nufarm's part.

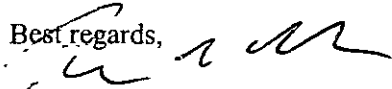
Oregon has requested that we add, " Use of this product in Oregon is limited to the sites stated on this label which are agriculture, forest, right-of-way, golf course or cemetery sites."

New York has requested that we add, " Not for sale, use, or distribution in Nassau and Suffolk Counties in New York State."

Accordingly we have made the corrections as indicated by the underlined text on the attached label.

Should you have any questions or the need for additional information please do not hesitate to contact me at 630-455-2000 or via e-mail [ted.head@us.nufarm.com](mailto:ted.head@us.nufarm.com).

Best regards,

  
Theodore D. Head  
Product Registration Manager



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

<b>EPA</b>	United States <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number
	<b>Application for Pesticide - Section I</b>		

1. Company/Product Number 228-491	2. EPA Product Manager J. Miller	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Clean Slate	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Americas Inc 1333 Burr Ridge Parkway, Suite 125A Burr Ridge, IL 60521 <input type="checkbox"/> Check if this is a new address		6. Expedited Review. In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg. No. _____ Product Name _____

**Section - II**

<input type="checkbox"/> Amendment - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - Explain below.

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

State requested additions to the label

**NOTIFICATION**  
DEC 27 2006

**Section - III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> Metal	<input type="checkbox"/> Plastic
* Certification must be submitted		If "Yes" Unit Packaging wgt.	No. per container	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
		If "Yes" Package wgt.	No. per container	<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container 2.5, 5, 30,55 gallons - totes		5. Location of Label Directions <input checked="" type="checkbox"/>	
6. Manner in Which Label is Affixed to Product <input checked="" type="checkbox"/> Lithograph <input checked="" type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____	

**Section - IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name Theodore Head	Title Registration Manager	Telephone No. (Include Area Code) 708-754-3330
<b>Certification</b> I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received  <b>(Stamped)</b>
2. Signature 		
3. Title Registration Manager		
4. Typed Name Theodore Head		5. Date 11-27-06

**NOTIFICATION**

DEC 27 2006

# CLEAN SLATE™

**FOR SELECTIVE CONTROL OF BROADLEAF WEEDS IN NON-CROPLAND AREAS, INDUSTRIAL MANUFACTURING AND STORAGE SITES, RIGHTS-OF-WAY, AND WILDLIFE OPENINGS, INCLUDING GRAZED AREAS ON THESE SITES, TREE PLANTATIONS, AND RANGELAND AND PERMANENT GRASS PASTURES.**

**ACTIVE INGREDIENT:**

Clopyralid: 3,6-dichloro-2-pyridinecarboxylic acid, monoethanolamine salt ..... 40.90%

**OTHER INGREDIENTS:** ..... 59.10%

**TOTAL:** ..... 100.00%

**Acid Equivalent:**

3,6-dichloro-2-pyridinecarboxylic acid ..... 31%, 3 lbs./gal.

**Not for Sale, Use, or Distribution in Nassau and Suffolk Counties in New York State.**

**Use of this product in Oregon is limited to the sites stated on this label which are agriculture, forest, right-of-way, golf course or cemetery sites.**

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

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

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

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

EPA REG. NO. 228-491  
EPA EST. NO. 228-IL-1

MANUFACTURED BY  
NUFARM AMERICAS INC.  
BURR RIDGE, IL 60527



NET CONTENTS      GALS.

000228-00491.20061101.

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

Avoid contact with eyes, skin or clothing.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

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

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.

<b>USER SAFETY RECOMMENDATIONS</b>	
<b>Users Should:</b>	
<ul style="list-style-type: none"> <li>• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.</li> <li>• Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.</li> <li>• Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible change into clean clothing.</li> </ul>	

<b>FIRST AID</b>	
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
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**

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

Clopyralid is a chemical which can travel (seep or leach) through soil and under certain conditions contaminate groundwater which may be used for irrigation or drinking purposes. Users are advised not to apply clopyralid where soils have a rapid to very rapid permeability throughout the profile (such as loamy sand to sand) and the water table of an underlying aquifer is shallow, or to soils that would allow direct introduction into an aquifer. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

**PHYSICAL OR CHEMICAL HAZARDS**

**Do not use or store near heat or open flame.**

**Notice:** Read the entire label. Use only according to label directions. **Before buying or using this product, read the "Conditions of Sale and Limitation of Warranty and Liability" elsewhere on this label.**

In case of emergency endangering health or the environment involving this product, call CHEMTREC (800) 424-9300. If you wish to obtain additional product information, visit our web site at [www.nufarm.com](http://www.nufarm.com).

**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.

**In Arizona:** The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production; such as on designated grazing areas.

**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
- Chemical-resistant gloves made of any waterproof material
- Protective eyewear
- 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 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 to fallow cropland, rangeland, pasture, and non-crop areas, do not enter treated areas until sprays have dried. For early entry to treated areas, wear eye protection, chemical-resistant gloves made of any waterproof material, long-sleeved shirt, long pants, shoes and socks.

**GENERAL INFORMATION**

This product is recommended for selective, postemergence control of broadleaf weeds in non-crop land areas including equipment pathways, industrial manufacturing and storage sites and rights-of-way such as along roadsides, electrical lines and railroads. Use on these sites may include application to grazed areas as well as establishment and maintenance of wildlife openings, wild parkland and wildlife management areas, and forest spot application adjacent to these sites. This product is labeled for control of broadleaf weeds in cottonwood/poplar and eucalyptus tree plantations; and in rangeland and permanent grass pastures in certain western states.

**Advisory:** In California, the maximum application rate is 2/3 pint/acre per annual use season.

**GENERAL USE PRECAUTIONS**

**In Arizona:** The state of Arizona has not approved this product for use on plants grown for agricultural/commercial production, such as on designated grazing areas.

Do not contaminate irrigation ditches or water used for irrigation or domestic purposes.

Do not use in greenhouses.

**Avoiding Injury to Non-target Plants**

This product can affect susceptible broadleaf plants directly through foliar contact and indirectly by root uptake from soil in treated areas. Do not allow spray drift to come in contact with vegetables, flowers, tomatoes, potatoes, beans, lentils, peas, alfalfa, sunflowers, soybeans, safflower, or other desirable broadleaf crops or ornamental plants.

Unless otherwise specified on this label or supplemental labeling for this product, do not apply this product to any broadleaf crop or ornamental planting or to areas where sensitive plants will be planted during the same growing season. (See following guidance on "Rotation to Broadleaf Crops".)

**Rotation to Broadleaf Crops:** Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay shows that no detectable clopyralid is present in the soil.

**Field Bioassay Instructions:** In fields previously treated with this product, plant short test rows of the intended rotational crop across the original direction of application in a manner to sample field conditions such as soil texture, soil pH, drainage, and any other variable that could affect the seed bed of the new crop. Field bioassay at any time between harvest of the treated crop and the planting of the rotational crop. Observe the test crop for herbicidal activity, such as poor stand (effect on seed germination) chlorosis (yellowing), and necrosis (dead leaves or shoots), or stunting (reduced growth). If herbicidal symptoms do not occur, the test crop can be grown. If there is apparent herbicidal activity, wait one year before repeating bioassay or plant a crop tolerant to clopyralid such as barley, canola (rapeseed), grasses, field corn, oats, sugar beets, or wheat.

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

**Grazing/Haying:** There are no restrictions on grazing or hay harvest following application of this product at labeled rates.

**Do not transfer livestock** from treated grazing areas to sensitive broadleaf crop areas without first allowing 7 days of grazing on an untreated pasture. Otherwise, urine may contain enough clopyralid to cause injury to sensitive broadleaf plants.

**Residues in Plants or Manure:** Do not use plant residues, including hay or straw from treated areas, or manure from animals that have grazed or consumed forage from treated areas for composting or mulching where susceptible plants may be grown the following season. Do not spread manure from animals that have grazed or consumed forage or hay from treated areas on land used for growing susceptible broadleaf crops. To promote herbicidal decomposition, plant residues should be evenly incorporated or burned.

Breakdown of clopyralid in crop residues or manure is more rapid under warm, moist soil conditions and may be enhanced by supplemental irrigation.

**ADVISORY STATEMENTS**

**Avoid Spray Drift:** Avoid spray drift since very small quantities of the spray, which may not be visible, may severely injure susceptible broadleaf plants during active growth or dormant periods. Use coarse, sprays to minimize drift. A drift control or deposition agent suitable for agricultural use may be used with this product to aid in reducing spray drift. If used, follow all use recommendations and precautions on the product label.

**Ground Application:** To minimize spray drift, apply this product in a total spray volume of 10 or more gallons per acre as large-droplet, low-pressure spray. Refer to spray equipment manufacturer's recommendations for additional information on spray volume, spray pressure, sprayer speed, type and arrangement of nozzles, height of nozzles above the target canopy, etc. Spray drift can be lessened by keeping the spray boom as low as possible; by using no more than 30 pounds per square inch (psi) spraying pressure with large droplet-producing nozzle tips, by using larger nozzle tips rather than increasing pressure to increase spray volume; and, by spraying when wind velocity is low. Do not apply with hollow cone-type insecticide or other nozzles that produce a fine-droplet spray. Keep operating spray pressures at the lower end of the manufacturer's recommended pressure range for the specific nozzle type used. Low pressure nozzles are available from spray equipment manufacturers. Select nozzles and pressures that provide adequate plant coverage but minimize the production of fine spray particles.

**Aerial Application:** Drift can be lessened by using straight stream nozzles directed straight back; by using drift control systems or use of drift control additives; and by keeping spray pressures low enough to provide coarse spray droplets. Do not use a thickening agent with the Microfoil or Thru-Valve booms, or other systems that cannot accommodate thick sprays. Spray only when wind velocity is low (follow state regulations).

**Avoid application by aircraft when an air temperature inversion exists.** Such a condition is characterized by little or no wind and lower air temperature near the ground than at higher levels. The use of a smoke device on the aircraft or continuous smoke column at or near site of application will indicate air direction and velocity, and whether a temperature inversion is present, as indicated by horizontal layering of the smoke.

**Sprayer Clean-Out**

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

1. Rinse and flush application equipment thoroughly after use at least three times with water. Dispose of rinse water in non-cropland area away from water supplies.
2. During the second rinse, add 1 qt 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 min.). Let the solution stand for several hours, preferably overnight.
3. Flush the solution out of 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.

**MIXING INSTRUCTIONS**

1. Add 3/4 of the required spray volume to the spray tank and start agitation.
2. Add the required amount of this product.
3. Add any surfactants, adjuvants or drift control agents according to manufacturer's label.
4. Agitate during final filling of the spray tank and maintain sufficient agitation during application to ensure uniformity of the spray mixture.

**Tank Mixing:** This product may be applied in tank mix combination with labeled rates of 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. Do not tank mix with another pesticide product that contains the same active ingredient as this product unless the label of either tank mix partner specifies the maximum dosages that may be used.
- 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 instructions for Sprayer Clean-Out.)
- 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. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If the mixture balls-up, forms flakes, sludges, jells, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**APPLICATION**

**Timing:** Apply to actively growing weeds. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following application may reduce weed control. **Only weeds that have emerged at the time of application will be affected.** Wet

foliage at the time of application may decrease control. The treatment with this product will be rainfast within 2 hours after application.

**Application Rate Ranges:** Generally, lower labeled application rates will be satisfactory for young, succulent growth of susceptible weed species. Higher labeled rates will generally be required for more tolerant species, perennials, weeds in dense stands or in advanced stages of growth, or under conditions of plant stress such as drought or extreme temperatures.

**Spray Coverage:** Use sufficient spray volume to provide thorough and uniform spray coverage of target weeds. Do not broadcast apply in less than 2 gallons of total spray volume per acre. For best results and to minimize spray drift, apply in a spray volume of 10 or more gallons per acre. In general, spray volume must be increased as crop canopy, height and weed density increase in order to obtain equivalent weed control. Use only nozzle types and spray equipment designed for herbicide application. To reduce spray drift, follow precautions under "Avoiding Injury to Non-target Plants" in "Advisory Statements" section of this label.

**Use of Adjuvants:** Addition of surfactants, crop oils, or other adjuvants may increase effectiveness of this product. If an adjuvant is added to the spray solution, follow all manufacturer use guidelines.

**Cut Surface Treatments**

Apply this product in rights-of-way and other non-crop areas to control unwanted trees and vines in the legume family such as mimosa, locust, redbud, or wisteria. This product can either be undiluted or diluted in a 1 to 1 ratio with water, as directed below.

**With Tree Injection Method**

Applications should be made by injecting 1/2 millimeter of undiluted product or 1 millimeter of the diluted solution through the bark at intervals of 3 to 4 inches between centers of the injector wound. The injections should completely surround the tree at any convenient height. Note: No Worker Protection Standard, worker entry restriction or worker notification requirements apply when this product is injected directly into plants.

**With Hack and Squirt Method:**

Make cuts with a hatchet or similar equipment at intervals of 3 to 4 inches between centers at convenient height around the tree trunk. Spray 1/2 millimeter of undiluted product or 1 millimeter of the diluted solution into each cut.

**With Frill or Girdle Method**

Make a single girdle through the bark completely around the tree at a convenient height. Wet the cut surface with undiluted or diluted solution.

**Stump Treatment**

Spray or paint the cut surface of freshly cut stumps with a 50/50 mix of this product and water. The cambium area next to the bark is the most vital area to wet. This should be done as soon as the tree or vine has been cut.

**BROADLEAF WEEDS CONTROLLED**

Acacias	Groundsel, common	Oxeye daisy
Artichoke, Jerusalem	Hawksbeard, narrowleaf	Pineappleweed
Buckwheat, wild	Hawkweed, orange	Ragweed, common
Buffalobur†	Hawkweed, yellow	Ragweed, giant
Burdock, common	Horseweed	Salsify, meadow (goatsbeard)
Chamomile, false (scentless)	Jimsonweed	Sickknap
Chamomile, mayweed (dogfennel)	Knapweed, diffuse	Smartweed, green†
Clover, black medic	Knapweed, Russian†	Sorrel, red
Clover, hop	Knapweed, spotted	Sowthistle, annual
Clover, red	Kudzu	Sowthistle, perennial†
Clover, white	Ladythumb†	Starthistle, yellow
Cocklebur, common	Lettuce, prickly	sunflower (common and wild)
Coffeeweed	Locoweed, white	Teasel, common
Cornflower (bachelor button)	Locoweed, lambert	Thistle, bull
Dandelion	Marshelder	Thistle, Canada (rosette to bud)
Dock, curly	Mesquite	Thistle, musk (rosette to bud)
	Nightshade, eastern black	Vetch
	Nightshade, cutleaf	
	Nightshade, hairy	

†These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree and duration of weed control will vary with weed size and density, application rate and coverage, and growing conditions before, during, and after the time of treatment. For perennial weeds such as Russian knapweed, and perennial sowthistle, this product will control the initial top growth and inhibit regrowth during the season of application (season-long control). At higher use rates shown on this label, this product may cause a reduction in shoot regrowth in the season following application; however, plant response may be inconsistent due to inherent variability in shoot regrowth from perennial root systems.

**NON-CROPLAND USE (ALL STATES EXCEPT CALIFORNIA)**

For use on non-cropland areas such as industrial manufacturing and storage sites and rights-of-way such as along roads, etc., electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites.

**Broadcast Application (Ground or Aerial)**

For control of broadleaf weeds, apply 1/4 to 1-1/3 pints per acre of this product (equivalent to 0.09 to 0.5 lb acid equivalent per acre).



Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweed is the primary pest, best results are obtained by applying 2/3 to 1-1/3 pints per acre of this product after basal leaves are produced. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant to this product but new grass seedlings may be injured to varying degrees until the grass has become well established as indicated by vigorous growth and development of tillers and secondary roots.

**High-Volume Leaf Stem Treatment (Ground Application)**

For control of broadleaves and certain woody plants (e.g., mesquite), use 1 to 3 quarts of this product per 100 gallons of total spray. Thorough coverage is necessary for good results, therefore, apply as a complete spray-to-wet foliar application, including all leaves, stems, and root collars but not to exceed a total application rate more than 1-1/3 pints per acre of this product. To minimize drift, use low spray pressure and keep sprays no higher than the tree crowns. Trees taller than 8 feet in height may be difficult to treat efficiently and obtain thorough coverage.

Unsatisfactory control may result if application is made when brush and weeds are under severe drought stress or other adverse conditions that inhibit plant growth. Environmental conditions may significantly influence results. For best results on mesquite, apply in the spring or early summer, 40 to 90 days after the first green growth appears and when soil moisture is adequate for active growth. A soil temperature of 75° to 83°F at a depth of 12 to 18 inches is optimal for good plant kills. Soil temperature of less than 75°F at this depth will reduce the ultimate root kill of mesquite.

**NON-CROPLAND USE (CALIFORNIA ONLY)**

For use on non-cropland areas such as industrial manufacturing and storage sites and rights-of-way such as along roadsides, electrical power lines, communication lines, pipelines and railroads, including grazed areas on these sites and forest spot application adjacent to these sites.

**Weeds Controlled**

- knapweed, diffuse                      starthistle, yellow
- knapweed, Russian†                  thistle, Canada (rosette to bud)
- knapweed, spotted                    thistle, musk (rosette to bud)

†These weeds may only be suppressed. Suppression is a visual reduction in weed competition (reduced population or vigor) as compared to untreated areas. The degree of weed control and duration of effect will vary with weed size and density, spray rate and coverage, and growing conditions before, during, and after the time of treatment.

**Broadcast Application (Ground or Aerial)**

For control of broadleaf weeds, apply 1/4 to 2/3 pint per acre of this product (equivalent to 0.09 to 0.25 lb a.e. per acre). Non-ionic surfactant should be used in spray mixtures at 1 to 2 quarts per 100 gallons of spray mixture. The lower rate of 1/4 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Where Canada thistle or knapweeds are the primary pest, best results are obtained by applying 2/3 pint per acre of this product after basal leaves are produced. Spray volumes of 20 gallons or more per acre for ground roadside and rights-of-way applications and spray volumes 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent. Established grasses are tolerant but new grass seedlings may be injured to varying degrees until the grass has become well established.

**BROADLEAF WEED CONTROL IN RANGELAND AND PERMANENT GRASS PASTURES**

Use this product to control susceptible broadleaf weeds on rangeland areas or established forage grasses in permanent grass pastures. Best results on most weeds are obtained when weeds are small and actively growing (see specific information below) and application is made in 10 or more gallons per acre of water using ground equipment.

There are no grazing or haying restrictions following this product's applications when used at labeled rates.

**Application Rates**

Apply this product at a rate of 1/3 to 1-1/3 pint per acre when weeds are young and actively growing. This product may be applied as described below for control of spotted and diffuse knapweed, Canada thistle, musk thistle, yellow starthistle and suppression of Russian knapweed. Use the lower labeled application rate for young, actively growing weeds. The higher rate should be used under less favorable growing conditions, or on dense weed stands and/or larger weeds. This product may also be tank mixed with 2,4-D at 1/2 to 1 lb acid equivalent per acre where weed species present are susceptible to 2,4-D.

**Advisory:** In California, the maximum application rate is 2/3 pint per acre per annual use season.

Weed Species	Rate per Acre	Application Timing
Spotted & Diffuse Knapweed	2/3 to 1 pint	Apply any time plants are actively growing, including fall regrowth. Optimum time is from mid bolt to late bud stage of growth.
Russian Knapweed (suppression)	1 to 1-1/3 pint	Apply from bud to mid-flower growth stage or treat fall regrowth.
Canada Thistle	2/3 to 1-1/3 pint	Apply after the majority of basal leaves have emerged through the beginning of the bud stage. Treatment may also be applied to fall regrowth.
Musk Thistle	1/3 to 1 pint <sup>1</sup>	Apply from rosette to early bolt growth stage.
Yellow Starthistle	1/2 to 1 pint	Apply from rosette to mid-bolt growth stage.

<sup>1</sup>This product may be applied to musk thistle in the rosette stage at 1/3 pint per acre only when applied in tank mixture with 2,4-D at 1/2 to 1 lb acid equivalent per acre. Otherwise, apply this product to musk thistle at 2/3 to 1 pint per acre.

**Precautions:**

- Some desirable broadleaf plants (forbs) are susceptible to this product. Do not spray pastures containing desirable forbs, especially legumes, unless injury can be tolerated. However, the stand and growth of established perennial grasses is usually improved after treatment, especially if rainfall is adequate for active plant growth and grazing is deferred.
- Grasses are tolerant to this product, but new grass seedlings may be injured to varying degrees until well established as evidenced by development of secondary roots and tillering (multiple stems).
- Do not use hay or straw from treated areas for composting or mulching on susceptible broadleaf crops.
- **Rotation to Broadleaf Crops:** Do not plant broadleaf crops in treated areas until an adequately sensitive bioassay crop such as soybean or other legume shows that no detectable clopyralid is present in the soil.

**CROP USE**

**Agricultural Use Requirements for Crop Uses:** For use of this product in tree plantations, follow PPE and Reentry restrictions in the Agricultural Use Requirements section of this label.

**COTTONWOOD/POPLAR AND EUCALYPTUS TREE PLANTATIONS**

This product may be used for selective postemergence control of labeled broadleaf weeds in new and established plantings of cottonwood/poplar and eucalyptus tree plantations. Apply as a broadcast foliar spray over trees or as a banded or directed spray at a rate of 1/3 to 2/3 pints/acre. Apply in 10 or more gallons per acre total spray volume using ground equipment only. Multiple applications may be made as long as the total rate per annual use season does not exceed 1-1/3 pints/acre. Apply to new plantings only after they are well-established as indicated by several inches of new healthy growth.

**Advisory:** In California, the maximum use rate is 2/3 pint per acre per annual use season.

**Hand-Held Sprayers:** Spot applications using hand held equipment are also allowed, but contact with tree foliage should be avoided or limited to lower branches. Apply to weeds on spray-to-wet basis with spray coverage uniform and complete. Do not spray to point of run-off. Prepare a spray solution by adding 1/4 fl oz of this product per gallon of water. When applied at 1 gallon of spray per 1,000 sq ft, this spray concentration is equivalent to a broadcast rate of 2/3 pt/acre.

**Use Precautions:**

- Do not tank mix this product with other herbicides labeled for this use unless spray avoids all contact with tree foliage.
- This product will not control certain broadleaf weeds, including mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

**CHRISTMAS TREE PLANTATIONS**

**Application Timing**

This product is recommended for over the top application to actively growing balsam fir, blue spruce, Douglas fir, Fraser fir, grand fir, lodgepole pine, noble fir, ponderosa pine, and white pine. In the Pacific Northwest, do not apply in the first year of transplanting. (Some needle curling has been observed on first year transplants.) Apply to actively growing weeds. For control of annual weeds apply this product from weed emergence up to the 5-leaf stage of growth (for wild buckwheat, application at 3 to 5 leaf stage of growth, before vining, is recommended). For control of weeds such as Canada thistle and knapweeds, apply after the majority of the basal leaves have emerged up to bud stage. Later application may result in less consistent control.

**Application Rate**

Apply 1/4 to 1/2 pint per acre of this product for control of annual weeds. Apply 1/2 to 2/3 pint per acre of this product for difficult to control weeds such as Canada thistle and knapweeds. Apply as a broadcast or band application in a minimum of 10 gallons per acre by ground application. Use the formulas under Band Application to determine the appropriate rate and volume per treated acre.

This product may be applied as a spot treatment using a hand-held sprayer at an equivalent broadcast rate of 1/2 to 2/3 pint per acre. Refer to instructions for Spot Treatment and Hand-held Sprayers under Application Directions in the General Information section.

**Specific Use Precautions:**

- Re-treat as necessary, but do not exceed 2/3 pint per acre of this product per annual growing season.

- **Blue spruce:** Do not exceed 1/2 pint per acre per annual growing season.
- Tree injury may occur with the addition of a surfactant or crop oil with this product. Do not use unless previous experience shows injury is tolerable
- Do not apply with an air blast sprayer.

**CONTROL OF CERTAIN PROBLEM WEEDS IN FOREST SITES, INCLUDING USE IN TREE PLANTINGS**

This product may be applied for control of certain problem weeds growing in forest sites, including tree plantings. This product should be applied either at the site preparation or after trees are planted (tree release). Applications of this product over-the-top of tolerant tree species may be made anytime during the season, however some needle/leaf curling may occur if applied during active tree growth. This effect is transient and trees should recover by the end of the same growing season or early in the following growing season.

**Examples of tolerant tree species:**

Loblolly pine	Grand fir	Hybrid aspen	Red oak
Lodgepole pine	Noble fir	Choke cherry	Sawtooth oak
Longleaf pine	Pacific silver fir	Cherry	White oak
Ponderosa pine	Incense cedar	Cottonwood	Russian olive
Red pine	Eastern red cedar	Crab apple	Hybrid poplar
Scotch pine	Western red cedar	Hackberry	Sumac
Slash pine	Western hemlock	Hickory	Sycamore
Shortleaf pine	Norway spruce	European larch	Black walnut
Virginia pine	White spruce	Sugar maple	
White pine	Green ash	Bur oak	
Douglas fir	White ash	Cherry bark oak	

**Broadcast Applications:** Apply the required amount of this product in 5 or more gallons of water per acre to achieve thorough and uniform spray coverage of target weeds using ground equipment or helicopter.

**Broadcast Application Rates, Weeds Controlled and Timing to Weeds**

Generally, lower labeled application rates will be satisfactory for young, succulent growth of susceptible weed species. Higher labeled rates will generally be required for more tolerant species, perennial weeds in dense stands or in advanced stages of growth, or under conditions of plant stress such as drought or extreme temperatures. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

This product will not control mustards, henbit, chickweed, kochia, lambsquarters, pigweed, Russian thistle and bindweed.

**Note:** In California, the maximum use rate for this product is 2/3 pt per acre per use season.

Weed Species	This Product (pt/acre)	Specific Use Directions
General weed control	1/4 to 1-1/3 pint	Apply when weeds are small and actively growing. The lower rate of 1/4 pt/acre provides acceptable control of weeds only under highly favorable plant growing conditions and when weeds are no more than 3 to 6 inches tall.
Canada thistle Diffuse knapweed Spotted knapweed	1/3 to 1-1/3 pint	For best results, apply after the majority of basal leaves have emerged, up to early bud stage. Treatments applied prior to the emergence of the majority of basal leaves or at later growth stages may result in only partial control.
Bull thistle Musk thistle Yellow starthistle Hawkweeds	2/3 to 1-1/3 pint	For best results, apply from rosette to bolting stage of growth.
Kudzu	2/3 to 1-1/3 pint	Applications of this product are most effective between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply this product is during vigorous growth and just prior to or during flowering.

**Spot Application:** Spot applications should be applied at an equivalent broadcast rate. Follow instructions for hand-held sprayers below. Direct spray onto weeds and avoid spraying trees where possible.

**Hand-Held Sprayers:** Hand-held 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 one or more gallons of spray. 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 (calculation, 3,500 : 1,000 = 3.5). An area of 1 000 sq ft is approximately 10.5 x 10.5 yards (strides) in size.

Amount of this product to Treat an Area of 1,000 sq ft (Mix in one or more gallons of spray)		
2/3 pt/acre	1 pt/acre	1-1/3 pt/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

1 fl oz = 29.6 (30) mL

**Tank-Mixing:** This product may be applied in tank mix combination with Tahoe 4E, Tahoe 3A, 2,4-D, atrazine, Spyder or Velpar DF herbicides as per label directions for forest site uses. Carefully follow applicable directions for use, precautions and limitations on the product labels of each tank mix product used, because products other than this product may cause injury when this product could be used alone without injury.

**Precautions and Restrictions:**

- Applications of this product over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of this product. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of this product to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants, in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.
- True firs (grand, noble, and pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of this product to plants in the legume family (such as locust, redbud, mimosa and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

**CONTROL OF KUDZU IN FORESTS, UTILITY RIGHTS-OF-WAY, ROADSIDES, AND OTHER NON-CROP AREAS**

Pints of this product per Acre Equivalent to Rates in fl oz or mL per 1,000 sq ft		
2/3 pt/acre	1 pt/acre	1-1/3 pt/acre
1/4 fl oz (7.3 mL)	3/8 fl oz (11 mL)	1/2 fl oz (15 mL)

**Application Timing**

For control of kudzu, apply this product between late June and early October, as long as the kudzu is actively growing and not under drought stress. The ideal time to apply this product is during vigorous growth and just prior to or during flowering. For best results on control of all other labeled weed species, apply this product when weeds are small and actively growing. Extreme growing conditions such as drought or near freezing temperatures prior to, at, and following time of application may reduce weed control. Only weeds that have emerged at the time of application will be affected. Wet foliage at the time of application may decrease control.

The treatment with this product will be rainfast within 2 hours after application.

**Broadcast Application (Ground or Aerial)**

Apply at a rate of 2/3 to 1-1/3 pt/acre of this product. Sequential applications may be made as long as the total rate per annual use season does not exceed 1-1/3 pt/acre. The lower rate of 2/3 pint per acre provides acceptable control of weeds only under highly favorable plant growing conditions and when plants are no larger than 3 to 6 inches tall. Spray volumes of 20 gallons or more per acre for ground, roadside and rights-of-way applications and spray volumes of 5 gallons or more per acre or more for aerial applications will ensure adequate coverage. This product can be applied in an invert emulsion using oil and an appropriate inverting agent. Follow label directions of the inverting agent.

**Spot Applications to Control Labeled Weed Species**

Hand held 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. When applied as a spot treatment, apply to weeds on a spray-to-wet basis (not to runoff). Contact with foliage of cottonwood/poplar trees should be avoided or limited to lower branches. Application rates in the following table are based on an area of 1,000 sq ft. Mix the amount of this product (fl oz mL) corresponding to the desired rate in one or more gallons of spray. 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. For example, if the area to be treated is 3,500 sq ft, multiply the table value by 3.5 (calculation: 3,500 ÷ 1,000 = 3.5).

**Use Precautions and Restrictions:**

- Applications of this product over actively growing conifers may cause some needle curling. Tree injury in the form of needle curling may be increased by the addition of a surfactant or crop oil with broadcast applications of this product. Do not use a surfactant or crop oil unless previous experience shows such injury can be tolerated.
- Application of this product to broadleaf (hardwood) tree species may cause some leaf burning and malformation. This injury is transient in nature, except plants in the legume family (see below). Addition of surfactant or crop oil may increase the severity of this injury.

- True firs (grand, noble and Pacific silver firs) show more needle curling than other conifers when higher rates are used. Use lower rates in rate range for broadcast applications or use directed sprays where possible if needle curling is undesirable.
- Application of this product to plants in the legume family (such as locust, mimosa, redbud and lupine) or to box elder, persimmon or sassafras will cause severe damage or destruction of such plants.
- Do not use in forest nursery beds.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store above 28°F or warm to 40°F and agitate before use.

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

**PLASTIC CONTAINER DISPOSAL:** 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.

**METAL CONTAINER DISPOSAL:** 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.

**WARRANTY DISCLAIMER**

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