

71368-103

12/4/2012

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

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

December 4, 2012

Matthew Granahan
Nufarm, Inc.
150 Harvester Drive, Suite 200
Burr Ridge, IL 60527

Subject: Notification per PR Notice 98-10
NUP-12060
EPA Reg. No. 71368-103
Application Dated November 20, 2012

Dear Mr. Granahan:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the subject product. The Registration Division (RD) has conducted a review of this request and finds that the action falls within the scope of PRN 98-10. The label submitted with the application has been date-stamped "Notification" and will be placed in our records.

If you have any questions, please contact Mindy Ondish at (703)605-0723 or at ondish.mindy@epa.gov.

Sincerely,

Mindy Ondish, for

Kathryn V. Montague
Product Manager 23
Herbicide Branch
Registration Division (7505P)



Please read instructions on reverse before completing form.

Form Approved. OMB No. 2070-0060

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

1. Company/Product Number 71368-103	2. EPA Product Manager Kathryn Montague	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) NUP-12060 / ABN: Fortitude Herbicide & ABN: Lockdown Herbicide	PM# 23	
5. Name and Address of Applicant (Include ZIP Code) Nufarm Inc. 150 Harvester Drive, Suite 200 Burr Ridge, IL 60527 <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"/> Resubmission in response to Agency letter dated _____ <input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____ <input type="checkbox"/> "Me Too" Application. <input checked="" type="checkbox"/> Other - Explain below.
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NOTIFICATION
DEC 04 2012

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

Label Notification consistent and 98-10, see cover letter for detailed explanation. This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make false statements to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

Section - III

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Metal <input checked="" type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____	
* Certification must be submitted		If "Yes" Unit Packaging wgt. No. per container	If "Yes" Package wgt No. per container		
3. Location of Net Contents Information <input checked="" type="checkbox"/> Label <input checked="" type="checkbox"/> Container		4. Size(s) Retail Container		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 Matthew Granahan	Title Regulatory Manager	Telephone No. (Include Area Code) (630) 455-2048
Certification 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 (Stamped)
2. Signature 	3. Title Regulatory Manager	
4. Typed Name Matthew Granahan matthew.granahan@us.nufarm.com	5. Date 11/20/2012	



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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 20, 2012

Via Overnight Courier

Kathryn Montague (PM-23)
Document Processing Desk (NOTIF)
Office of Pesticide Programs (7504P)
U. S. Environmental Protection Agency
RoomS-4900, One Potomac Yard
2777 South Crystal Drive
Arlington, VA 22202-4501

**Subject: EPA Reg. No. 71368-103
NUP-12060
Notification per PR Notice 98-10**

Dear Ms. Montague:

Nufarm would like to impose some additional state restrictions on the label for NUP-1260 (EPA Reg. No. 71368-103). The section that we are imposing state restriction is DIRECTIONS FOR USE ON DORMANT WARM-SEASON TURFGRASS GROWN ON RESIDENTIAL SITES, GOLF COURSES, SOD PRODUCTION AND SIMILAR AREAS.

Please note the Notification submitted on November 13, 2012, whereby Nufarm is requesting to add two Alternate Brand Names for NUP-12060 (Subpart 1 is Fortitude Herbicide and Subpart 2 is Lockdown Herbicide) is still pending.

This Notification is thought to be consistent with PRN 98-10 and as such no PRIA fee has been rendered.

To process this request please find enclosed the following:

- Application for Pesticide Registration EPA Form 8570-1
- Revised Label – Highlighted and Clean (1 Copy of each)
 - On the Highlighted Label the Green Highlights are from this submission dated November 20, 2012, the yellow highlights are from the pending Notification ABN submission dated November 13, 2012.
- Label Certification Form
- CD with Clean Version of Label

If you should have any questions regarding this matter, please feel free to contact me at (630) 455-2048 or matthew.granahan@us.nufarm.com.

Sincerely,

Matthew P. Granahan
Regulatory Manager


Certification with Respect to Label Integrity

version: 9/11/02

I certify that the information (including, but not limited to, text, tables, and graphics) contained in the electronic file identified below by file name and submitted with this certification is the same information as that on the paper copies of these documents included with this submission.

PROPOSED LABEL		
EPA Registration #	Date Submitted to EPA	Electronic file name
71368-103	11/20/2012	071368-00103.20121120.EPA Notification

I certify that the statements that I have made on this form are true, accurate, and complete. I acknowledge that any knowingly false or misleading statements may be punishable by fine or imprisonment or both under applicable law.



Signature

11/20/2012

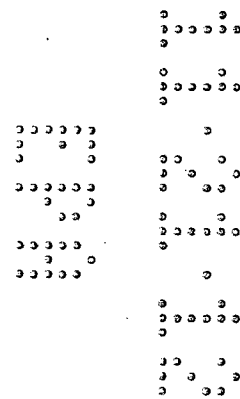
Date

Matthew Granahan

Name (typed)

Regulatory Manager

Title



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GROUP 14 HERBICIDE

NUP-12060

NOTIFICATION

DEC 04 2012

**ABN: FORTITUDE HERBICIDE [Subpart 1]
ABN: LOCKDOWN HERBICIDE [Subpart 2]**

FOR USE IN CONTAINER AND FIELD GROWN CONIFERS (INCLUDING CHRISTMAS TREES) AND DECIDUOUS TREES, AROUND ESTABLISHED WOODY ORNAMENTALS IN LANDSCAPES, TO MAINTAIN BARE GROUND NON-CROP AREAS, CONIFER AND POPLAR RE-FORESTATION SITES, AND DORMANT TURFGRASS

ACTIVE INGREDIENT:

*Flumioxazin..... 51.0%

OTHER INGREDIENTS: 49.0%

TOTAL: 100.0%

**(2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione)*

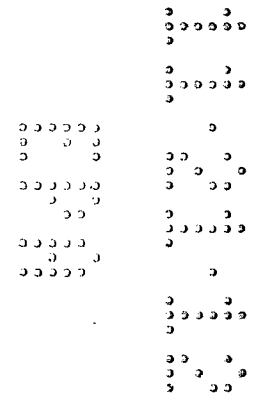
NUP-12060 is a water dispersible granule containing 51% active ingredient.

**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. 71368-103
EPA EST. NO.

NET CONTENTS:

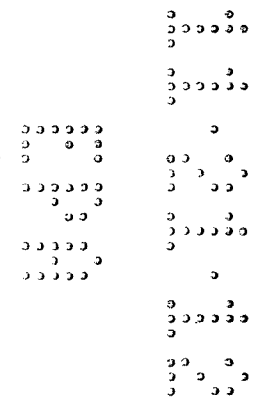
071368-00103-20121120 EPA Notification

MANUFACTURED FOR
NUFARM INC.
150 HARVESTER DRIVE, SUITE 200
BURR RIDGE, IL 60527



[Sub Label 1]
FORTITUDE HERBICIDE

For use in container and field grown conifers (including Christmas trees) and deciduous trees, around established landscape ornamentals, to maintain bare ground non-crop areas, conifer and poplar reforestation sites, and dormant turfgrass.



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GROUP 14 HERBICIDE

FORTITUDE HERBICIDE

FOR USE IN CONTAINER AND FIELD GROWN CONIFERS (INCLUDING CHRISTMAS TREES) AND DECIDUOUS TREES, AROUND ESTABLISHED WOODY ORNAMENTALS IN LANDSCAPES, TO MAINTAIN BARE GROUND NON-CROP AREAS, CONIFER AND POPLAR RE-FORESTATION SITES, AND DORMANT TURFGRASS

ACTIVE INGREDIENT:	
*Flumioxazin.....	51.0%
OTHER INGREDIENTS:	49.0%
TOTAL:	100.0%

*[2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione]

Fortitude Herbicide is a water dispersible granule containing 51% active ingredient.

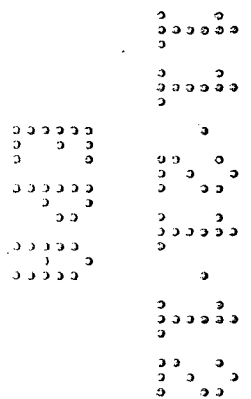
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EPA REG. NO. 71368-103
EPA EST. NO.

NET CONTENTS:

MANUFACTURED FOR
NUFARM INC.
150 HARVESTER DRIVE, SUITE 200
BURR RIDGE, IL 60527



071260:00100:20121120: EPA Notification

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

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If there are 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.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off. Use of vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off and is recommended.

DIRECTIONS FOR USE

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

Read the entire label before using this product. Use strictly in accordance with precautionary statements and directions, and with applicable State and Federal regulations.

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

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AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard (WPS), 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 (REI). The requirements in this box only apply to users 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 waterproof material, 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 Standards for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural crops on farms, forests, nurseries, or greenhouses.

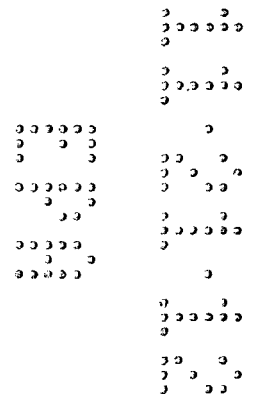
Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

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

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.



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PRODUCT INFORMATION

This product is a preemergence and early postemergence herbicide for control of selected grass and broadleaf weeds in and around ornamental woody shrubs, deciduous trees and conifers (including Christmas trees) grown outdoors in containers or in the field (in ground), to maintain bare ground non-crop areas, conifer and poplar re-forestation and dormant warm season turfgrass.

This product controls weeds by inhibiting protoporphyrinogen oxidase, an essential enzyme required by plants for chlorophyll biosynthesis. Seedling weeds are controlled preemergence when exposed to sunlight following contact with the soil applied herbicide.

This product may cause spotting or speckling on foliage if the spray solution directly contacts actively growing plant foliage or green bark. Leaves that receive indirect (drift) spray contact may be affected in a similar manner. Translocation of this product is limited, and under most conditions established and vigorously growing woody ornamentals will rapidly outgrow any injury symptoms. **However, direct application to actively growing foliage can cause severe injury or death with sensitive ornamental plant species, especially in herbaceous bedding plants and flowers.**

IMPORTANT: When applied as directed, plants listed on this label have shown tolerance to this product. However, this product is a very active herbicide and the user should exercise responsible judgment and caution until familiarity is gained with this product. Due to variability within species, crop growth stage, environmental conditions and application techniques, it is recommended that users test this product under local growing conditions on a small number of plants and evaluate for 4 to 6 weeks for phytotoxicity. Testing this product on a small number of plants will determine if the herbicide can be used safely on a widespread application. Neither the seller nor the manufacturer of this product has investigated the safety to plants not listed on the label.

USE PRECAUTIONS

- Do not apply in enclosed greenhouse structures if plants are present.
- Do not move plants for 24 hours into enclosed greenhouses until the area treated with this product has been watered.
- Do not apply when weather conditions favor spray drift from treated areas.
- Do not graze treated fields or hay to livestock.
- Do not incorporate into soil after application.
- Do not apply this product through any type of irrigation system.
- Do not apply when plants are under stress from insects, diseases, animals or winter injury, planting shock or any other stresses.
- Only apply to healthy established trees and ornamentals.
- Do not apply more than 12 oz of this product per acre per application.
- Do not apply more than 24 oz of this product per acre per year.

RESISTANCE MANAGEMENT

Any weed population may contain or develop plants naturally resistant to herbicides in various modes of action. Resistant biotypes may eventually dominate the weed population if herbicides with the same mode of action are used repeatedly in the same field or in successive years. These resistant biotypes may not be adequately controlled by herbicides in a mode of action class for which resistance has developed. A gradual or total loss of weed control may occur over time. Other resistance mechanisms that are not linked to site of action, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To Delay Herbicide Resistance

- Avoid the use of herbicides that have a similar target site mode of action in consecutive years.
- Herbicide use should be based on an Integrated Pest Management (IPM) program that includes scouting, record keeping, and consideration of cultivation practices, water management, weed free crop seed, crop rotation, and other chemical or cultural control practices.
- Monitor treated weed population for resistance development and report suspected resistance.
- Contact your local extension or crop expert (advisor) for any additional pesticide resistance management and/or IPM recommendations for specific crops and weed biotypes.
- For further information contact Nufarm Inc. at the following toll free number 800-345-3330.

PREEMERGENCE APPLICATION

Preemergence weed control with this product is most effective when applied to clean, weed free soil surfaces prior to weed emergence. Moisture is necessary to activate this product on soil for residual weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.

When adequate moisture is not received soon after this product is applied to soil, weed control may be improved by utilizing shallow cultivation. If weeds begin to emerge, irrigate (1/2" of water) or cultivate uniformly with shallow tillage equipment that will not damage the crop. Deep cultivation reduces the effectiveness of this product and should be avoided.

POSTEMERGENCE APPLICATION

The most effective postemergence weed control with this product occurs when applied in combination with a surfactant to weeds less than 2 inches in height. Apply this product only to actively growing weeds. Applying this product under conditions that do not promote active weed growth will reduce herbicide effectiveness. This product is most effective when applied under sunny conditions at temperatures above 65°F.

This product is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application or efficacy may be reduced.

SOIL CHARACTERISTICS

Application of this product to soils with high organic matter and/or high clay content may require higher dosages than with soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

CARRIER VOLUME AND SPRAY PRESSURE

PREEMERGENCE APPLICATION

To ensure uniform coverage when using boom sprayers, use 10 to 30 gals of spray solution per acre. When making backpack applications, apply 50 to 100 gals of spray solution per acre. Nozzle selection should meet manufacturer's gallonage and pressure recommendation for preemergence herbicide application.

POSTEMERGENCE APPLICATION

To ensure thorough coverage when using boom sprayers apply 15 to 30 gals of spray solution per acre. Apply 20 to 30 gals per acre when using a boom sprayer if dense vegetation or heavy residue is present on the soil surface. When applying with a backpack sprayer, apply 1 gal of spray solution per 500 to 1,000 sq ft. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for postemergence herbicide application.

ADDITIVES

POSTEMERGENCE APPLICATION

When applying this product after weeds emerge, mix with an agronomically approved adjuvant. Mix this product with a crop oil concentrate that contains at least 15% emulsifiers and 80% oil or a non-ionic surfactant containing at least 80% active ingredient when applying this product as part of a postemergence weed control program. Mixing compatibility should be verified by a jar test before using. Do not mix this product with a surfactant when applying over the top of dormant woody ornamentals or conifer trees.

A spray-grade nitrogen source (either ammonium sulfate at 2.0 to 2.5 lb/A or a 28 to 32% nitrogen solution at 1 to 2 qts/A) may be added to the spray mixture along with a crop oil concentrate or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for crop oil concentrate or non-ionic surfactant.

JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND FORTITUDE HERBICIDE

A jar test should be performed before mixing commercial quantities of this product, when using this product for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pt of water to a quart jar. The water should be from the same source and have the same temperature as the water used in the spray tank mixing operation.
2. Add 3 grams (approximately 1 level tsp) of this product for the 8 oz/A rate or 4 grams (approximately 1 1/2 tsp) for 12 oz/A rate to the jar. Gently mix until product disperses.
3. Add 60 ml (4 Tbsp or 2 fl oz) of additive to the quart jar and gently mix.
4. If nitrogen is being used, add 16 ml (1 Tbsp) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 grams of AMS to the quart jar in place of the 28 to 32% nitrogen.
5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
 - a) Layer of oil or globules on the solution surface.
 - b) Flocculation: Fine particles in suspension or as a layer on the bottom of the jar.
 - c) Clabbering: Thickening texture (coagulated) like gelatin.

APPLICATION EQUIPMENT

Important: Thoroughly clean spray equipment, including all tanks, hoses, booms, screens and nozzles, after application of this product. Equipment with this product residue remaining in the system may result in crop injury to subsequently treated crops.

SPRAYER PREPARATION

Before applying this product, clean the spray tank, as well as all hoses and booms to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to the sulfonyleurea and phenoxy herbicides, are active at very small amounts and can cause crop injury when applied to susceptible crops. Clean spray equipment according to the manufacturer's directions for the last product used before the equipment is used to apply this product. If two or more products were tank mixed prior to this product application, follow the most restrictive cleanup procedure on the label of all products.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. To ensure a uniform spray mixture, pre-slurry the required amount of this product with water prior to addition to the spray tank. Use a minimum of 1 gal of water per 10 oz of this product.
3. While agitating, slowly add the pre-slurried this product to the spray tank. Agitation should create a rippling or rolling action on the water surface.
4. If tank mixing this product with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
5. Add any required adjuvants.
6. Fill spray tank to desired level with water. **Continue agitation until spray solution has been applied.**
7. Mix only the amount of spray solution that can be applied the day of mixing. **Apply this product within 12 hours of mixing.**

SPRAYER CLEANUP

Spray equipment must be cleaned each day following this product application. After this product is applied, the following steps must be used to clean the spray equipment:

1. Completely drain the spray tank and rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank with clean water and household ammonia. Use 1 gal of 3% household ammonia for every 100 gals of water.
4. Circulate through sprayer for 5 minutes.
5. Then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes.
6. Loosen any diaphragms before flushing the spray system, allowing cleaning solution to spray through the open diaphragm.
7. Drain tank completely.
8. Add enough clean water to the spray tank to flush hoses, booms, screens and nozzles for 2 minutes.
9. Remove all nozzles and screens and rinse them with clean water.

APPLICATION EQUIPMENT

Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

BROADCAST APPLICATION

Apply this product and this product tank mixes, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume.

BAND APPLICATION

When banding, use proportionately less water and this product per acre.

BACKPACK APPLICATION

When applying this product with a backpack sprayer follow all above restrictions. Calibrate backpack sprayers to deliver 1 gal of spray solution per 500 to 1,000 sq ft.

For Backpack Applications of Fortitude Herbicide at 10 oz per acre

Application Volume	Amount of Fortitude Herbicide to mix in 1 gal of water	Amount of Fortitude Herbicide to mix in 2 gals of water	Amount of Fortitude Herbicide to mix in 3 gals of water
1 gal per 500 sq ft (= 87 GPA)	1 1/4 tsp	2 1/2 tsp	3 3/4 tsp
1 gal per 750 sq ft (= 58 GPA)	1 3/4 tsp	3 3/4 tsp	5 1/4 tsp
1 gal per 1,000 sq ft (= 43.5 GPA)	2 1/2 tsp	5 tsp	7 1/2 tsp

1 level teaspoon (tsp) holds 2.8 grams of this product

Example: Applicator wants to spray 1 gal of this product solution per 1,000 sq ft of ground bed, and wants to mix up 2 gals of spray solution. Therefore, applicator should mix 5 teaspoons of this product in 2 gals of water.

AERIAL APPLICATION

To obtain satisfactory weed control with aerial application of this product, coverage must be uniform. Do not spray when drift is possible or when wind velocity is more than 10 mph. Avoid spraying this product within 200 feet of dwellings, adjacent sensitive crops or environmentally sensitive areas. To obtain satisfactory application and drift, the following directions must be observed:

Volume Pressure

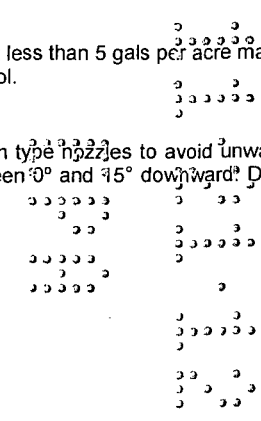
Apply this product in 5 to 10 gals of water per acre, with a maximum spray pressure of 40 PSI. Application at less than 5 gals per acre may not provide adequate weed control. Higher gallonage applications generally provide more consistent weed control.

Nozzles and Nozzle Operation

Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles such as diaphragm type nozzles to avoid unwanted discharge of spray solution. The nozzle must be directed toward the rear of the aircraft, at an angle between 0° and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.

Adjuvants

Refer to the additive section or the tank mix partners label for adjuvant recommendation.



CALIBRATION TABLE

FORTITUDE HERBICIDE RATES OZ/A	FORTITUDE HERBICIDE RATES GRAMS/GAL	FORTITUDE HERBICIDE RATES PER GAL
8	2.3	3/4 tsp
10	2.8	1 level tsp
12	3.4	1 1/4 tsp

SPRAY DRIFT REDUCTION

Do not apply under circumstances where possible drift to unprotected persons or to food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

- Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure. For ground boom and aerial applications, use medium or coarser spray nozzles according to ASAE 572 definition for standard nozzles or a volume mean diameter (VMD) of 300 microns or greater for spinning atomizer nozzles.
- Make aerial or ground applications when the wind velocity favors on-target product deposition. Apply only when the wind speed is less than or equal to 10 mph. For all non-aerial applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.
- Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures.
- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
- For ground boom applications, apply with nozzle height no more than 4 ft above the ground or crop canopy.

WEEDS CONTROLLED

When this product is applied preemergence or postemergence at recommended rates and weed stages, the following grasses and broadleaf weeds are controlled.

TABLE 1. WEEDS CONTROLLED BY FORTITUDE HERBICIDE

COMMON NAME	SCIENTIFIC NAME	
Alyssum, Hoary	<i>Berteroa incana</i>	
Amaranth		
Palmer	<i>Amaranthus palmeri</i>	
Spiny	<i>Amaranthus spinosus</i>	
American Burnweed	<i>Erechtites hieracifolia</i>	
Barnyardgrass*	<i>Echinochloa crus-galli</i>	
Beggarweed, Florida	<i>Desmodium tortuosum</i>	
Bittercress, Hairy	<i>Cardamine hirsuta</i>	
Bluegrass, Annual*	<i>Poa annua</i>	
Burclover, California	<i>Medicago polymorpha</i>	
Carpetweed	<i>Mollugo verticillata</i>	
Chamberbitter	<i>Phyllanthus urinaria</i>	
Chickweed		
Common	<i>Stellaria media</i>	
Mouseear	<i>Cerastium vulgatum</i>	
Crabgrass		
Large*	<i>Digitaria sanguinalis</i>	
Smooth*	<i>Digitaria ischaemum</i>	☺ ☺ ☺ ☺ ☺
Southern*	<i>Digitaria ciliaris</i>	☺
Croton, Tropic	<i>Croton glandulosus</i> var. <i>septentrionalis</i>	☺ ☺ ☺ ☺ ☺
Dandelion*	<i>Taraxacum officinale</i>	☺
Dogfennel	<i>Eupatorium capNifolium</i>	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Doveweed	<i>Murdannia nudiflora</i>	☺ ☺ ☺ ☺
Eclipta	<i>Eclipta prostrata</i>	☺ ☺ ☺ ☺
Filaree, Redstem*	<i>Erodium cicutarium</i>	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Foxtail		
Bristly*	<i>Setaria verticillata</i>	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Giant*	<i>Setaria faberi</i>	☺ ☺ ☺ ☺ ☺ ☺
Green*	<i>Setaria viridis</i>	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Yellow*	<i>Setaria glauca</i>	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Galinsoga, Hairy	<i>Galinsoga ciliata</i>	☺
Geranium, Carolina	<i>Geranium carolinianum</i>	☺ ☺ ☺
Goosegrass*	<i>Eleusine indica</i>	☺ ☺ ☺ ☺
Groundsel, Common	<i>Senecio vulgaris</i>	☺ ☺ ☺
Groundsel Tree	<i>Baccharis halimifolia</i>	☺ ☺ ☺
Henbit	<i>Lamium amplexicaule</i>	

*preemergence control only

continued

TABLE 1. WEEDS CONTROLLED BY FORTITUDE HERBICIDE (continued)

COMMON NAME	SCIENTIFIC NAME		
Horseweed*	<i>Coryza Canadensis</i>		
Indigo, Hairy	<i>Indigofera hirsute</i>		
Ivy, Ground*	<i>Glechoma hederacea</i>		
Jimsonweed	<i>Datura stramonium</i>		
Kochia	<i>Kochia scoparia</i>		
Kyllinga, Green*	<i>Kyllinga brevifolia</i>		
Ladysthumb	<i>Polygonum persicaria</i>		
Lambsquarters, Common	<i>Chenopodium album</i>		
Liverwort	<i>Marchantia polymorpha</i>		
Lovegrass, California*	<i>Eragrostis diffusa</i>		
Mallow			
Common	<i>Malva neglecta</i>		
Little	<i>Malva parviflora</i>		
Venice	<i>Hibiscus trionum</i>		
Marsh Parsley	<i>Apium leptophyllum</i>		
Marsh Yellowcress	<i>Rorippa islandica</i>		
Mayweed*	<i>Anthemis cotula</i>		
Morningglory			
Entireleaf	<i>Ipomoea hederacea</i> var. <i>integriuscula</i>		
Ivyleaf	<i>Ipomoea hederacea</i>		
Red/Scarlet	<i>Ipomoea coccinea</i>		
Smallflower	<i>Jacquemontia tamnifolia</i>		
Tall	<i>Ipomoea purpurea</i>		
Moss	<i>Bryum</i> spp.		
Mulberry Weed	<i>Fatua villosa</i>		
Mustard			
Tumble	<i>Sisymbrium altissimum</i>		
Wild	<i>Brassica kaber</i>		
Nightshade			
Black	<i>Solanum nigrum</i>		
Eastern Black	<i>Solanum ptycanthum</i>		
Hairy	<i>Solanum sarrachoides</i>		
Northern Willowherb	<i>Epilobium cillatum</i>		
Panicum			
Fall*	<i>Panicum dichotomiflorum</i>		
Texas*	<i>Panicum texanum</i>		
Parsley-Piert	<i>Alchemilla arvensis</i>		
Pearlwort, Birdseye*	<i>Sagina procumbens</i>		
Pennycress, Field	<i>Thlaspi arvense</i>		
Phyllanthus, Longstalked	<i>Phyllanthus tenellus</i>		
Pigweed			
Prostrate	<i>Amaranthus blitoides</i>		
Redroot	<i>Amaranthus retroflexus</i>		
Smooth	<i>Amaranthus hybridus</i>		
Tumble	<i>Amaranthus albus</i>		
Pineapple-weed*	<i>Matricaria matricarioides</i>		
Plantain			
Broadleaf*	<i>Plantago major</i>		
Buckhorn*	<i>Plantago lanceolata</i>		
Poinsettia, Wild	<i>Euphorbia heterophylla</i>	o	o
Puncturevine	<i>Tribulus terrestris</i>	o	o
Purslane, Common	<i>Portulaca oleracea</i>	o	o
Pusley, Florida	<i>Richardia scabra</i>	o	o
Ragweed		o	o
Common	<i>Ambrosia artemisiifolia</i>	o	o
Giant	<i>Ambrosia trifida</i>	o	o
Redmaids	<i>Calandrinia ciliata</i>	o	o
Redweed	<i>Melochia corchorifolia</i>	o	o
Rocket, Yellow	<i>Barbarea vulgaris</i>	o	o
Senna, Coffee	<i>Cassia occidentalis</i>	o	o
Sesbania, Hemp	<i>Sesbania exaltata</i>	o	o
Shepherd's-Purse	<i>Capsella bursa-pastoris</i>	o	o
Sida, Prickly (Teaweed)	<i>Sida spinosa</i>	o	o
Signalgrass*	<i>Brachiaria platyphylla</i>	o	o
Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>	o	o
Sowthistle, Annual	<i>Sonchus oleraceus</i>	o	o
Spiderwort, Tropical	<i>Commelina benghalensis</i>	o	o

*preemergence control only

continued

DIRECTIONS FOR USE IN CONTAINER AND FIELD GROWN DECIDUOUS TREES AND NON-BEARING FRUIT AND NON-BEARING NUT TREES

This product may be applied as single or split applications to container and field grown deciduous trees with an established root system. The deciduous trees listed in Table 3 have exhibited tolerance to this product only when applied to the soil and base of plants. Application of this product to deciduous foliage or green bark may result in unacceptable injury.

this product may be applied to established (or transplanted) container and field grown deciduous trees. Do not apply to trees that are less than one year old or have been transplanted less than one year, unless completely protected by non-porous wraps, grow tubes, waxed protectors or other forms of protection to young foliage and/or bark. Do not harvest fruit or nuts from treated trees within one year of application.

IMPORTANT: Direct application of this product to the soil surface and away from plant foliage and bark. Avoid direct spray contact on plant surfaces, foliage and green bark or injury may result. Application of this product after bud swell may cause injury if herbicide contacts foliage. Avoid application under environmental conditions that favor drift to non-targeted areas.

PREEMERGENCE APPLICATION

Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre as a preemergence (to weed emergence) application. Apply this product to weed free deciduous trees grown in containers or in the field (in-ground). If possible, irrigate treated area with 0.5 to 0.75 inch of water immediately following application. this product may be applied to the soil surface and base of deciduous trees, provided that direct and indirect (drift) applications to plant foliage, flowers and green bark does not occur. Mechanically incorporating this product will disturb soil surfaces, which may reduce herbicidal efficacy. The use of spray shields that limit exposure of foliage and bark to this product is suggested. When applied before weed germination, this product will control broadleaf and grassy weeds listed in Table 1.

POSTEMERGENCE APPLICATION

Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). Make postemergence (to weed emergence) applications of this product when weeds are actively growing and are no larger than 2 inches in height. The addition of a surfactant enhances this product activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of this product. When applied after weed germination, this product will provide preemergence and postemergence control of broadleaf weeds and grasses listed in Table 1. If plant injury is a concern, use a spray shield to limit the exposure of trees to this product.

Postemergence control of this product may be more effective with certain weed species, and may not control mature, stressed or hardened off weeds that are not actively growing at the time of application.

TANK MIXTURES FOR FIELD AND CONTAINER GROWN DECIDUOUS TREES

Tank mixing this product with other preemergence and postemergence herbicides registered for use on deciduous trees may provide a broader spectrum of weed control than this product alone. this product may also be applied as part of a postemergence burndown program of control of annual and perennial weeds. Tank mixing this product with glyphosate will increase the speed of burndown compared to glyphosate applied alone. this product may be tank mixed with products containing the following active ingredient labeled for use in deciduous trees:

- clethodim
- glyphosate*
- metolachlor
- oryzalin
- pendimethalin
- prodiamine
- simazine*

*Do not apply glyphosate or simazine to containerized plants.

IMPORTANT: Completely read and follow the label of any herbicides mixed with this product. When tank mixing this product with other herbicides, always follow the most restrictive limitations and precautions on the label of any tank mix partner.

TOLERANT DECIDUOUS TREES, NON-BEARING FRUIT AND NON-BEARING NUT TREES

This product may be applied as a directed spray to the deciduous, non-bearing fruit and non-bearing nut trees species listed in Table 3. If a desired tree species is not listed in Table 3, users should evaluate the safety of this product on a small number of plants under commercial growing conditions and monitor plant response for four to six weeks for phytotoxicity. Testing this product on a small number of plants will determine if this product can be used safely on a widespread basis.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.

TABLE 3. TOLERANT DECIDUOUS TREE SPECIES
COMMON NAME **SCIENTIFIC NAME**

Apricot*	<i>Prunus</i> spp.
Ash	<i>Fraxinus</i> spp.
Birch	<i>Betula</i> spp.
Buckeye	<i>Aesculus</i> spp.
Cherry*	<i>Prunus</i> spp.
Chestnut	<i>Castanea</i> spp.
Citrus*	<i>Citrus</i> spp.
Dogwood	<i>Cornus</i> spp.
Eucalyptus	<i>Eucalyptus</i> spp.
Ginkgo	<i>Ginkgo</i> spp.
Hawthorn	<i>Crataegus</i> spp.
Honeylocust	<i>Gleditsia</i> spp.
Larch	<i>Larix</i> spp.
Lilac	<i>Syringa</i> spp.
Maple**	<i>Acer</i> spp.
Myrtle, Crepe	<i>Lagerstroemia indica</i>
Oak	<i>Quercus</i> spp.
Poplar	<i>Populus</i> spp.
Peach*	<i>Prunus</i> spp.
Plum*	<i>Prunus</i> spp.
Pecan*	<i>Carya</i> spp.
Redbud	<i>Cercis canadensis</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Sycamore	<i>Platanus</i> spp.
Walnut, Black	<i>Juglans nigra</i>
Willow	<i>Salix</i> spp.

*Non-bearing trees only.
 **Not for use on maple trees used for production of maple sap or syrup.

DIRECTIONS FOR USE
AROUND ESTABLISHED WOODY LANDSCAPE ORNAMENTALS
AND TO MAINTAIN BARE GROUND NON-CROP AREAS

In residential and commercial landscapes, this product should only be applied by commercial licensed applicators. Application of this product in the vicinity of ornamental plants is limited to directed sprays around well established woody shrubs and trees such as azalea, euonymus, holly, and the conifers and deciduous trees listed in Tables 2 and 3. This product may also be applied to maintain bare ground in non-crop areas in apartment complexes, fence rows, gravel surfaces, ground mats, golf courses, lumberyards, office complexes, parks, parking areas, recreational sites, schools, sidewalks, storage areas and other similar industrial sites. Do not apply this product within any enclosed structure in residential or commercial landscapes.

This product offers postemergence and residual control of susceptible grasses and broadleaf weeds, as well as additional mode of action to assist in the control of resistant weeds. The length of residual control is dependent on the rate applied, rainfall and temperature. Length of residual control will decrease as temperature and precipitation increase.

IMPORTANT: Contact with spray or spray drift may of this product may cause severe injury or destruction of certain desirable plants, especially herbaceous species such as bedding plants or direct seeded annual and perennial flowers. Therefore, do not apply this product over the top of ornamental plants growing in the landscape, and do not allow this product spray to contact, drift or splash from soil onto the foliage, green stems, exposed roots or fruit of desirable plants. Avoid application of this product under conditions that favor drift of sprays onto desired ornamentals or turfgrass. The use of spray shields that limit the plant exposure to this product is highly recommended when applying this product near desirable plants.

Do not apply this product around landscape ornamentals until plants have been actively growing for at least 30 days after transplanting, or for at least two months before ornamentals will be planted into treated areas.

PREEMERGENCE APPLICATION (NO WEEDS ARE PRESENT)

Mix 1 1/4 to 2 1/2 tsp of this product per gal (10 oz/A) of spray solution, and apply 1 gal of spray solution to 500 - 1,000 sq ft (10 - 20 A) prior to weed germination (see calibration table for backpack sprayers). Apply this product to weed free soil, mulch or gravel surfaces. Moisture is necessary to activate this product on soil for residual weed control. When applied before weed germination, this product will control the broadleaf weeds and grasses listed in Table 1.

Established landscape ornamentals have shown tolerance to this product **only** when applied to the soil at the base of the plant. For maximum plant safety when using around desirable ornamentals, direct applications of this product to the soil, and leave a sufficient untreated buffer to ensure spray solution does not contact desired plants. Do not harvest fruit or nuts from treated trees within one year of application.

POSTEMERGENCE APPLICATION (WEEDS ARE PRESENT)

Mix 1 1/4 to 2 1/2 tsp of this product per gal (10 oz/A) and apply 1 gal of spray solution to 500 -1,000 sq ft to actively growing weeds (see calibration chart for backpack sprayers). Tank mixing this product with glyphosate will increase the spectrum of postemergent weed control over this product alone, provide faster postemergence weed control than glyphosate alone, and provide pre and postemergence control of the broadleaf weeds and grasses listed in Table 1.

Established landscape ornamentals have shown tolerance to applications of this product plus glyphosate **only** when applied to the soil at the base of the plant, and sprays do not directly contact or drift onto desirable plants. For maximum plant safety when using around desirable ornamentals, direct applications of this product plus glyphosate towards the soil, and leave a sufficient non-treated buffer to ensure spray solution does not contact desired plants.

Thorough spray coverage of weeds is necessary to maximize weed control. Spray coverage should be uniform, but do not spray to the point of runoff.

Do not harvest fruit or nuts from treated trees within one year of application.

IMPORTANT: Completely read and follow the glyphosate label. When tank mixing this product with other products, always follow the most restrictive use conditions on either label.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications per year.

**DIRECTIONS FOR USE
TO MAINTAIN BARE GROUND NON-CROP AREAS IN AND
AROUND ORNAMENTAL NURSERIES**

This product, when used as directed, can be used for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed-free. Apply this product only to:

- Bare ground areas around buildings and other structures. Do not apply within any enclosed structure.
- Bare ground along fence rows.
- Gravel surfaces and driveways.
- Ground matting and gravel pads prior to the addition of containerized plants (conifers, deciduous trees and ornamentals).

IMPORTANT: Follow all applicable directions as outlined above under General Information. See Table 1 for a list of grasses and broadleaf weeds controlled by this product.

This product offers residual and postemergence control of susceptible grasses and broadleaf weeds as well as additional mode of action to assist in the control of resistant weeds. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase.

PREEMERGENCE APPLICATION

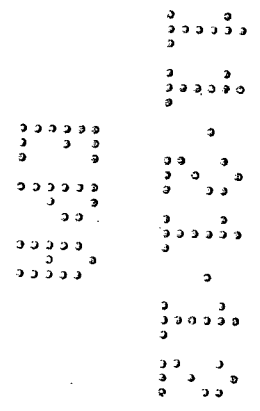
Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre as a preemergence application. Preemergence (to weed emergence) applications of this product should be made to a weed free surfaces. Moisture is necessary to activate this product for residual weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.

POSTEMERGENCE APPLICATION

Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre plus a surfactant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of a surfactant enhances this product activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of this product. Emerged weeds are controlled postemergence with this product, however, translocation of this product within a weed is limited, and control is affected by spray coverage and by the addition of a surfactant. The most effective postemergence weed control with this product occurs when applied in combination with a surfactant to weeds less than 2 inches in height.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.



DIRECTIONS FOR USE IN CONIFER RE-FORESTATION SITES FOLLOWING TIMBER HARVEST

This product is a preemergence and postemergence herbicide for control of selected grass and broadleaf weeds in conifer re-forestation sites following timber harvest operations. This product may be used as a site preparation treatment prior to transplanting of conifers or as a conifer release treatment after stand establishment.

Site Preparation - Application Before Transplanting

Apply 8 to 12 oz of this product per acre. Transplant operations must take place at least 3 months after application. To obtain optimal weed control, apply this product before weed emergence or after a burndown herbicide has controlled existing vegetation. If existing weed canopy is less than 40%, this product may be tank mixed with a burndown herbicide to provide preemergence weed control.

Apply this product in at least 10 gals of water per acre to achieve uniform spray coverage using ground or aerial spray equipment.

Conifer Release Treatments — Applications only within 3 years after transplanting.

Apply 8 to 12 oz of this product per acre over the top of trees prior to budbreak in the spring or after dormancy in fall. Do not apply this product over the top of trees after budbreak or needle spotting and defoliation may occur. This product should not affect new growth of trees. See Table 4 for a list of tolerant conifers for over the top treatments.

TANK MIXING — Conifer Release Treatments

Certain liquid formulations of other pesticides may increase the postemergence activity of this product, but may also increase the potential for injury when applied over the top of various plants. Therefore, tank mixtures of these materials with this product may be more injurious than this product applied alone and need to be tested to determine if they can be used safely on a widespread basis.

ADJUVANTS — Conifer Release Treatments

When using as a Conifer Release Treatment, do not mix this product with any adjuvant or fertilizer.

IMPORTANT: When applied as directed, the conifers listed in Table 4 have shown tolerance to this product. However, this product is a very active herbicide and the user should exercise responsible judgment and caution until familiarity is gained with this product. If a desired conifer species is not listed in Table 4, evaluate the safety of this product on a small number of plants under commercial growing conditions, and monitor plant response for four to six weeks for phytotoxicity. Test this product on a small number of plants to determine if this product can be used safely on a widespread basis. Do not apply this product over the top of conifers until trees have been growing in the treated area for at least one year. The use of nylon mesh wraps, commonly used to deter animal browsing, may increase plant injury if placed on plants after over the top application of this product.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.

TABLE 4: TOLERANT CONIFER TREE SPECIES: COMMON

COMMON NAME	SCIENTIFIC NAME		
Fir			
Concolor	<i>Abies concolor</i>		
Cork Bark	<i>Abies lasiocarpa</i>		
Douglas	<i>Pseudotsuga menziesii</i> <i>Abies</i>		
Fraser	<i>fraseri</i>		
Grand	<i>Abies grandis</i>		
Noble	<i>Abies procera</i>		
Turkish	<i>Abies bommuelleriana</i>		
Hemlock			
Eastern	<i>Tsuga canadensis</i>		
Western	<i>Tsuga heterophylla</i>		
Pine	<i>Pinus nigra</i>		
Austrian Eastern	<i>Pinus strobes</i> <i>Pinus</i>		3 3
White Jack	<i>Banksiana</i> <i>Pinus</i>		3 3 3 3 3
Japanese Black	<i>Thunbergiana</i> <i>Pinus</i>		3
Loblolly	<i>taeda</i>		3 3 3 3 3
Lodgepole	<i>Pinus contorta</i>		3
Longleaf	<i>Pinus palustris</i>	3 3 3 3 3	3
Mugo	<i>Pinus mugo</i>	3 3 3	3 3 3
Ponderosa	<i>Pinus ponderosa</i>		3 3 3
Sand	<i>Pinus clausa</i> <i>Pinus</i>	3 3 3 3 3	3 3 3
Scotch	<i>Sylvestris</i> <i>Pinus</i>	3 3	3 3
Shortleaf	<i>echinata</i> <i>Pinus</i>	3 3 3 3 3	3 3 3 3 3
Slash	<i>elliottii</i> <i>Pinus</i>	3 3 3	3
Virginia	<i>virginiana</i>	3 3 3	3
Spruce			3 3
Blue	<i>Picea pungens</i>		3 3 3 3 3
Dwarf Alberta	<i>Picea glauca conica</i>		3
Norway	<i>Picea abies</i>		3 3 3 3
Sitka	<i>Picea sitchensis</i>		3 3 3

DIRECTIONS FOR USE IN POPLAR PLANTATIONS AND TIMBER RE-FORESTATION SITES

This product is a preemergence and postemergence herbicide for control of selected grass and broadleaf weeds in poplar plantations and timber re-forestation sites following timber harvest operations. This product may be used as a site preparation treatment prior to transplanting of trees or as a release treatment after stand establishment.

Site Preparation-Application Before Transplanting

Apply 8 to 12 oz of this product per acre. Transplant operations must take place at least 3 months after application. To obtain optimal weed control, apply this product before weed emergence or after a burndown herbicide has controlled existing vegetation. If existing weed canopy is less than 40%, this product may be tank mixed with a burndown herbicide to provide preemergence weed control.

Apply this product in at least 10 gals of water per acre to achieve uniform spray coverage using ground or aerial spray equipment.

Release Treatments — Applications Within 3 Years After Transplanting

Apply 8 to 12 oz of this product per acre over the top of trees prior to budbreak in the spring or after dormancy in fall. Do not apply this product over the top of trees after budbreak or leaf spotting and defoliation may occur. This product should not affect new growth of trees of tolerant poplars for over the top treatments.

TANK MIXING — Poplar Release Treatments

Certain liquid formulations of other pesticides may increase the postemergence activity of this product, but may also increase the potential for injury when applied over the top of various plants. Therefore, tank mixtures of these materials with this product may be more injurious than this product applied alone and need to be tested to determine if they can be used safely on a widespread basis.

ADJUVANTS — Poplar Release Treatments

When applying Release Treatments, do not mix this product with any adjuvant or fertilizer.

IMPORTANT: When applied as directed, poplars (*Populus balsamifera*, *P. niger* and *P. tremuloides*), hybrid poplars (*P. sp. x sp.*), and cottonwoods (*P. deltoids* and *P. trichocarpa*) have shown tolerance to this product. However, this product is a very active herbicide and the user should exercise responsible judgment and caution until familiarity is gained with this product. Test this product on a small number of plants to determine if this product can be used safely on a widespread basis. Do not apply this product over the top unless trees are more than one year old.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.

DIRECTIONS FOR USE ON DORMANT WARM-SEASON TURFGRASS GROWN ON RESIDENTIAL SITES, GOLF COURSES, SOD PRODUCTION AND SIMILAR AREAS

Only for use in the following States: Alabama, Arizona, Arkansas, Colorado, Delaware, Florida, Georgia, Iowa, Indiana, Illinois, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Nebraska, Nevada, New Mexico, New Jersey, North Carolina, Oklahoma, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Virginia and West Virginia

This product may be applied as a single or split application to well established dormant turfgrass listed in Table 5, and will control winter annual weeds found in Table 1. Apply this product to dormant turfgrass in such areas as apartment complexes, golf courses, sod farms, roadsides, sports fields, campgrounds, office complexes, parks, parking areas, recreational sites, schools and other similar sites. Dormant bermudagrass, centipedegrass, seashore paspalum, St. Augustine and zoysiagrass have exhibited tolerance to this product only when applied after turf has become dormant in the late fall and before turf breaks dormancy in the late winter/early spring. Application of this product to actively growing turfgrass (warm season and cool season) or during green-up will cause unacceptable injury. This product will injure warm season turf grown in southern areas where grass does not become completely dormant.

BROADCAST APPLICATIONS

Apply 8 to 12 oz of this product per broadcast acre as a preemergence (to weed emergence) application if weeds are present at the time of application apply this product plus an adjuvant (0.25% v/v non-ionic surfactant). Make postemergence (to weed emergence) applications of this product when weeds are actively growing and no larger than 2 inches in height. Thorough spray coverage is necessary to maximize the postemergence activity of this product. When applied after weed germination, this product will provide preemergence and postemergence control of broadleaf weeds and grasses listed in Table 1. Postemergence control of this product may be more effective on certain weed species, and may not control mature, stressed or hardened off weeds that are not actively growing at the time of application.

A second application of this product may be required to provide adequate season-long weed control. Apply the second application using the above mentioned rate guidelines prior to the turfgrass breaking spring dormancy.

SPOT TREATMENTS

Mix 2 1/2 tsp per gal of this product and 2 tsp (1/3 fl oz) of non-ionic surfactant in one gal of water and apply one gal of spray solution per 1,000 sq ft. Occasionally shake the spray solution while spraying to ensure the spray solution remains well mixed. Spray the target weeds until the leaves are wet.

TANK MIXING WITH OTHER TURFGRASS HERBICIDES

Tank mixing this product with other preemergence and postemergence herbicides registered for use in dormant turfgrass may provide a broader spectrum of weed control than this product alone.

IMPORTANT: Turfgrass must be completely dormant at application. Any turfgrass that is not dormant will be injured by applications of this product. Scout area to be sprayed for any turf that is green in color and if encountered, delay application until turfgrass is completely dormant. Read and follow the label of any herbicides mixed with this product. When tank mixing this product with other herbicides, always follow the most restrictive limitations and precautions on the label of any tank mix partner.

USE PRECAUTIONS

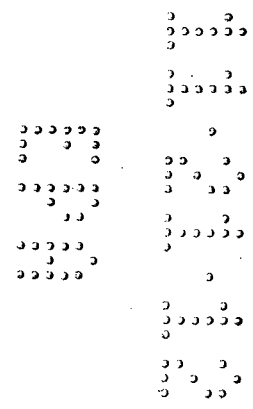
Exercise good judgment and caution when applying to dormant turfgrass until familiarity is gained with this product.

RESTRICTIONS AND LIMITATIONS

- Do not apply to golf course putting greens.
- Do not apply to warm season turfgrass that has been overseeded with cool season turfgrass (ex. perennial rye).
- Do not irrigate within 1 hour before or after application.
- Do not apply if rain is expected within 1 hour after application.
- Do not mow turfgrass within 12 hours after application.
- Do not apply within 30 days prior to cutting or lifting sod.
- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.
- Do not apply in fall before turfgrass has ceased active growth or in late winter/ early spring after turfgrass has resumed active growth.
- Allow 8 weeks between application and seeding or sodding of turfgrass.

Table 5. TOLERANT TURFGRASS SPECIES

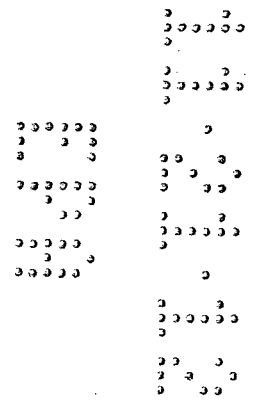
COMMON NAME	SCIENTIFIC NAME
Bermudagrass	<i>Cynodon</i> spp.
Centipedegrass	<i>Eremochloa ophiuroides</i>
Seashore paspalum	<i>Paspalum vaginatum</i>
St. Augustinegrass	<i>Stenotaphrum secundatum</i>
Zoysiagrass	<i>Zoysia</i> spp.



[Sub Label 2]

LOCKDOWN HERBICIDE

For use to maintain bare ground non-crop areas, conifer and poplar re-forestation sites.



27/42

GROUP 14 HERBICIDE

LOCKDOWN HERBICIDE

**DIRECTIONS FOR USE TO MAINTAIN BARE GROUND NON-CROP AREAS,
CONIFER AND POPLAR RE-FORESTATION SITES**

ACTIVE INGREDIENT:

*Flumioxazin 51.0%

OTHER INGREDIENTS:

TOTAL: 100.0%

**(2-[7-fluoro-3,4-dihydro-3-oxo-4-(2-propynyl)-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione)*

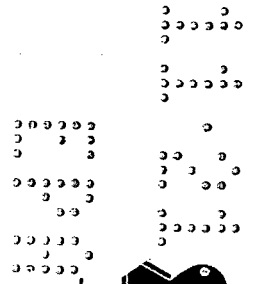
Lockdown Herbicide is a water dispersible granule containing 51% active ingredient.

**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. 71368-103
EPA EST. NO.

NET CONTENTS:

MANUFACTURED FOR
NUFARM INC.
150 HARVESTER DRIVE, SUITE 200
BURR RIDGE, IL 60527



071368-00103-20121120 EPA Notification

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

Harmful if inhaled or absorbed through the skin. Causes moderate eye irritation. Avoid breathing dust and spray mist. Avoid contact with skin, eyes or clothing.

FIRST AID	
IF INHALED	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
IF SWALLOWED	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-877-325-1840 for emergency medical treatment information.	

PERSONAL PROTECTIVE EQUIPMENT (PPE):

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

Applicators and other handlers must wear: long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes and socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If there are no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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

ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants and aquatic invertebrates. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to non-target plants and aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water when disposing of equipment washwaters.

This pesticide is toxic to plants and should be used strictly in accordance with the drift and run-off precautions on this label in order to minimize off-site exposures.

Under some conditions this product may have a potential to run off to surface water or adjacent land. Where possible, use methods which reduce soil erosion, such as no till, limited till and contour plowing; these methods also reduce pesticide run-off. Vegetation filter strips along rivers, creeks, streams, wetlands or on the downhill side of fields where run-off could occur will minimize water run-off and is recommended.

DIRECTIONS FOR USE

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

Read the entire label before using this product. Use strictly in accordance with precautionary statements and directions, and with applicable State and Federal regulations.

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.

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

Keep all unprotected persons out of operating areas, or vicinity where there may be drift.

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

TANK MIXES

NOTICE: Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator and/or application advisor, to the extent allowed by applicable law.

Read and follow the entire label of each product to be used in the tank mix with this product.

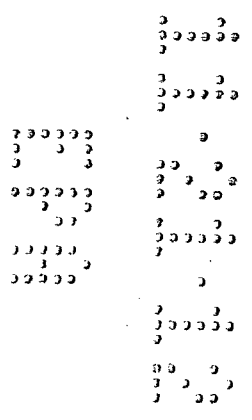


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DIRECTIONS FOR USE IN CONIFER RE-FORESTATION SITES FOLLOWING TIMBER HARVEST

Site Preparation- Application Before Transplanting
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Restrictions and Limitations
Tolerant Conifer Tree Species Table 2

DIRECTIONS FOR USE IN POPLAR PLANTATIONS AND TIMBER RE-FORESTATION SITES

Site Preparation- Application Before Transplanting
Release Treatments
Tank Mixing
Adjuvants
Restrictions and Limitations

STORAGE AND DISPOSAL

Table of contents for Storage and Disposal section, including page numbers and symbols.

PRODUCT INFORMATION

This product is a selective herbicide to maintain bare ground non-crop areas when used in accordance with this label. This product is effective as a preemergence and/or postemergence herbicide for control of selected grass and broadleaf weeds.

This product controls weeds by inhibiting protoporphyrinogen oxidase, an essential enzyme required by plants for chlorophyll biosynthesis. Seedling weeds are controlled preemergence when exposed to sunlight following contact with the soil applied herbicide.

USE PRECAUTIONS

- Do not apply when weather conditions favor spray drift from treated areas.
- Do not incorporate into soil after application.
- Do not apply this product through any type of irrigation system.
- Do not apply more than 12 oz of this product per acre per application.
- Do not apply more than 24 oz of this product per acre per year.
- Do not apply to moist or wet desirable plant foliage.
- Do not apply within 300 feet of non-dormant pome or stone fruit crops.
- Treatment of powdery, dry soil or light sandy soil, or light sandy soil when there is little to no likelihood of rainfall soon after may result in off target movement and possible damage to actively growing susceptible crops when soil particles are moved by wind or water. Do not apply when these soil and environmental conditions are present.

RESISTANCE MANAGEMENT

Any weed population may contain or develop plants naturally resistant to herbicides in various mode of action classes. Resistant biotypes may eventually dominate the weed population if the same class of chemistry/mode of action herbicides are used repeatedly in the same field or in successive years. These resistant biotypes may not be adequately controlled by herbicides in a mode of action class for which resistance has developed. A gradual or total loss of weed control may occur over time. Other resistance mechanisms that are not linked to site of action, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To Delay Herbicide Resistance

- Avoid the use of herbicides that have a similar target site mode of action in consecutive years.
- Herbicide use should be based on an Integrated Pest Management (IPM) program that includes scouting, record keeping, and consideration of cultivation practices, water management, weed free crop seed, crop rotation, and other chemical or cultural control practices.
- Monitor treated weed population for resistance development and report suspected resistance.
- Contact your local extension or crop expert (advisor) for any additional pesticide resistance management and/or IPM recommendations for specific crops and weed biotypes.
- For further information contact Nufarm Inc. at the following toll free number 800-345-3330.

PREEMERGENCE APPLICATION

Preemergence application of this product should be made prior to weed emergence. Moisture is necessary to activate this product for residual weed control. Moisture is needed to move this product into the soil for preemergence weed control. Dry weather following application of this product may reduce effectiveness.

POSTEMERGENCE APPLICATION

For best results, this product should be applied to actively growing weeds. Applying this product under conditions that do not promote active weed growth will reduce herbicide effectiveness.

Do not apply this product when the weeds are under stress due to drought, excessive water and extremes in temperatures or disease. This product is most effective when applied under sunny conditions at temperatures above 65° F.

This product is rainfast one hour after application. Applications should not be made if rain is expected within one hour of application. Efficacy may be reduced.

APPLICATION EQUIPMENT

Important: Spray equipment, including all tanks, hoses, booms, screens and nozzles, should be thoroughly cleaned. **Spray equipment used to apply this product should not be used to apply other materials to any desirable plant foliage.** Equipment with this product's residue remaining in the system may result in crop injury to subsequently treated crops.

SPRAYER PREPARATION

Before applying this product, start with clean, well maintained application equipment. The spray tank, as well as all hoses and nozzles should be cleaned to ensure no residue from the previous spraying operation remains in the sprayer. Some pesticides, including but not limited to the sulfonylurea and phenoxy herbicides, are active at very small amounts and can cause crop injury when applied to susceptible crops. The spray equipment should be cleaned according to the manufacturer's directions for the last product used before the equipment is used to apply this product. If two or more products were tank mixed prior to this product's application, the most restrictive cleanup procedure should be followed.

MIXING INSTRUCTIONS

1. Fill clean spray tank 1/2 to 2/3 of desired level with clean water.
2. To ensure a uniform spray mixture, pre-slurry the required amount of this product with water prior to addition to the spray tank. Use a minimum of 1 gal of water per 10 oz of this product.
3. While agitating, slowly add the pre-slurried this product to the spray tank. Agitation should create a rippling or rolling action on the water surface.
4. If tank mixing this product with other labeled herbicides, add water soluble bags first, followed by dry formulations, flowables, emulsifiable concentrates and then solutions. Prepare no more spray mixture than is required for the immediate spray operation.
5. Add any required adjuvants.
6. Fill spray tank to desired level with water. **Agitation should continue until spray solution has been applied.**
7. Mix only the amount of spray solution that can be applied the day of mixing. This product should be applied within 24 hours of mixing.

SPRAYER CLEANUP

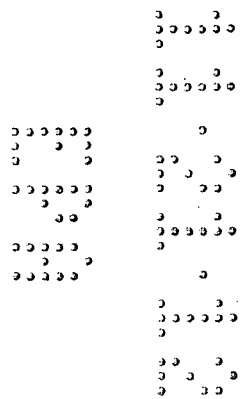
Except for dedicated bare ground herbicide application equipment, spray equipment should be cleaned each day following this product application. The following steps should be used to clean the spray equipment:

1. Completely drain the spray tank, rinse the sprayer thoroughly, including the inside and outside of the tank and all in-line screens.
2. Fill the spray tank with clean water and flush all hoses, booms, screens and nozzles.
3. Top off tank, add suitable commercial spray tank cleaning material, following label directions, or add 1 gal of 3% household ammonia for every 100 gals of water, circulate through sprayer for 5 minutes, and then flush all hoses, booms, screens and nozzles for a minimum of 15 minutes.
4. Drain tank completely.
5. Add enough clean water to the spray tank to allow all hoses, booms, screens and nozzles to be flushed for 2 minutes.
6. Remove all nozzles and screens and rinse them with clean water.

SPRAY DRIFT REDUCTION

Do not apply under circumstances where possible drift to unprotected persons or to food, forage or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption can occur.

- Use the largest droplet size consistent with acceptable efficacy. Formation of very small droplets may be minimized by appropriate nozzle selection, by orienting nozzles away from the air stream as much as possible and by avoiding excessive spray boom pressure. For ground boom and aerial applications, use medium or coarser spray nozzles according to ASAE 572 definition for standard nozzles or a volume mean diameter (VMD) of 300 microns or greater for spinning atomizer nozzles.
- Make aerial or ground applications when the wind velocity favors on-target product deposition. Drift potential is lowest between wind speeds of 2-10 mph. For all non-aerial applications, wind speed must be measured adjacent to the application site on the upwind side, immediately prior to application.
- Do not make aerial or ground applications into areas of temperature inversions. Inversions are characterized by stable air and increasing temperatures with increasing distance above the ground. Mist or fog may indicate the presence of an inversion in humid areas. Where permissible by local regulations, the applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.
- Low humidity and high temperatures increase the evaporation rate of spray droplets and therefore the likelihood of increased spray drift. Avoid spraying during conditions of low humidity and/or high temperatures.
- All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.
- For ground boom applications, apply with nozzle height at the lowest boom height which provides uniform coverage and reduces exposure to evaporation and wind.



WEEDS CONTROLLED

When this product is applied preemergence or postemergence at recommended rates and weed stages, the following grasses and broadleaf weeds are controlled:

TABLE 1. WEEDS CONTROLLED BY LOCKDOWN HERBICIDE

COMMON NAME	SCIENTIFIC NAME	
Alyssum, Hoary	<i>Berteroa incana</i>	
Amaranth		
Palmer	<i>Amaranthus palmeri</i>	
Spiny	<i>Amaranthus spinosus</i>	
Barnyardgrass*	<i>Echinochloa crus-galli</i>	
Beggarweed, Florida	<i>Desmodium Tortuosum</i>	
Bittercress, Hairy	<i>Cardamine hirsute</i>	
Bluegrass, Annual*	<i>Poa annua</i>	
Burclover, California	<i>Medicago Polymorpha</i>	
Carpetweed	<i>Mollugo verticillata</i>	
Chickweed		
Common	<i>Stellaria media</i>	
Mouseear	<i>Cerastium vulgatum</i>	
Crabgrass		
Large*	<i>Digitaria sanguinalis</i>	
Smooth*	<i>Digitaria ishaemum</i>	
Southern*	<i>Digitaria ciliaris</i>	
Croton, Tropic	<i>Croton glandulosus var.septentrionalis</i>	
Dandelion*	<i>Taraxacum officinale</i>	
Donfennel	<i>Eupatorium capillifolium</i>	
Eclipta	<i>Eclipta prostrate</i>	
Foxtail		
Bristly*	<i>Setaria verticillata</i>	
Giant*	<i>Setaria faberi</i>	
Green*	<i>Setaria viridis</i>	
Yellow*	<i>Setaria glauca</i>	
Galinsoga, Hairy	<i>Galinsoga ciliata</i>	
Geranium, Carolina	<i>Geranium carolinianum</i>	
Goosegrass*	<i>Eleusine indica</i>	
Groundsel, Common	<i>Senecio vulgaris</i>	
Henbit	<i>Lamium amplexicaule</i>	
Horseweed*	<i>Conyza Canadensis</i>	
Indigo, Hairy	<i>Indigofera hirsuta</i>	o o o o o
Ivy, Ground*	<i>Glechoma hederacea</i>	o
Jimsonweed	<i>Datura stramonium</i>	o o o o o
Kochia	<i>Kochia scoparia</i>	o
Kochia	<i>Kochia scoparia</i>	o o o o o
Kyllinga, Green*	<i>Kyllinga brevifolia</i>	o o o o o
Ladysthumb	<i>Polygonum persicaria</i>	o o o o o
Lambsquarters, Common	<i>Chenopodium album</i>	o o o o o
Lovegrass, California*	<i>Eragrostis diffusa</i>	o o o o o
Mallow		
Common	<i>Malva neglecta</i>	o o o o o
Little	<i>Malva parviflora</i>	o o o o o
Venice	<i>Hibiscus trionum</i>	o o o o o

*Preemergence control only

(continued)

TABLE 1. WEEDS CONTROLLED BY LOCKDOWN HERBICIDE (continued)

COMMON NAME	SCIENTIFIC NAME
Spurge	
Prostrate	<i>Euphorbia humistrata</i> Engelm
Spotted	<i>Euphorbia maculate</i>
Starbur, Bristly*	<i>Acanthospermum hispidum</i>
Thistle	
Canda*	<i>Cirsium arvense</i>
Russian	<i>Salsola iberica</i>
Velvetleaf	<i>Abutilon theophrasti</i>
Waterhemp	
Common	<i>Amaranthus rudis</i>
Tall	<i>Amaranthus tuberculatus</i>
Woodsorrel, Yellow*	<i>Oxalis stricta</i>

*Preemergence control only

**DIRECTIONS FOR USE
TO MAINTAIN BARE GROUND NON-CROP AREAS**

This product, when used as directed, can be used for non-selective vegetation control to maintain bare ground non-crop areas that must be kept weed-free. Apply this product only to:

- Bare ground under guard rails, above-ground pipelines, and railroad beds, railroad yards and surrounding areas
- Bare ground in parking and storage areas, plant sites, substations, pumping stations, and tank farms
- Bare ground areas of airports, brick yards, industrial plant sites, lumber yards, military installations, and storage areas
- Bare ground around farm buildings, and along ungrazed fence rows, wind breaks and shelter belts
- Road surfaces, improved roadside areas and gravel shoulders.

Follow all applicable directions as outlined above under General Information. See Table 1 for a list of broadleaf weeds and grasses controlled by this product.

This product offers residual and postemergence control of susceptible broadleaf and grass weeds as well as additional mode of action to assist in the control of ALS (acetolactate synthase) resistant weeds. The length of residual control is dependent on the rate applied as well as on rainfall and temperature conditions. Length of residual control will decrease as temperature and precipitation increase.

PREEMERGENCE APPLICATION

Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre as a preemergence application. Preemergence (to weed emergence) applications of this product should be made to a weed free soil surface. Preemergence applications of this product must be completed prior to weed emergence. Moisture is necessary to activate this product on soil for residual weed control. Dry weather following application of this product may reduce effectiveness. However, when adequate moisture is received after dry conditions, this product will control susceptible germinating weeds.

POSTEMERGENCE APPLICATION

Apply 8 to 12 oz (0.25 to 0.38 lb ai/A) of this product per broadcast acre plus an adjuvant (0.25% v/v non-ionic surfactant or 1 qt/A crop oil concentrate). The addition of an adjuvant enhances this product activity on emerged weeds. Thorough spray coverage is necessary to maximize the postemergence activity of this product. Emerged weeds are controlled postemergence with this product, however, translocation of this product within a weed is limited, and control is affected by spray coverage and by the addition of an adjuvant. The most effective postemergence weed control with this product occurs when applied in combination with a surfactant to weeds less than 2 inches in height.

SOIL CHARACTERISTICS

Application of this product to soils with high organic matter and/or high clay content may require higher dosages than with soils with low organic matter and/or low clay content. Application to cloddy seedbeds can result in reduced weed control.

CARRIER VOLUME AND SPRAY PRESSURE

PREEMERGENCE APPLICATION

To ensure uniform coverage, use 10 to 30 gals of spray solution per acre. Nozzle selection should meet manufacturer's gallonage and pressure recommendation for preemergence herbicide application.

POSTEMERGENCE APPLICATION

To ensure thorough coverage, use 15 to 30 gals of spray solution per acre. Use 20 to 30 gals per acre if dense vegetation or heavy residue is present on the soil surface. Nozzle selection should meet manufacturer's gallonage and pressure recommendations for postemergence herbicide application.

ADDITIVES

POSTEMERGENCE APPLICATION

When applying this product after weed emergence, mix with an agronomically approved adjuvant. A crop oil concentrate which contains at least 15% emulsifiers and 80% oil or a non-ionic surfactant containing at least 80% active ingredient should be used when applying this product as part of a postemergence weed control program. Mixing compatibility should be verified by a jar test before using.

A spray grade nitrogen source (either ammonium sulfate at 2.0 to 2.5 lb/A or a 28 to 32% nitrogen solution at 1 to 2 qt/A) may be added to the spray mixture along with a crop oil concentrate or non-ionic surfactant to enhance weed control. The addition of a nitrogen source does not replace the need for crop oil concentrate or non-ionic surfactant.

JAR TEST TO DETERMINE COMPATIBILITY OF ADJUVANTS AND LOCKDOWN HERBICIDE

A jar test should be performed before mixing commercial quantities of this product, when using this product for the first time, when using new adjuvants or when a new water source is being used.

1. Add 1 pt of water to a quart jar. The water should be from the same source and have the same temperature as the water used in the spray tank mixing operation.
2. Add 3 grams (approximately 1 level tsp) of this product for the 8 oz/A rate or 4 grams (approximately 1 1/2 tsp) for 12 oz/A rate to the jar. Gently mix until product disperses.
3. Add 60 ml (4 Tbsp or 2 fl oz) of additive to the quart jar and gently mix.
4. If nitrogen is being used, add 16 ml (1 Tbsp) of the 28 to 32% nitrogen source to the quart jar. If ammonium sulfate is being used, add 19 grams of AMS to the quart jar in place of the 28 to 32% nitrogen.
5. Place cap on jar, invert 10 times, let stand for 15 minutes, evaluate.
6. An ideal tank mix combination will be uniform and free of suspended particles. If any of the following conditions are observed the choice of adjuvant should be questioned:
 - a) Layer of oil or globules on the solution surface.
 - b) Flocculation: Fine particles in suspension or as a layer on the bottom of the jar.
 - c) Clabbering: Thickening texture (coagulated) like gelatin.

APPLICATION EQUIPMENT

Application equipment should be clean and in good repair. Nozzles should be uniformly spaced on boom and frequently checked for accuracy.

BROADCAST APPLICATION

Apply this product, and this product tank mixes, with ground equipment using standard commercial sprayers equipped with nozzles designed to deliver the desired spray pressure and spray volume.

BAND APPLICATION

When banding, use proportionately less water and this product per acre.

HANDGUN APPLICATION

Applications may also be made using a handgun sprayer. Use a spray volume of at least 40 gals per acre to insure uniform coverage.

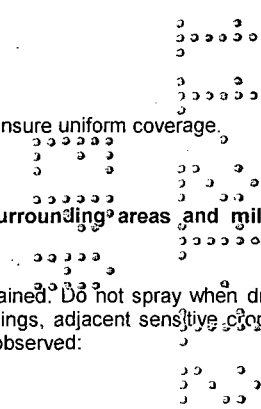
AERIAL APPLICATION

- Aerial applications are limited to maintaining weed free railroad beds, railroad yards and surrounding areas and military installations.

To obtain satisfactory weed control with aerial applications of this product, uniform coverage must be obtained. Do not spray when drift is possible or when wind velocity is more than 10 mph. Avoid spraying this product within 200 feet of dwellings, adjacent sensitive crops or environmentally sensitive areas. To obtain satisfactory application and drift, the following directions must be observed:

Volume Pressure

Use this product in 5 to 10 gals of water per acre with a maximum spray pressure of 40 PSI. Application at less than 5 gals per acre will provide inadequate weed control. Higher gallonage applications provide more consistent weed control.



Nozzle and Nozzle Operation

Use nozzles that produce flat or hollow cone spray patterns. Use non-drip type nozzles, such as diaphragm type nozzles to avoid unwanted discharge of spray solution. The nozzle must be directed toward the rear of the aircraft, at an angle between 0° and 15° downward. Do not place nozzles on the outer 25% of the wings or rotors.

Adjuvants

Refer to the additive section or the tank mix partner's label for adjuvant recommendation.

TANK MIX APPLICATION

In addition to weeds controlled by this product used alone, tank mixtures with other preemergence and postemergence herbicides registered for use in non-crop areas provide a broader spectrum of weed control. this product must be tank mixed with other non-crop herbicides including, but not limited to those products listed below.

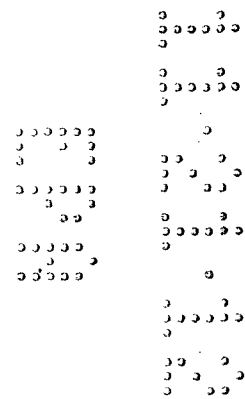
TANK MIX COMBINATIONS FOR NON-SELECTIVE VEGETATION CONTROL

2,4-D	hexazinon	picloram
bromacil	imazapic	pramitol
chlorsulfuron	imazapyr	prodiamine
dicamba	metsulfuron-methyl	simazine
diuron	norfurazon	sulfometuron-methyl
chlorpyralid	oryzalin	tebuthiuron
glyphosate	pendimethalin	triclopyr

IMPORTANT: Completely read and follow the label of any potential this product tank mix partner. When using tank mixtures, use conditions must be in accordance with the most restrictive of the label limitations and precautions on either herbicide label.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.



DIRECTIONS FOR USE IN CONIFER RE-FORESTATION SITES FOLLOWING TIMBER HARVEST

This product is a preemergence and postemergence herbicide for control of selected grass and broadleaf weeds in conifer re-forestation sites following timber harvest operations. This product may be used as a site preparation treatment prior to transplanting of conifers or as a conifer release treatment after stand establishment.

Site Preparation - Application Before Transplanting

Apply 8 to 12 oz of this product per acre. Transplant operations must take place at least 3 months after application. To obtain optimal weed control, apply this product before weed emergence or after a burndown herbicide has controlled existing vegetation. If existing weed canopy is less than 40%, this product may be tank mixed with a burndown herbicide to provide preemergence weed control.

Apply this product in at least 10 gals of water per acre to achieve uniform spray coverage using ground or aerial spray equipment.

Conifer Release Treatments — Applications only within 3 years after transplanting.

Apply 8 to 12 oz of this product per acre over the top of trees prior to budbreak in the spring or after dormancy in fall. Do not apply this product over the top of trees after budbreak or needle spotting and defoliation may occur. This product should not affect new growth of trees. See Table 2 for a list of tolerant conifers for over the top treatments.

TANK MIXING — Conifer Release Treatments

Certain liquid formulations of other pesticides may increase the postemergence activity of this product, but may also increase the potential for injury when applied over the top of various plants. Therefore, tank mixtures of these materials with this product may be more injurious than this product applied alone and need to be tested to determine if they can be used safely on a widespread basis.

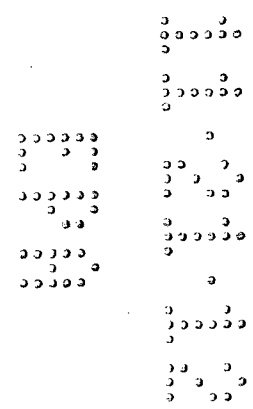
ADJUVANTS — Conifer Release Treatments

When using as a Conifer Release Treatment, do not mix this product with any adjuvant or fertilizer.

IMPORTANT: When applied as directed, the conifers listed in Table 2 have shown tolerance to this product. However, this product is a very active herbicide and the user should exercise responsible judgment and caution until familiarity is gained with this product. If a desired conifer species is not listed in Table 2, evaluate the safety of this product on a small number of plants under commercial growing conditions, and monitor plant response for four to six weeks for phytotoxicity. Test this product on a small number of plants to determine if this product can be used safely on a widespread basis. Do not apply this product over the top of conifers until trees have been growing in the treated area for at least one year. The use of nylon mesh wraps, commonly used to deter animal browsing, may increase plant injury if placed on plants after over the top application of this product.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year.
- Do not re-apply this product within 30 days.



DIRECTIONS FOR USE IN POPLAR PLANTATIONS AND TIMBER RE-FORESTATION SITES

This product is a preemergence and postemergence herbicide for control of selected grass and broadleaf weeds in poplar plantations and timber re-forestation sites following timber harvest operations. This product may be used as a site preparation treatment prior to transplanting of trees or as a release treatment after stand establishment.

Site Preparation - Application Before Transplanting

Apply 8 to 12 oz of this product per acre. Transplant operations must take place at least 3 months after application. To obtain optimal weed control, apply this product before weed emergence or after a burndown herbicide has controlled existing vegetation. If existing weed canopy is less than 40%, this product may be tank mixed with a burndown herbicide to provide preemergence weed control.

Apply this product in at least 10 gals of water per acre to achieve uniform spray coverage using ground or aerial spray equipment.

Release Treatments — Applications Within 3 Years After Transplanting

Apply 8 to 12 oz of this product per acre over the top of trees prior to budbreak in the spring or after dormancy in fall. Do not apply this product over the top of trees after budbreak or leaf spotting and defoliation may occur. This product should not affect new growth of trees of tolerant poplars for over the top treatments.

TANK MIXING — Poplar Release Treatments

Certain liquid formulations of other pesticides may increase the postemergence activity of this product, but may also increase the potential for injury when applied over the top of various plants. Therefore, tank mixtures of these materials with this product may be more injurious than this product applied alone and need to be tested to determine if they can be used safely on a widespread basis.

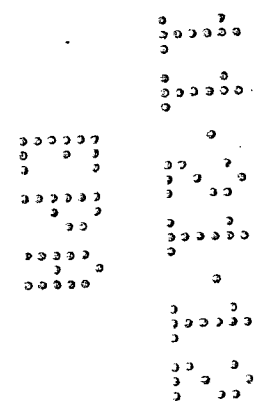
ADJUVANTS — Poplar Release Treatments

When applying Release Treatments, do not mix this product with any adjuvant or fertilizer.

IMPORTANT: When applied as directed, poplars (*Populus balsamifera*, *P. niger* and *P. tremuloides*), hybrid poplars (*P. sp. x sp.*), and cottonwoods (*P. deltoids* and *P. trichocarpa*) have shown tolerance to this product. However, this product is a very active herbicide and the user should exercise responsible judgment and caution until familiarity is gained with this product. Test this product on a small number of plants to determine if this product can be used safely on a widespread basis. Do not apply this product over the top unless trees are more than one year old.

RESTRICTIONS AND LIMITATIONS

- Do not apply more than 2 applications at 12 oz/A or 3 applications at 8 oz/A per year
- Do not re-apply this product within 30 days.



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STORAGE AND DISPOSAL

PESTICIDE STORAGE

Keep pesticide in original container.
Store in a cool, dry, secure place.

Do not put formulation or dilute spray solution into food or drink containers.
Do not store or transport near feed or food.

Not for use or storage in or around the home.

For help with any spill, leak, fire or exposure involving this material, call day or night (800) 892-0099. Do not contaminate water, food or feed by storage, disposal or cleaning of equipment.

PESTICIDE DISPOSAL

Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

[Container Disposal language for container sizes less than 5 gals]

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

[Container Disposal language for container sizes greater than 5 gals or 50 lbs]

CONTAINER HANDLING

Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. 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.

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