

241-319

6-9-2000

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

JUN 9 2000

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

David L. Rodriguez
American Cyanamid Company
P.O. Box 400
Princeton, NJ 08543-0400

Dear Mr. Rodriguez:

Subject: Additional Turf and Ornamental Uses
Image 70 DG herbicide
EPA Registration No 241-319
Your Submission Dated June 1, 2000

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:

- Verify that "Pre-M 60 DG Herbicide" is registered for use on turf and landscape ornamentals. We could not locate this product in our computer data base.

2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

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

Sincerely yours,

A handwritten signature in black ink, appearing to read "James A. Tompkins".

James A. Tompkins
Product Manager (25)
Herbicide Branch
Registration Division (7505C)

Enclosure

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IMAGE® 70 DG herbicide

A Selective Herbicide for Use on Established Bermudagrass,
St. Augustinegrass, Centipedegrass and Zoysiagrass,
Including Use on Golf Courses, Sod Farms, Commercial and
Residential Turf, and for Use Around Selected Landscape Ornamentals.

ACTIVE INGREDIENT:

Imazaquin (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-
5-oxo-1H-imidazol-2-yl]-3-quinolinecarboxylic acid)..... 70.0%

INERT INGREDIENTS: 30.0%

TOTAL..... 100.0%

U.S. Patent No. 4,798,619

EPA Reg. No. 241-319

EPA Est. No. 241-PR-002

KEEP OUT OF REACH OF CHILDREN

CAUTION!/PRECAUTION!

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

FIRST AID

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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

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

In case of emergency endangering life or property involving this product, call collect, day or night, Area Code 973-683-3100.

See Inside for Additional Precautionary Statements and Directions for Use



**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

JUN 9 2000

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

Net Contents: 11.43 Ounces

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PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

Causes eye irritation. Avoid contact with skin, eyes or clothing. Harmful if absorbed through skin.

Personal Protective Equipment: (PPE):

Some 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
- Shoes plus socks

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

User Safety Recommendations:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

ENVIRONMENTAL HAZARDS

DO NOT apply directly to water or to areas where surface water is present, or to intertidal areas below the mean high water mark.

DO NOT contaminate water by cleaning of equipment or disposal of waste.

This chemical demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of this in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

DIRECTIONS FOR USE

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

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

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requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Observe all cautions and limitations on this label and on the label of products used in combination with IMAGE 70 DG. The use of IMAGE 70 DG not consistent with this label may result in plant injury. Keep container closed to avoid spills and contamination.

DO NOT apply this product through any type of irrigation system.

DO NOT apply this product aerially.

AGRICULTURAL USE REQUIREMENTS

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

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

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

- coveralls
- chemical resistant gloves
- shoes plus socks

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of the product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter treated areas without protective clothing until sprays have dried.

STORAGE AND DISPOSAL

PROHIBITIONS: DO NOT contaminate water, food, or feed by storage or disposal.

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

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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DISCLAIMER

The label instructions for the use of this product reflect the opinion of experts based on field use* and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Plant injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use or application of the product contrary to label instructions, all of which are beyond control of American Cyanamid Company. All such risks shall be assumed by the user.

American Cyanamid Company shall not be responsible for losses or damages resulting from use of this product in any manner not set forth on this label. User assumes all risks associated with the use of this product in any manner not specifically set forth on this label.

American Cyanamid Company warrants only that the material contained herein conforms to the chemical description on the label and is reasonably fit for the use therein described when used in accordance with the directions for use, subject to the risks referred to above. CYANAMID DOES NOT MAKE OR AUTHORIZE ANY AGENT OR REPRESENTATIVE TO MAKE ANY OTHER WARRANTIES, EXPRESS OR IMPLIED AND EXPRESSLY EXCLUDES AND DISCLAIMS ALL IMPLIED WARRANTIES OR MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

BUYER'S EXCLUSIVE REMEDY AND AMERICAN CYANAMID'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF IMAGE 70 DG. In no case shall Cyanamid or the seller be liable for consequential, special or indirect damages resulting from the use or handling of this product.

American Cyanamid Company makes no other express or implied warranty, including other express or implied warranty of FITNESS or of MERCHANTABILITY. User assumes the risk of any use contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to American Cyanamid Company.

USES WITH OTHER PRODUCTS (TANK MIXES)

If this product is used in combination with any other product except as specially recommended in writing by American Cyanamid Company then American Cyanamid Company shall have no liability for any loss, damage, or injury arising out of its use in any such combination not so specifically recommended. If used in a combination recommended by American Cyanamid Company, the liability of American Cyanamid Company shall in no manner extend to any damages, loss, or injury not directly caused by the inclusion of the American Cyanamid Company product in such combination use, and in any event shall be limited to return of the amount of the purchase price of the product.

GENERAL INFORMATION

IMAGE 70 DG herbicide is a unique, versatile herbicide that will control or aid in the control of many important weeds in warm-season turfgrasses and selected ornamentals. IMAGE 70 DG herbicide may be used on established warm-season turfgrasses such as but not limited to grounds or lawns around residential and commercial establishments, parks, athletic fields, cemeteries, sod farms and other similar areas, and to control specified weeds in ornamentals in the maintained

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landscape. IMAGE 70 DG will effectively control susceptible weeds when applied during the recommended application timings (pre and post).

IMAGE 70 DG-treated turfgrasses may have a compacted growth habit and formation of seedheads may be inhibited for 2-6 weeks depending on grass species and growing conditions at the time of application. Turf vigor is not impaired with this application when the rate, timing and turf species are followed according to label directions.

The activity of IMAGE 70 DG herbicide involves uptake by weed roots and/or foliage and rapid translocation to growing points. Treated plants stop growing soon after spray application. Chlorosis appears first in the newest leaves, with necrosis spreading from this point. In perennials, the herbicide is translocated into, and kills, underground storage organs. Complete death may not occur for several weeks after application in susceptible weed species. The amount of rainfall or irrigation required following application depends on existing soil moisture, density of turf and thatch or other surface vegetation, and soil type. Sufficient rainfall or irrigation of at least 0.25 to 0.5 inches is necessary for optimum herbicide activation.

HERBICIDE COMBINATIONS

For Warm-Season Turfgrasses

IMAGE 70 DG herbicide may be tank-mixed with registered preemergence and broadleaf postemergence herbicides and with methylarsonate herbicides, such as MSMA, to control weeds not controlled by IMAGE 70 DG alone. DO NOT tank-mix IMAGE 70 DG with other postemergence herbicides labeled for grass weed control in turf. IMAGE 70 DG may be applied prior to or sequential to the use of all currently labeled preemergence and postemergence herbicides.

IMAGE 70 DG herbicide may be tank-mixed with urea or liquid iron for routine, turf-maintenance applications. Add IMAGE 70 DG to the spray tank first and make sure it is thoroughly mixed before adding the nutrient solutions.

For Landscape Ornamentals

IMAGE 70 DG herbicide may be tank mixed with PENDULUM®/3,3-EC herbicide or PENDULUM® WDG herbicide or PRE-M® 3.3 EC Turf Herbicide or PRE-M® 60 DG Herbicide to control weeds not controlled by IMAGE 70 DG alone.

When IMAGE 70 DG is used in tank-mixture with another herbicide refer to each label for rates, methods of application, proper timing, weeds controlled, limitations and precautions. ALWAYS USE in accordance with the more restrictive label limitations and precautions. IMAGE 70 DG herbicide cannot be mixed with any product containing a label prohibition against such mixing.

MIXING INSTRUCTIONS

Fill the spray tank one-half to three-quarters full with clean water. While agitating add the required amount of IMAGE 70 DG and then fill the remainder of the tank with water. Maintain agitation while spraying to ensure a uniform spray mixture.

When tank-mixing IMAGE 70 DG with recommended herbicides, add IMAGE 70 DG herbicide to the spray tank first and make sure it is thoroughly mixed before adding the tank-mix herbicide.

ADDITION OF SURFACTANTS

A nonionic surfactant at the rate of 2 pints per 100 gallons (0.25% v/v) should be added to the spray mixture. Add the nonionic surfactant to the spray mixture after herbicide(s) have mixed. An antifoaming agent may be added to the tank, if needed.

SPRAYING INSTRUCTIONS

Uniformly apply IMAGE 70 DG sprays with a properly calibrated sprayer in sufficient volume to insure adequate coverage (20-200 gallons/acre). AVOID drift onto vegetables, flowers, ornamental shrubs and other desirable plants or injury may result. AVOID overlaps when spraying. A spray indicator dye may be added to prevent overlaps. DO NOT apply when wind velocity is greater than 10 mph.

Application Rates and Directions for Use of IMAGE 70 DG herbicide for Use on Bermudagrass, St. Augustine, Centipedegrass and Zoysiagrass

IMAGE 70 DG herbicide can be selectively used to control weeds anytime during the year except prior to and during transition from turfgrass winter dormancy. Application rates applied are 0.2 ounces to 0.26 ounces of IMAGE 70 DG herbicide per 1,000 sq. ft. per application, or applied at 8.6 ounces to 11.4 ounces of product per acre (or .375 lb. to 0.5 lb. ai./A) per application. The high rate should be used where heavy weed infestations occur.

For SPOT SPRAYING with a hand-held or back-pack sprayer, mix 0.5 ounces of IMAGE 70 DG herbicide per 3 gallons of water and spray to wet. [Note: Approximately 1.5 gallons of spray solution will treat 1,000 sq. ft.]

Tolerant turfgrasses metabolize IMAGE 70 DG herbicide. Best tolerance occurs under totally dormant or optimal growing conditions. When the turfgrass is growing under marginal conditions, such as low temperatures, drought stress, compaction, etc., temporary yellowing or browning can occur and recovery may take 2-4 weeks.

If product is applied where runoff is likely to occur, such as embankments or steep slopes, irrigation should be applied (0.25 to 0.5 inches) to incorporate the product into the soil to prevent injury of nearby sensitive turf such as overseeded areas, bentgrass and perennial ryegrass putting greens. When making applications adjacent to sensitive turfgrasses such as bentgrass and ryegrass, care should be taken not to track the IMAGE 70 DG herbicide onto these areas.

Irrigation or rainfall of 0.25 to 0.5 inches is suggested within 1-7 days after application to wash IMAGE 70 DG herbicide into the shoot/root zone where greatest weed control activity occurs.

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WARM-SEASON TURGRASSES
Bermudagrass, St. Augustine, Centipedegrass and Zoysiagrass

CONTROL OF SUMMER WEEDS

For the postemergence control of weeds such as the nutsedges^{1,2}, dollarweed², kyllinga^{1, 2}, field sandbur², and ryegrass², applications of IMAGE 70 DG herbicide should be timed following spring transition of the turf and prior to the onset of winter dormancy. This application timing would be the period of active turf and summer weed growth. Refer to all turfgrass precautions prior to use.

CONTROL OF WINTER WEEDS

For the control of weeds such as wild garlic³, wild onion³, henbit, chickweed, lawn burweed, etc., applications should be timed to follow the first frost. IMAGE 70 DG herbicide may be applied prior to or soon after emergence of the weeds listed with the exception of wild onion and wild garlic which must be emerged at application time for control. Control of emerged weeds may take several weeks. Applications made prior to the first frost or later during the dormant period (inactive weed growth) may result in reduced weed control. Applications should not be made less than six weeks prior to the initiation of spring transition. Refer to all turfgrass precautions prior to use.

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WEED SPECIES CONTROLLED

Common Name	Genus species	Annual/Biennial/Perennial
GRASSES CONTROLLED		
Field Sandbur	<i>Cenchrus incertus</i>	Annual/short-lived perennial
Perennial Ryegrass ² -overseeded	<i>Lolium perenne</i>	Perennial/winter annual
SEDGES CONTROLLED:		
Globe Sedge ^{1,2}	<i>Cyperus globosus</i>	Perennial
Green Kyllinga ^{1,2}	<i>Kyllinga brevifolia</i>	Perennial
Rice Flatsedge ^{1,2}	<i>Cyperus iria</i>	Annual
Purple Nutsedge ^{1,2}	<i>Cyperus rotundus</i>	Perennial
Yellow Nutsedge ^{1,2}	<i>Cyperus esculentus</i>	Perennial
Wild garlic ³	<i>Allium vineale</i>	Winter perennial
Wild onion ³	<i>Allium canadense</i>	Winter perennial
BROADLEAVES CONTROLLED		
Black Medic	<i>Medicago lupulina</i>	Annual
Buttercup	<i>Ranunculus parviflorus</i>	Winter annual
Carpetweed	<i>Mollugo verticillata</i>	Annual
Chickweed, Common	<i>Stellaria media</i>	Winter annual
Cutleaf Evening Primrose	<i>Oneothena lanceolata</i>	Winter annual
Dollarweed ²	<i>Hydrocotyle umbellata</i>	Perennial
Dovetail	<i>Geranium molle</i>	Winter annual
Eclipta	<i>Eclipta prostrata</i>	Annual
Geranium Carolina	<i>Geranium carolinium</i>	Winter annual
Hairy bittercress	<i>Cardamine hirsuta</i>	Winter annual/
Henbit	<i>Lamium amplexicaule</i>	Winter annual
Knawel	<i>Scelranthus annuus</i>	Winter annual
Lawn burweed	<i>Soliva pterosperma</i>	Winter annual
Mouseear	<i>Cerastium vulgatum</i>	Winter annual
Parsley-piert ¹	<i>Alchemilla arvensis</i>	Winter annual
Pigweed species	<i>Amaranthus sp.</i>	Annual
Purple deadnettle	<i>Lamium purpureum</i>	Winter annual
Red sorrel	<i>Rumex acetosella</i>	Perennial
White clover	<i>Trifolium repens</i>	Annual
IMAGE 70 DG herbicide will aid in the control of and reduce competition from:		
Annual bluegrass	<i>Poa annua</i>	Winter annual
Bahiagrass	<i>Paspalum notatum</i>	Perennial
Crabgrass species	<i>Digitaria sp.</i>	Annual
Tall Fescue	<i>Festuca arundinacea</i>	Perennial
Annual Sedge ^{1,2}	<i>Cyperus compressus</i>	Annual
Cudweed, Purple	<i>Gnaphalium purpureum</i>	Annual/biennial
Dandelion	<i>Taraxacum officinale</i>	Winter annual
Violets	<i>Viola sp</i>	Winter annual/perennial
Virginia Buttonweed	<i>Diodia virginiana</i>	Perennial

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¹For control of kyllinga and more rapid and improved control of the sedges the addition of MSMA (2 lb. ai/A) is suggested in methylarsonate tolerant turfgrasses.

²A repeat application may be required for extended postemergence control of weeds such as dollarweed, kyllinga, the nutsedges, and perennial ryegrass.

³Mowing of wild onion/garlic 1-2 weeks after treatment is recommended for improved appearance and initial control.

SPECIAL PRECAUTIONS ON WARM-SEASON TURFGRASSES

- USE ONLY on well established non-stressed turfgrass with a dense and uniform stand. TEMPORARY YELLOWING may occur.
- DO NOT apply just prior to or during spring transition or during periods of very slow turf growth or severe discoloration could occur.
- DO NOT use on golf or bowling greens.
- DO NOT use on unlabeled turfgrass species, including dichondra.
- DO NOT APPLY IMAGE 70 DG herbicide to St. Augustinegrass for winter weed control.
- DO NOT mow St. Augustinegrass until 48 hours after application.
- DO NOT use on tall fescue or mixed stands of tall fescue and bermudagrass when tall fescue is a desirable turfgrass. IMAGE 70 DG herbicide may injure tall fescue.
- DO NOT use on winter overseeded turfgrasses such as ryegrass, bentgrass or *Poa trivialis* when those species are desirable.
- DO NOT reseed or winter overseed or sprig turfgrass for 1-1/2 months after treatment.
- DO NOT apply to newly planted, sprigged, or sodded turfgrass.
- DO NOT apply within 30 days of harvesting sod.
- DO NOT graze or feed clippings of treated turfgrasses to animals.
- DO NOT use treated grass clippings as a mulch in landscape beds or around vegetables in the garden or fruit trees, vines or berries in the landscape areas.

Directions for Use of IMAGE 70 DG herbicide for Landscape Ornamentals

IMAGE 70 DG herbicide can be safely applied at the labeled use rates around and over the top of those plants listed below for the control of weeds listed on this label. Applications can be made safely around the drip zone of broadleaf and conifer trees in the landscape where established stands of turfgrass are present. To make applications to ornamentals or trees in mulched landscape beds consult the list of tolerant species. Temporary growth suppression may be observed on some treated species.

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Application rates applied are 0.2 ounces to 0.26 ounces of IMAGE 70 DG herbicide per 1,000 sq ft per application. For SPOT SPRAYING with a hand-held or back-pack sprayer, mix 0.5 oz. of IMAGE 70 DG herbicide per 3 gallons of water and spray to wet. [Note: Approximately 1.5 gallons of spray solution will treat 1,000 sq. ft.]

IMAGE 70 DG herbicide is for landscape ornamental and turfgrass use only.

DO NOT APPLY this product around food producing trees or vines, berry bushes or in vegetable gardens.

DO NOT APPLY this product in field or container-grown ornamental nurseries, in nursery liner, seedling or tree nurseries.

TOLERANT LANDSCAPE ORNAMENTAL SPECIES

Common Name	Genus species 'Cultivar or Variety'
SHRUBS	
Indian Hawthorne	<i>Raphiolepis indica</i>
Dwarf Yaupon Holly	<i>Ilex vomitoria</i> 'Schilling's Dwarf'
Blue Pfitzer Juniper	<i>Juniperus chinensis</i> 'Pfitzeriana Glauca'
Helleri Holly	<i>Ilex crenata</i> 'Helleri'
Red Tip Photinia	<i>Photinia X fraseri</i>
Yucca	<i>Yucca pendula</i>
Wax Myrtle	<i>Merica cerifera</i>
Burford Holly	<i>Ilex cornuta</i> 'Burfordii'
Gardenia	<i>Gardenia jasminoides</i>
'Miami Supreme' Flame of the Woods*	<i>Ixora coccinea</i> *
Confederate Jasmine	<i>Trachelospermum jasminoides</i>
Parsons Juniper	<i>Juniperus squamata expansa</i> 'Parsoni'
Blue Pacific Juniper	<i>Juniperus conferta</i>
Blue Rug Juniper	<i>Juniperus horizontalis</i> 'Wiltonii'
TREES	
Red Crape Myrtle	<i>Lagerstroemia indica</i>
GROUNDCOVERS	
Asiatic Jasmine	<i>Trachelospermum asiaticum</i> 'Minima'
Giant Liriope	<i>Liriope muscari</i> 'Evergreen Giant'
Variogated Liriope	<i>Liriope muscari</i> 'Silvery Sunproof'
Mondo grass	<i>Ophiopogon japonicus</i>
Pachysandra	<i>Pachysandra terminalis</i>
PERENNIALS	
Hosta 'Lancifolia'	<i>Hosta</i> sp.
Society Garlic*	<i>Tulbaghia violacea</i> *
* This plant has not been tested for tolerance to PENDULUM or PRE-M herbicides. DO NOT tank mix IMAGE DG with pendimethalin herbicides and apply to this plant species.	

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SPECIAL PRECAUTIONS IN LANDSCAPE ORNAMENTALS

- USE ONLY on well-established, non-stressed ornamentals listed on this label or injury may result. DO NOT apply around annual bedding plants.
- APPLY IMAGE 70 DG herbicide only to the listed plants or severe injury may result. The following ornamentals are known to be severely injured by IMAGE 70 DG herbicide: Azalea, Viburnum, Pieris, Abelia, and Ligustrum.
- DO NOT APPLY this product to bareground areas of the landscape where new ornamental plantings (including annual bedding plants) will be installed within the year.



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