



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

JAN 31 1994

Nancy L. Bockrath
ZENECA INC.
ZENECA AG PRODUCTS
New Murphy Road & Concord Pike - Box 751
Wilmington, DE 19897

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Subject: Label Amendment Submission of 08/19/93 in Response to PR Notice 93-7
EPA Reg. No. 10182-242
DEVIRINOL 5-G ORNAMENTAL SELECTIVE HERBICIDE

Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is accepted. A copy of your proposed labeling stamped "ACCEPTED WITH COMMENTS" is enclosed.

WHAT THIS ACCEPTANCE MEANS:

Based on your certification, the Agency has accepted the labeling changes that are necessary to comply with the Worker Protection Standard (WPS) labeling requirements of 40 CFR part 156, subpart K, described in PR Notices 93-7 and 93-11. Any other labeling changes submitted in connection with this amendment application but not directly related to compliance with the WPS have not been reviewed or accepted by the Agency. If you wish to make such changes, you must submit a separate amendment application proposing them. If your product is currently suspended, the acceptance of this labeling amendment does not affect the suspension in any way.

WHAT YOU NEED TO DO NEXT:

Send EPA one (1) copy of the final printed labeling:

- BEFORE selling or distributing any product bearing the final printed labeling
- AND
- WITHIN one year from date of this acceptance.



Recycled/Recyclable
Printed with Soy/Canola ink on paper that
contains at least 50% recycled fiber

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Submit the final printed labeling via the U.S. Postal Service to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs (7505C)
U.S. Environmental Protection Agency
401 M Street, SW
Washington, D.C. 20460-0001

Hand or courier deliveries of final printed labeling may be made to:

Document Processing Desk (FIN-LABEL)
Office of Pesticide Programs
Room 266A, Crystal Mall 2
1921 Jefferson Davis Highway
Arlington, VA 22202

Sincerely,

Jim Tompkins, Deputy Chief
Registration Support Branch
Registration Division (7505W)

Attachment

DEVIRINOL® 5-G ORNAMENTAL
Selective Herbicide

**A Preemergence Herbicide for weed control in container-grown ornamentals,
field-grown nursery stock, liner stock, ground covers and turfgrass**

**DEVIRINOL 5-G Ornamental Controls Many
Annual Grasses and Broadleaf Weeds**

ACTIVE INGREDIENT:

N,N-Diethyl-2-(1-naphthalenyloxy)-propionamide 5.0%

INERT INGREDIENTS: 95.0%

TOTAL 100.0%

Contains 5 lbs. of Active Ingredient per 100 pounds

ACCEPTED
with COMMENTS
In EPA Letter Dated

EPA Reg. No.: 10182-242

EPA Est. No.:

JAN 31 1994
Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.
10182-242

KEEP OUT OF REACH OF CHILDREN

CAUTION

MAY BE HARMFUL IF SWALLOWED

Made in U.S.A.
ZENECA Ag Products
ZENECA Inc.
Wilmington, DE 19897

STATEMENT OF PRACTICAL TREATMENT

If an adverse reaction occurs after exposure, promptly initiate the recommended procedures below. If further treatment is required, seek medical attention.

IN CASE OF CONTACT: Flush eyes and skin with plenty of water for several minutes. Get medical attention if eye or skin irritation occurs.

IF SWALLOWED: Immediately give several glasses of water and induce vomiting by placing a finger on the back of the victim's tongue. Give fluids until vomitus is clear. Do not induce vomiting or give anything by mouth to an unconscious or convulsing person.

IF INHALED: Remove to fresh air. Seek medical attention if respiratory irritation occurs or if breathing becomes difficult.

FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE CALL 1-800-F-A-S-T-M-E-D (327-8633)

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-9300.

For other product information, contact your local ICI Americas Distributor or see Material Safety Data Sheet.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION

MAY BE HARMFUL IF SWALLOWED. Do not breathe dust. Avoid contact with skin, eyes and clothing. ~~Wash thoroughly with soap and water after use.~~

Personal Protective Equipment

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Shoes plus socks.

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

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
 - Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
 - Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
-

ENVIRONMENTAL HAZARDS

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product as specified on this label. Do not apply when weather conditions favor drift from areas treated. Do not contaminate water used for domestic purposes. Avoid Contamination of Food and Feed.

GENERAL PRECAUTIONS

- Read all instructions before using.
- Use only for recommended purposes and at recommended rates.
- Do not overdose.

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

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 protection 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.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls.
- Waterproof gloves
- Shoes plus socks.

DEVIRINOL 5-G ORNAMENTAL does not control established weeds. It must be applied to freshly weeded soil before weeds germinate or during Fall and Winter months.

DEVIRINOL 5-G ORNAMENTAL can be applied to newly planted container stock after soil has settled from first watering field grown nursery stock, dichondra and to established plants.

DEVIRINOL 5-G ORNAMENTAL needs mechanical incorporation (such as, power tiller), adequate irrigation or natural moisture (rainfall or snow) (1-2 inches within 2-3 days) for optimum results.

DEVIRINOL 5-G ORNAMENTAL is recommended on several different container potting soil mixtures. These mixtures include those containing 30 percent soil and/or sand and mixtures containing no soil. (Example: perlite, peat, bark, sawdust and sand.)

WEEDS CONTROLLED BY DEVIRINOL 5-G ORNAMENTAL	
ANNUAL GRASSES:	
Barnyardgrass, Junglerice	<i>Echinochloa</i> spp.
Wild Barley	<i>Hordeum leporinum</i>
Annual Bluegrass	<i>Poa annua</i>
Bromes	<i>Bromus</i>
Cheatgrass	<i>B. secalinus</i>
Downy Brome	<i>B. tectorum</i>
Ripgut Brome	<i>B. rigidus</i>
Soft Chess	<i>B. mollis</i>
Large (Hairy) Crabgrass	<i>Digitaria sanguinalis</i>
Smooth Crabgrass	<i>Digitaria ischaemum</i>
Southwestern Cupgrass	<i>Eriochloa gracilis</i>
Foxtails	<i>Setaria</i>
Bristly Foxtail	<i>S. verticilla</i>
Giant Foxtail	<i>S. faberi</i>
Green Foxtail	<i>S. viridis</i>
Yellow Foxtail	<i>S. lutescens</i>
Goosegrass	<i>Eleusine indica</i>
Seedling Johnsongrass	<i>Sorghum halepense</i>
Wild Oats	<i>Avena fatua</i>
Panicums	<i>Panicum</i>
Guineagrass	<i>P. Paximum</i>
Fall Panicum	<i>P. dichotomiflorum</i>
Texas Panicum	<i>P. texanum</i>
Witchgrass	<i>P. capillare</i>
Italian Ryegrass	<i>Lolium multiflorum</i>

WEEDS CONTROLLED BY DEVIRINOL 5-G ORNAMENTAL	
Sandbur	<i>Cenchrus</i> spp.
Red Sprangletop	<i>Leptochloa filiformis</i>
Stinkgrass	<i>Eragrostis ciliaris</i>
ANNUAL BROADLEAF WEEDS:	
Carpetweed	<i>Mollugo verticillata</i>
Common Chickweed	<i>Stellaria media</i>
Coast Fiddleneck	<i>Amsinckia intermedia</i>
Filaree	<i>Erodium</i> spp
Groundsel	<i>Senecio</i> spp
Prostrate Knotweed	<i>Polygonum aviculare</i>
Lambsquarters	<i>Chenopodium album</i>
Prickly Lettuce	<i>Lactuca serriola</i>
Little Mallow*	<i>Malva parviflora</i>
Redroot Pigweed	<i>Amaranthus retroflexus</i>
Pineappleweed	<i>Matricaria matricarioides</i>
Common Purslane	<i>Portulaca oleracea</i>
Horse Purslane	<i>Trianthema portulacastrum</i>
Common Ragweed**	<i>Ambrosia artemisiifolia</i>
Annual Sowthistle	<i>Sonchus oleraceus</i>

*From seed

**Suppression

RECOMMENDATIONS

NURSERY STOCK: FIELD GROWN: Consult list of plant species on which DEVIRINOL 5-G ORNAMENTAL can be used.

Apply DEVIRINOL 5-G ORNAMENT/4L as a broadcast treatment over young nursery stock or as a directed application to larger stock either as a band or broadcast application.

Application can be made any time of the year to weed free soil; however, since DEVIRINOL 5-G ORNAMENTAL requires 1 to 2 inches of rainfall or irrigation soon after application for adequate weed control, application should be timed to take advantage of rainfall if irrigation is

not available. Fall and Winter applications will provide excellent weed control the following Spring and Summer.

A thorough incorporation of DEVIRINOL 5-G ORNAMENTAL into the soil to a depth of 1 to 2 inches will provide excellent weed control with less rainfall required.

One application of DEVIRINOL 5-G ORNAMENTAL should provide adequate weed control for a growing season in temperate areas.

CONTAINER GROWN ORNAMENTALS: Consult list of plant species on which DEVIRINOL 5-G ORNAMENTAL can be used.

Apply DEVIRINOL 5-G ORNAMENTAL as a broadcast treatment over the containers.

Normal irrigation or rainfall (if a Fall or Winter application is made in cold areas) should provide sufficient water for satisfactory weed control.

HOME GROUNDS, HIGHWAY AND INDUSTRIAL ORNAMENTAL PLANTINGS: Use an overall (broadcast) treatment over young ornamentals or as a directed application where larger plants are growing. Irrigate soon after application or apply just before expected rain. Fall through Spring applications are preferred if irrigation is not available or if application is to be made in lower Summer rainfall areas.

GROUND COVERS: Apply DEVIRINOL 5-G ORNAMENTAL as a broadcast treatment over the ground covers. Irrigate immediately with a minimum of 1 inch water or apply when rainfall is expected.

DICHONDRA: Apply DEVIRINOL 5-G ORNAMENTAL at the time of seeding, or to established dichondra including dichondra sod. Irrigate with a minimum of 1 inch of water.

APPLICATION RATES

ANNUAL WEEDS: For annual grasses and broadleaf weeds apply 80 to 120 lbs of DEVIRINOL 5-G ORNAMENTAL per broadcast acre (1.8 to 2.8 lbs per 1,000 sq. ft.).

Use the higher rate when weed populations are heavy or when broadleaves are the primary weeds.

**DEVIRINOL 5-G Ornamental Container
DEV242.RSB - RS-080493B**

**USE DEVIRINOL 5-G ORNAMENTAL ON THESE ORNAMENTALS AND NURSERY STOCK
AND CONTAINER STOCK**

FIELD GROWN DECIDUOUS AND EVERGREEN TREES

Acer	Eucalyptus	Picea
Ash	Ficus	Pin Oak
Birch	Fir	Pinus
Black Walnut	Gleditsia	Pittosporum
Cedar	Hemlock	Podocarpus
Citrus	Japanese Larch	Populus
Crataegus	Laburnum	Prunus
Cypress	Malus	Pears
Dogwood	Olive (Olea)	Pistachios
Douglas Fir	Palm (Washingtonia robusta)	

DECIDUOUS AND EVERGREEN SHRUBS

Abelia	Forsythia	Oleander
Asparagus (Sprengeri)	Gardenia	Osmanthus
Aucuba	Heather (Calluna)	Photinia
Azalea	Hibiscus	Pittosporum
Bottlebrush	Honeysuckle (Lonicera)	Podocarpus
Bougainvillea	Hypericum	Pyracantha
Buxus	Ilex	Raphiolepis
Camellia	Juniperus	Rhododendron
Cotoneaster	Leucothe	Rosa
Crepe Myrtle	Ligustrum	Star Jasmine
Dogwood	Nandina	Taxus
Euonymus	Natal Plum	Viburnum
		Xylosema

FRUIT AND NUTS

Almond	Lemon	Pistachio
Apple	Nectarine	Plum
Apricot	Orange	Prune
Cherry	Peach	Tangerine
Filbert	Pear	Walnut
Grape	Pecan	

Strawberry: (Applications should be delayed until the desired number of daughter plants have become established. Do not apply from bloom through harvest.)

GROUND COVERS

Ajuga
Carpobrotus
Delosperma
Dichondra
Erysimum
Ganzania

Hedera
Hypericum
Iceplant
Ivy
Lantana

Liriope
Osteosperma
Pachysandra
Sedum
Vinca

CONTAINER STOCK

Abelia
Agapanthus
Ageratum
Asparagus
Azalea
Bottlebrush
Bougainvillea
Buxus
Camellia
Cedar
Cotoneaster
Crepe Myrtle
Cypress
Dogwood
Douglas Fir

Eucalyptus
Euonymus
Fir
Forsythia
Gardenia
Geranium
Heather
Hedera
Hibiscus
Ilex
Juniperus
Leucothe
Ligustrum
Liriope
Nandina

Pachysandra
Palm (Washingtonia robusta)
Photinia
Pinus spp.
Pittosporum
Podocarpus
Pyracantha
Raphiolepis
Rhododendron
Rosa
Sedum
Star Jasmine
Thuja
Vinca
Xylosema

FLOWERS

African Daisy
Aster
Bird of Paradise
Ghrysanthemum

Dahlia
Daisy
Geranium
Gladiolus

Narcissus
Petunia
Plantain Lily (Hosta)
Zinnia

RECOMMENDATIONS: TURF GRASS (For use on Warm Season Grasses Only)

DEVIRINOL 5-G ORNAMENTAL is recommended for annual bluegrass, crabgrass and goosegrass control in the following established turf grasses: Bahia, Bermudagrass, Centipede, St. Augustine and Fescue.

TIMING OF APPLICATION

For control of crabgrass and goosegrass, apply DEVIRINOL 5-G ORNAMENTAL at the recommended rate. Application should be made 2-3 weeks prior to weed emergence. DEVIRINOL 5-G ORNAMENTAL should be applied with a gravity flow drop spreader or a cyclone type spreader. A more uniform application can be made by spreading half the required amount over the area to be treated, then applying the remainder at right angles.

DEVIRINOL 5-G ORNAMENTAL requires a minimum of one-half (½) inch of rainfall or irrigation 2-3 days after application for adequate control. If irrigation methods are not

available, the timing of application of DEVIRINOL 5-G ORNAMENTAL should be moved back several weeks to allow for some rainfall between application and weed germination.

RATES OF APPLICATION

FOR CRABGRASS CONTROL: Apply 40 to 60 lbs. of DEVIRINOL 5-G ORNAMENTAL uniformly per (0.9-1.35* lbs. per 1,000 sq. ft.). Use the higher rate when applying before January 1 (not applicable north of South Carolina or when weed infestation is expected to be heavy).

*Where a rate range is given, use the higher rate when weed infestation is expected to be heavy.

FOR GOOSEGRASS CONTROL: Apply 40 to 60 lbs. of DEVIRINOL 5-G per acre (0.9-1.35 lbs. per 1,000 sq. ft.). Goosegrass usually starts to germinate 6 to 7 weeks after the start of crabgrass germination.

SPLIT APPLICATION FOR CRABGRASS AND GOOSEGRASS CONTROL: When both of these weeds are to be controlled, apply 40 lbs. of DEVIRINOL 5-G ORNAMENTAL spread uniformly per acre (0.9 lbs. per 1,000 sq. ft.) for crabgrass and another 40 lbs. of DEVIRINOL 5-G ORNAMENTAL per acre for goosegrass. Apply 8 to 10 weeks apart. Timing should be adjusted to the germination of weeds in your area. Split applications give longer and better weed control than one application.

FOR ANNUAL BLUEGRASS (POA ANNUA) CONTROL: Annual bluegrass is a Winter annual in most of the warm season turf regions; therefore, application of DEVIRINOL 5-G ORNAMENTAL should be made in the Fall before the annual bluegrass germinates. Apply 40 to 60 lbs. of DEVIRINOL 5-G ORNAMENTAL per acre (0.9-1.35 lbs. per 1,000 sq. ft.).

RESEEDING. Do not reseed or overseed within six months after application.

BETASAN 7-G / DEVIRINOL 5-G ORNAMENTAL SEQUENTIAL APPLICATIONS

BETASAN-DEVIRINOL sequential applications are recommended for crabgrass control in the following turf grasses bahia, bermudagrass, centipede. St. Augustine and fescue. Apply 72 lbs. of BETASAN 7-G per acre (16 lbs/1,000 sq. ft.) followed by 40 lbs of DEVIRINOL 5-G ORNAMENTAL per acre (0.9 lbs/1,000 sq. ft.). Applications should be made 2-3 weeks before the normal germination date for crabgrass in your area. The BETASAN 7-G/DEVIRINOL 5-G ORNAMENTAL combination requires a minimum of one half (½) inch of rainfall or irrigation 2-3 days after application for adequate control if irrigation is not available, the application should be delayed several weeks to allow for some rainfall between application and weed germination

RESEEDING. Do not reseed or overseed within six months after application.

STORAGE AND DISPOSAL

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

STORAGE: Keep container closed when not in use. Store in a cool dry place. Do not store near seeds, fertilizer or food stuffs.

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: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO BUYER AND SELLER: Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label, subject to the inherent risks referred to above, when used in accordance with directions under normal conditions of use. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller and Buyer and User assume the risk of any such use. SELLER DISCLAIMS ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY WARRANTY OF FITNESS OR MERCHANTABILITY. SELLER SHALL NOT BE LIABLE FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT AND SELLER'S SOLE LIABILITY AND BUYER'S AND USER'S EXCLUSIVE REMEDY SHALL BE LIMITED TO THE REFUND OF THE PURCHASE PRICE.