



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. 10182-231
DEVIRINOL 50WP ORNAMENTAL 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 subject to the comments reflected on the enclosed sheet. 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:

By the next label printing make all the specified changes to your labeling. Send to 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

Page 2

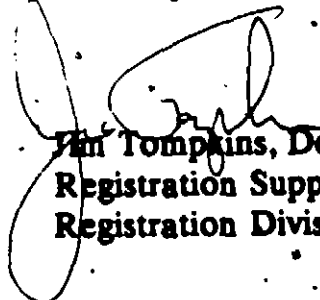
Submit the final printed labeling via the U.S. Postal Service to:

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

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division

Nancy L. Bockrath
ZENECA INC
ZENECA AG PRODUCTS
NEW MURPHY ROAD & CONCORD PIKE BOX 751
WILMINGTON DE 19897

Subject: Label Amendment Submission of 08/19/93
to Comply with WPS Labeling Requirements
EPA Reg. Nr. 10182-231
DEVIRINOL 50WP ORNAMENTAL HERBICIDE

The following specific comments pertain to your
WPS labeling submission concerning the product
cited above:

You have incorrect wording in the first paragraph in the
Agricultural Use Requirements box on your proposed label.
That paragraph must contain the exact wording of the
paragraph shown as "2" in Section F on Part 2 of the Product
Worksheet in Supplement Three-A to PR Notice 93-7.

DEVIRINOL® 50-WP ORNAMENTAL
Selective Herbicide

**A Preemergence Herbicide for weed control in Container-grown Ornamentals,
Field-grown Nursery Stock, Liner Stock, Ground Covers and Turfgrass**

**DEVIRINOL 50-WP ORNAMENTAL CONTROLS MANY
ANNUAL GRASSES AND BROADLEAF WEEDS**

**Complete Directions For Use,
Use Precautions And Recommendations**

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

ACCEPTED
with COMMENTS
In EPA Letter Dated

JAN 31 1994

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

10182-231

EPA Reg. No. 10182-231

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, 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.

This product is sold only for uses stated on its label. No express or implied license is granted to use or sell this product under any patent in any country except as specified: Country: United States of America.

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DEVIRINOL® 50-WP ORNAMENTAL/BETASAN® 4-E COMBINATION ON TURF GRASSES ..	
STORAGE AND DISPOSAL	

ACTIVE INGREDIENT:

N,N-Diethyl-2-(1-naphthalenyloxy)-propionamide 50%

INERT INGREDIENTS: 50%
100%

Contains 50 lbs. of Active Ingredient per 100 lbs.

KEEP OUT OF REACH OF CHILDREN

C A U T I O N

MAY BE HARMFUL IF SWALLOWED

STATEMENT OF PRACTICAL TREATMENT

Immediately start the procedures given below. If further treatment is required, contact a Poison Center, a physician, or the nearest hospital or call collect, day or night.

IF SWALLOWED: Immediately give several glasses of water and induce vomiting by gagging the victim with a finger placed 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.

FOR SKIN CONTACT: Flush all affected areas with plenty of water for several minutes. For eye contact, hold eyelids apart and flush with plenty of water for 15 minutes. Remove and clean contaminated clothing and shoes before reuse. Seek medical attention if skin or eye irritation occurs.

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.

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.
- Waterproof gloves.
- 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 when disposing of equipment washwaters. 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.

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.

-
1. DEVIRINOL 50-WP ORNAMENTAL does not control established weeds. It must be applied to freshly weeded soil before weeds germinate or during Fall and Winter months.
 2. DEVIRINOL 50-WP 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.
 3. DEVIRINOL 50-WP 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.

4. DEVRINOL 50-WP 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.)
5. Do not apply this product through any type of irrigation system.

WEEDS CONTROLLED BY DEVRINOL 50-WP 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>

WEEDS CONTROLLED BY DEVRINOL 50-WP ORNAMENTAL	
Italian Ryegrass	<i>Lolium multiflorum</i>
Sandbur	<i>Cenchrus spp.</i>
Red Sprangletop	<i>Leptochloa filiformis</i>
Stinkgrass	<i>Eragrostis cilianensis</i>
ANNUAL BROADLEAF WEEDS:	
Carpetweed	<i>Mollugo verticillata</i>
Common Chickweed	<i>Stellaria media</i>
Coast Fiddleneck	<i>Amsinckia intermedia</i>
Filaree	<i>Erodium spp</i>
Groundsel	<i>Senecio spp</i>
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 DEVRINOL 50-WP ORNAMENTAL can be used.

Apply DEVRINOL 50-WP ORNAMENTAL 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 DEVRINOL 50-WP ORNAMENTAL requires 1 to 2 inches of rainfall or irrigation soon after application for

adequate weed control, applications 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 DEVRINOL 50-WP ORNAMENTAL into the soil to a depth of 1 to 2 inches will provide excellent weed control with less rainfall required.

One application of DEVRINOL 50-WP ORNAMENTAL should provide adequate weed control for a growing season in temperate areas.

CONTAINER GROWN ORNAMENTALS

Consult list of plant species on which DEVRINOL 50-WP ORNAMENTAL can be used.

Apply DEVRINOL 50-WP 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 DEVRINOL 50-WP 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 DEVRINOL 50-WP ORNAMENTAL at the time of seeding, or to established dichondra including dichondra sod.

Irrigate with a minimum of 1 inch of water.

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

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.)

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DEV231B.RSB - RS-080593B

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
 Rhododendron
 Raphiolepis
 Rosa
 Sedum
 Star Jasmine
 Thuja
 Vinca
 Xylosema

Flowers

African Daisy
 Aster
 Bird of Paradise
 Chrysanthemum

Dahlia
 Daisy
 Geranium
 Gladiolus

Narcissus
 Petunia
 Plantain Lily (Hosta)
 Zinnia

APPLICATION RATES

Annual Weeds: For annual grasses and broadleaf weeds, apply 8 to 12 lbs of DEVIRINOL 50-WP ORNAMENTAL per broadcast acre (3 to 4.4 oz. per 2½ gallons water per 1,000 sq. ft.). Do not apply more than 8 lbs of DEVIRINOL 50-WP ORNAMENTAL per acre in California. Use the higher rate when weed populations are heavy or when broadleaves are the primary weeds.

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

DEVIRINOL 50-WP 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 50-WP ORNAMENTAL at the recommended rate. Application should be made 2-3 weeks prior to weed emergence.

DEVINOL 50-WP ORNAMENTAL should be mixed with enough water to give adequate coverage of the area to be treated (but no less than 80 gallons per acre). Use a lawn type spray gun.

DEVINOL 50-WP ORNAMENTAL requires a minimum of one-half ($\frac{1}{2}$) inch of rainfall or irrigation 2-3 days after application for adequate control. If irrigation methods are not available, the timing of application of DEVINOL 50-WP ORNAMENTAL should be moved back several weeks to allow for some rainfall between application and weed germination.

RATES OF APPLICATION

For Crabgrass Control: Apply 4 to 6 lbs. of DEVINOL 50-WP ORNAMENTAL per acre in 80-120 gallons of water (1.5 to 2.25 oz. per 2½ gallons of water 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.

For Goosegrass Control: Apply 4 to 6 lbs. of DEVINOL 50-WP ORNAMENTAL per acre in 80-120 gallons of water (1.5-2.25 ozs. per 2 ½ gallons of water 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 4 lbs. of DEVINOL 50-WP ORNAMENTAL spread uniformly per acre (1.5 oz. per 1,000 sq. ft.) for crabgrass and another 4 lbs. of DEVINOL 50-WP 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 DEVINOL 50-WP ORNAMENTAL should be made in the Fall before the annual bluegrass germinates. Apply 4 to 6 lbs. of DEVINOL 50-WP ORNAMENTAL per acre in 80 to 120 gallons of water (1.5 to 2.25 ozs. per 2½ gallons of water per 1,000 sq. ft.).

TANK MIXTURES

Observe all cautions and limitations on labeling of all products used in combination.

Make only one application per season.

Do not contaminate water by cleaning of equipment or disposal of wastes. Apply these combinations only as specified on this label.

For tank mixture application, apply the recommended dosage (See Directions for Use) in 80 gallons of water per acre.

GENERAL TANK MIX DIRECTIONS

Proper care must be used in preparing combination tank mixtures to avoid incompatibility problems. Fill the spray tank at least 2/3 full of water. Start agitation and continue moderate agitation throughout mixing and application. Add, mix and disperse wettable powders first and flowable products next. Make sure each product is thoroughly wetted and dispersed prior to addition of the next product. Complete filling the tank with water, mix thoroughly, and maintain moderate agitation to provide a uniform mix during application. The tankmix combination should not be left in the spray tank for prolonged periods; batches should be mixed and applied the same day. All return lines to the tank must discharge below liquid level.

DEVIRINOL 50-WP ORNAMENTAL /BETASAN® 4E COMBINATION

DEVIRINOL 50-WP ORNAMENTAL may be used as a tankmix combination with BETASAN 4-E Herbicide for crabgrass control in the following established turf grass: Bahia, Bermudagrass, Centipede, St Augustine and Fescue.

DIRECTIONS FOR USE

Apply 4 lbs. of DEVIRINOL 50-WP ORNAMENTAL and 5 qts. of BETASAN 4E per acre using a minimum of 80 gallons of water. Application should be made at least 2 to 3 weeks before the earliest germination date for crabgrass in your area.

The DEVIRINOL 50-WP ORNAMENTAL/BETASAN 4E combination requires a minimum of one-half (1/2) inch of rainfall or irrigation 2 to 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.

TANK MIXING DIRECTIONS

Add the recommended amount of DEVIRINOL 50-WP ORNAMENTAL to the spray tank while filling with water. After the DEVIRINOL 50-WP ORNAMENTAL is thoroughly wetted out and dispersed in all of the water, then add the recommended amount of BETASAN 4E and mix to provide a uniform dispersion. Apply in at least 80 gallons of water per acre.

RESEEDING: Do not seed 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.

DEVIRINOL® and BETASAN® are trademarks of ZENECA Group Companies