



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

FEB 17 1994

Nancy Huebl
SANDOZ AGRO INC.
1300 East Touhy Ave
Des Plaines, IL 60018

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Label Amendment Submission of 07/27/93 in Response to PR Notice 93-7
EPA Reg. No. 55947-144
BARRICADE F HERBICIDE

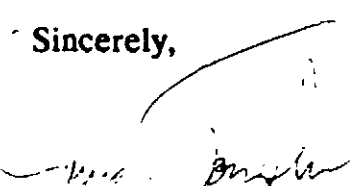
Dear Registrant:

The labeling cited above and submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, successfully **REMOVES THE PRODUCT FROM THE SCOPE** of PR Notice 93-7 once the comments (if any) on the attached sheet are addressed. Other than the alterations (if any) listed on the attached sheet, no further alterations to the labeling are necessary to reflect the requirements of the Worker Protection Standard.

Since your amendment proposes to delete uses directly and/or to delete uses implicitly through the use of exclusionary statements, the Agency will publish in the Federal Register a notice of receipt of your amendment to delete uses, as required by section 6(f)(1) of FIFRA. The Agency will defer action for 90 days from the date of the Federal Register notice to give affected minor users an opportunity to try to persuade you to retain the uses(s). When the comment period has expired, the Agency will approve the amendment unless you have withdrawn it, and stamp the amended labeling "accepted." Your stamped-accepted labeling will then be sent to you.

As described in Supplement A of PR Notice 93-11 (self-verification option), you may sell and distribute product bearing the submitted labeling before you receive a copy of your stamped-accepted labeling. Note that your registration is not amended until the comment period required by section 6(f)(1) of FIFRA has expired and the Agency has approved the amendment. Therefore, you may withdraw your proposed amendment at any time during the comment period and until you receive your stamped-accepted labeling.

Sincerely,


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



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

ACCEPTED
with COMMENTS
In EPA Letter Dated

FEB 17 1994

BARRICADE® F Herbicide

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

55947-144

ACTIVE INGREDIENT:

Prodiamine: [N³,N³-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine 2.0%

INERT INGREDIENTS: 98.0%

TOTAL: 100.0%

Guaranteed Fertilizer Analysis:

Nitrogen 32 % (N)
Phosphorus 4 % (P₂O₅)
Potassium 6 % (K₂O)

Nitrogen from: Urea formaldehyde, Urea, Ammonia

For selective preemergence control of grass and broadleaf weeds in established turf grasses (excluding golf course putting greens), lawns and landscape ornamentals.

KEEP OUT OF REACH OF CHILDREN

CAUTION

See the following section, Precautionary Statements, Hazards To Humans and Domestic Animals, for additional information.

Net Weight:

EPA Reg. No. 55947-144
EPA Est. No. 55947-TX-1

Sandoz Agro, Inc.
1300 E. Touhy Avenue
Des Plaines, IL 60018

BARRICADE® is a Registered Trademark of Sandoz, Ltd.

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

Causes moderate eye injury (irritation). Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact while handling the material may cause allergic reactions in some individuals.

Statements of Practical Treatment

If in eyes: Flush thoroughly with water for several minutes. Get medical attention if irritation persists.

If on skin: Wash with soap and water. Rinse thoroughly. Get medical attention if irritation persists.

If inhaled: Remove victim to fresh air.

Environmental Hazards

This product has low solubility in water. At the limits of solubility, this product is not toxic to fish. However, at concentrations above the level of water solubility, it may be toxic to fish. For terrestrial use, 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 from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate water when disposing of equipment washwaters.

STORAGE AND DIS:

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

STORAGE

Store in original container away from other fertilizer, feed, or food stuffs and separated from other pesticides.

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

Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or; puncture and dispose of in a sanitary landfill or at an incineration facility, or; if allowed by state and local authorities, by burning locally. If burned, stay out of smoke.

Paper and plastic containers: Completely empty container into application equipment. Then dispose of empty container in a sanitary landfill or at an incineration facility, or; if allowed by state and local authorities, by burning locally. If burned, stay out of smoke.

Fiber Drums: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residues into application equipment. Dispose of empty liner in a sanitary landfill or at an incineration facility if allowed by state and local authorities. If the drum cannot be reused, dispose of in a sanitary landfill or by incineration if allowed by state and local authorities.

DIRECTIONS FOR USE

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

BARRICADE F is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in turf grasses and landscapes. BARRICADE F controls susceptible weeds by inhibiting weed seeds germination and root development. For most effective weed control Barricade F must be incorporated by 1/2 inch of rainfall, irrigation or shallow mechanical incorporation. Incorporation should take place as soon as possible after application and should not be delayed past 14 days from the date of application.

Not for use on plants being grown (1) for sale or other commercial use, (2) for commercial seed production, or (3) for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in ornamental gardens or parks, or on golf courses or lawns and grounds.

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

Do not apply aerially.

Do not apply to golf course putting greens.

Application Directions

Apply uniformly through suitable, calibrated commercial application equipment.

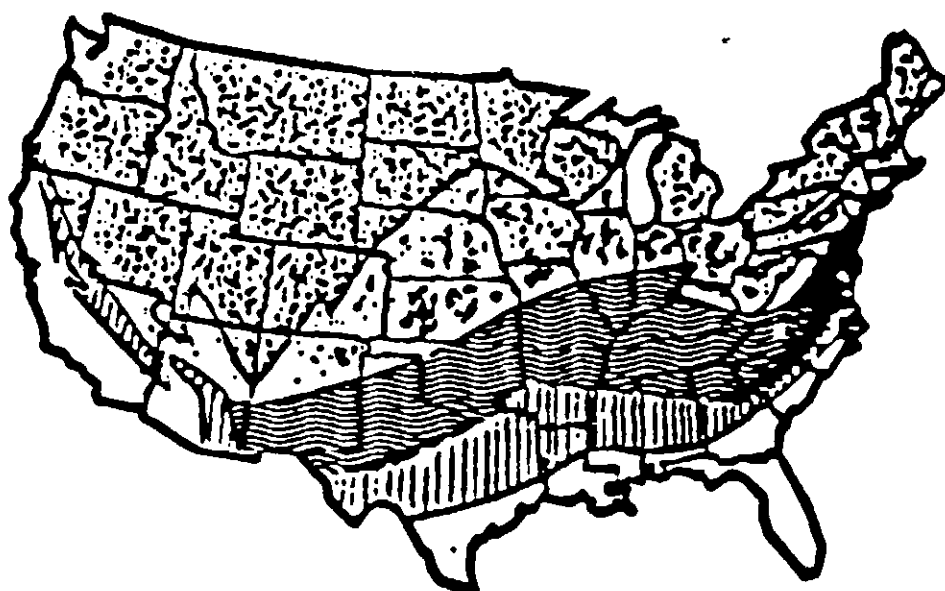
ESTABLISHED TURF

BARRICADE F is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turf grass and lawns. The species of turf grass determines the maximum amount of material that may be applied during a year.

Most effective weed control in turf grasses will be obtained when BARRICADE F is activated by at least 1/2 inch of rainfall or irrigation within 14 days after application and prior to weed germination. See the map below for approximate crabgrass germination dates.

CRABGRASS SEED GERMINATION DATES

Approximate Date



-  After May 30
-  After May 10
-  After April 20
-  After March 20
-  January 1 to March 20

Use Precautions

The following use precautions apply to the use of BARRICADE F in turf grasses and lawns:

Application of BARRICADE F may thin emerged annual bluegrass and newly over-seeded grasses.

Do not apply to OVERSEEDED TURF for 60 days after seeding or until after the second mowing, whichever is longer. Injury to desirable seedlings is likely if BARRICADE F is applied before seedling secondary roots are in the second inch of soil, not thatch plus soil.

Do not apply to newly set sod until the following year.

Application of BARRICADE F to turf stressed by drought, low fertility, or pest damage may result in turf injury.

Disturbing the herbicide barrier with cultural practices such as disking may result in reduced weed control.

Do not apply BARRICADE F to putting greens or areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (Poa annua) are desirable species.

Maximum Annual Rates

BARRICADE F should not be applied above a maximum annual rate of 75 lbs./A or 27 Oz./1000 ft².

Turf Species and Rates

For season long control BARRICADE F may be applied as a single application, or if needed followed by a second application for increased length of control. The length of time of residual weed control provided by BARRICADE F is related to the rate applied. Use the higher rate within the listed range for longer control. Longer control is desirable in areas where crabgrass germinates between January 1 and April 20 (See Crabgrass Seed Germination Data Map).

Select maximum use rate based on turf grass species. All applications must be made prior to germination of the target weed seeds. BARRICADE F will not control established weeds.

The rates listed in the table below are for weed control of approximately 2-6 months.

Turf Species and Rates Table:

Turf Species:	Maximum Rate of BARRICADE F Per Calendar Year Lbs./A (Oz./1000 ft ²)
Bermudagrass* Centipedegrass Seashore Paspalum Tall Fescue (including turf-type) Zoysia	75 (27)
Kentucky Bluegrass Perennial Ryegrass	50 (18)
Creeping Red Fescue St. Augustinegrass	37 (14)
Creeping Bentgrass	33 (12)

* May be used on newly sprigged or plugged Bermudagrass at rates not to exceed 26 lbs. product per acre or 9 oz. product per 1000 ft². Newly sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded. Suppression only of Foxtail, Goosegrass and Rescuegrass due to reduced product rates used in sprigging situations.

- Do not apply more than 37.5 lbs. of BARRICADE F per application.
- Do not apply more than 75.0 lbs. of BARRICADE F per calendar year.
- If making more than one application, do not apply more than 37.5 lbs. of BARRICADE F within any 60 day period.
- Use higher rates of BARRICADE F to achieve higher levels of fertility and weed control for each turf type.

Weeds Controlled

When used at the recommended rates (see Turf Species and Rates Table) BARRICADE F will control:

Crabgrass (large, smooth)
Annual Bluegrass (Poa annua)
Goosegrass¹

Annual Foxtails
Barnyardgrass
Broadleaf Signalgrass
Johnsongrass (from seed)
Rescuegrass³

Carpetweed
Common Chickweed
Common Lambsquarter
Common Purslane
Henbit
Knotweed
Pigweed
Prostrate Spurge
Shepardspurse²
Yellow woodsorrel (from seed)

Do not exceed the maximum annual application rates recommended for the turf species. All applications must be made prior to germination of weed seeds. BARRICADE F will not control established weeds.

1. In many areas a single application of 33 to 37 lbs/Acre of BARRICADE F will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, apply an initial treatment of 37 lbs/Acre followed after 60 days with a second treatment of 12 to 37 lbs/Acre for season long goosegrass control.
2. Winter weeds are best controlled by applications made prior to germination: late summer, fall or winter timings.
3. Suppression only.

Overseeding/Reseeding

BARRICADE F will inhibit the germination of turf species if overseeded/reseeded too soon after application. The interval between application and overseeding/reseeding is dependent on the application rate, soil temperature, and soil moisture. A shorter interval is possible if growing conditions are warm and wet, while a longer interval is needed if conditions are cool and dry. Use the Overseeding/Reseeding Intervals Table below as a guide when choosing the appropriate overseeding/reseeding interval for each situation.

Overseeding/Reseeding Intervals Table:

BARRICADE F Rate (lbs./A)	Overseeding/Reseeding Interval (months) Based Upon Seeding Method and Predominant Soil Conditions for the Season			
	Broadcast Seeding		Drill Seeding	
	Wet and Warm	Cool and Dry	Wet and Warm	Cool and Dry
26	4	6	3	4
50	8	12	6	8
75	12	18	9	12

LANDSCAPE ORNAMENTALS

BARRICADE F is recommended for use on landscape ornamentals. Do not apply more than 37 lbs./A in any 60 day interval, and do not exceed the maximum rate per calendar year of 75 lbs./A.

BARRICADE F Herbicide will not harm most established ornamental trees, shrubs and flowers. The following species have shown tolerance to BARRICADE F:

Scientific name	Common name
-----	-----
Acer palmatum	Japanese Maple
A. platanoides	Norway Maple
Actinidia chinensis	Kiwi*
Agapanthus africanus	Lily-of-the-Nile
Arctostaphylos densiflora	Vine Hill Manzanita
Arctotheca calendula	Cape Weed
Aucuba japonica	Japanese Aucuba
Barberis gladwynensis	
B. julianae	Wintergreen Barberry
B. mentorensis	Mentor Barberry
B. thunbergii	Japanese Barberry
B. verruculosa	Warty Barberry
Buxus microphylla	Japanese Boxwood
Callistemon viminalis	Weeping Bottlebrush
Calluna vulgaris	Scotch Heather
Carpobrotus edulis	Hottentot Fig (Ice Plant)
Cassia artemisoides	Feathery Cassia
Ceanothus rigidus	Wild Lilac
Chamaecyparis pisifera	False Cypress
Cleyera japonica	Cleyera
Cornus florida	Flowering Dogwood
C. stolonifera	American Dogwood
Cortaderia selloana	Pampas Grass
Cotoneaster apiculatus	Cranberry Cotoneaster
C. buxifolius	
C. dammeri	Bearberry Cotoneaster
C. microphyllus	Rockspray Cotoneaster
Cupressus sempervirens	Italian Cypress
Delasperma alba	White Trailing Ice Plant
Dodonea viscosa	Hop Bush
Elaeagnus pungens	Silverberry
Euonymus fortunei	Wintercreeper

*Ornamental species only. Do not use on food producing trees or vines.

Scientific name	Common name
E. japonica	Evergreen Euonymus
E. kiautschovica	Spreading Euonymus
Fatsia japonica	Japanese Aralia
Forsythia intermedia	Border Forsythia
F. viridissima	Greenstem Forsythia
Gardenia jasminoides	Gardenia, Cape-Jasmine
Hedera helix	English Ivy
Hibiscus rosa-sinensis	Chinese Hibiscus
Ilex cornuta	Chinese Holly
I. crenata	Japanese Holly
I. opaca	American Holly
I. pernyi	
Jasminium nudiflorum	Winter Jasmine
Juniperus chinensis	Chinese Juniper
J. conferta	Shore Juniper
J. horizontalis	Creeping Juniper
Juglans sp.	Walnut*
Justicia brandegeana	Shrimp Plant
Lagerstromia indica	Crepe Myrtle
Ligustrum amurense	Amur Privet
L. japonicum	Japanese Privet
L. lucidum	Glossy Privet
Liriope muscari	Big Blue Lily Turf
Lonicera japonica	Japanese Honeysuckle
L. tatarica	Tatarian Honeysuckle
Maleophora luteola	Ice Plant
Malus sp.	Crabapple*
Nandina domestica	Heavenly Bamboo
Olea europaea	Olive*
Ophiopogon japonicus	Mondo Grass
Osteospermum fruticosum	Trailing African Daisy
Oxydendrum arboreum	Sourwood
Persea americana	Avocado*
Photinia fraseri	Frasier's Photinia
Picea abies	Norway Spruce
Pieris japonica	Lily-of-the-Valley Shrub

*Ornamental species only. Do not use on food producing trees or vines.

Scientific	Common name
<i>Pinus brutia</i>	Calabrian Pine
<i>P. canariensis</i>	Canary Island Pine
<i>P. halepensis</i>	Aleppo Pine
<i>P. nigra</i>	Austrian Black Pine
<i>P. radiata</i>	Monterey Pine
<i>P. thunbergiana</i>	Japanese Black Pine
<i>P. strobus</i>	Eastern White Pine
<i>P. sylvestris</i>	Scotch Pine
<i>Pistachio</i> sp.	Pistachio*
<i>Pittosporum rhombifolium</i>	Queensland Pittosporum
<i>P. tobira</i>	Mock Orange
<i>Podocarpus macrophyllus</i>	Japanese Yew
<i>Prunus laurocerasus</i>	English Laurel
<i>Prunus</i> sp.	Almond, Apricot, Nectarine, Peach, Plum and Prune*
<i>Pyracantha coccinea</i>	Firethorn
<i>P. fortuneana</i>	Firethorn
<i>P. koidzumii</i>	Firethorn
<i>Pyrus</i> sp.	Bradford Pear sp.
<i>Quercus rubra</i>	Red Oak
<i>Raphiolepis indica</i>	Indian Hawthorne
<i>Rhododendron</i> (including <i>Azalea</i>)	'Coral Bells' 'Formosa' 'Hino-crimson' 'PJM' 'Roseum Elegans'
<i>Rosa banksiae</i>	Lady Bank's Rose
<i>Rosmarinus officinalis</i>	Rosemary
<i>Santolina virens</i>	
<i>Sedum album</i>	Stonecrop
<i>Syzygium paniculatum</i>	Japanese Boxcherry
<i>Taxus cuspidata</i>	Japanese Yew
<i>T. media</i>	Yew
<i>Thuja occidentalis</i>	American Arborvitae
<i>Trachelospermum asiaticum</i>	Star Jasmine
<i>Tsuga canadensis</i>	Canada Hemlock
<i>Viburnum japonicum</i>	Japanese Viburnum
<i>V. odoratissimum</i>	Sweet Viburnum

*Ornamental species only. Do not use on food producing trees or vines.

Scientific name

Common name

V. plicatum-----
Japanese Snowball

V. rigidum

Canary Island Viburnum

V. tinus

Laurustinus

V. trilobium

Cranberry Bush

V. wrightii

Vinca minor

Dwarf Periwinkle

Vitis sp.

Grape*

Weigela florida

Old Fashioned Weigela

Yucca aloifolia

Spanish Bayonet

Y. filamentosa

Yucca,

Adam's Needle

*Ornamental species only. Do not use on food producing trees or vines.

**LIMITATION OF WARRANTY
AND LIMITATION OF LIABILITY**

NOTICE: Read this Limitation of Warranty and Limitation of Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Sandoz or seller. All such risks shall be assumed by buyer or user.

Sandoz warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, under normal use conditions, subject to the risks described above. **SANDOZ MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.** In no event shall Sandoz or seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product.

Sandoz and seller offer this product, and buyer and user accept it, subject to the foregoing limitations of warranty and limitation of liability, which may not be modified by any oral or written agreement.