

10/22/1996

Mr. Michael R. Johnston
Sandoz Agro, Inc.
1300 East Touhy Avenue
Des Plaines, IL 60018

Dear Mr. Johnston:

Subject: BARRICADE® 65WG Herbicide
EPA Registration No. 55947-43
Applications (2) Dated April 24, 1996 and
Resubmission Application Date October 25, 1996,
Request To Amend Registration By Revising Certain Use
Directions and To Add Tolerant Ornamental Plants
To Existing List, All Non-Food Use-Sites

The proposed labeling revisions and the addition of new non-food use-sites of application have been reviewed and found acceptable under the Federal Insecticide, Fungicide and Rodenticide Act as amended, provided that you:

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

If this condition is not complied with, the registration will be subject to cancellation in accordance with FIFRA, section 6(e). Your release for shipment of the product constitutes acceptance of this condition.

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

Sincerely yours,

Joanne I. Miller
Product Manager (23)
Fungicide-Herbicide Branch
Registration Division (7505C)

Enclosure

BEST AVAILABLE COPY

E. Wilson: Diskette 100P: 11-15 CONCURRENCES

SYMBOL							
SURNAME							
DATE							

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Barricade 65 WG Herbicide , 55947-43
September 1996, PBAR65WG.966

BARRICADE® 65WG Herbicide

ACTIVE INGREDIENT:

Prodiamine [N³,N³-Di-n-propyl-2,4-dinitro-6-(trifluoromethyl)-m-phenylenediamine] 65.0%

INERT INGREDIENTS:..... 35.0%
Total..... 100.0%

For selective preemergence control of grass and broadleaf weeds in:

- established turf grasses (excluding golf course putting greens), lawns and sod nurseries
- container, field grown and landscape ornamentals
- conifer and hardwood seedling nurseries
- established perennial & wildflower plantings
- plants grown for cut foliage production
- non-crop areas on or surrounding managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways & equipment yards)
- facilities including substations, tankfarms, pumping stations, parking & storage areas, and ungrazed fencerows
- Christmas tree farms

**KEEP OUT OF REACH OF CHILDREN
CAUTION**

See next page for additional precautionary statements and statement of practical treatment.

EPA Reg. No. 55947-43
EPA Est. No.

Net Contents:

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

**ACCEPTED
with COMMENTS
In EPA Letter Dated
NOV. 22 1996**

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

55947-43

96 OCT 29 P 4:08

RECD EPA/OPP/DPD1

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

CAUTION

Harmful if inhaled or absorbed through the skin. Avoid contact with skin, eyes, or clothing. Avoid breathing dust. Prolonged or frequently repeated skin contact, while mixing or handling the concentrated material, may cause allergic reactions in some individuals.

Personal Protective Equipment (PPE):

WPS USES:

Applicators and other handlers (other than mixers and loaders) who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) - in general, agricultural-plant uses are covered -- must wear:

- § Long-sleeved shirt and long pants
- § Waterproof gloves
- § Shoes plus socks

Mixers and Loaders must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves
- Shoes plus socks

NON-WPS USES:

Mixers and loaders who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) -- in general, only agricultural-plant uses are covered by the WPS -- must wear:

- Chemical-resistant gloves

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.

Engineering Controls Statements:

When handlers use closed systems or enclosed cabs 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.

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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.
- After handling this product, immediately wash the outside of gloves before removing them, then remove gloves and all other PPE. Immediately wash thoroughly and change into clean clothing.

STATEMENT OF PRACTICAL TREATMENT

If on skin: Wash with soap and water. Rinse thoroughly.
If inhaled: Remove victim to clear air.
If in eyes: Flush thoroughly with water for several minutes. Contact a physician if irritation persists.

ENVIRONMENTAL HAZARDS

This product has low solubility in water. At the limit of solubility, this product is not toxic to fish. However, at concentrations substantially above the level of water solubility, it may be toxic to fish. 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.

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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 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.

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

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BARRICADE® 65WG Herbicide (BARRICADE) is a selective preemergence herbicide that provides residual control of many grass and broadleaf weeds in:

- established turf grasses (excluding golf course putting greens), lawns and sod nurseries
- container, field grown and landscape ornamentals
- conifer and hardwood seedling nurseries
- established perennial & wildflower plantings
- plants grown for cut foliage production
- non-crop areas on or surrounding managed rights-of-way for transportation systems and utilities (including roadways, railways & equipment yards)
- facilities including substations, tankfarms, pumping stations, parking & storage areas, and ungrazed fencerows
- Christmas tree farms

BARRICADE controls susceptible weeds by inhibiting weed seeds germination and root development. Most effective weed control will be obtained when BARRICADE is activated by at least 0.5 inch of rainfall or irrigation, or with shallow (1 to 2 inches) incorporation, prior to weed seed germination and within 14 days following application.

Do not graze or feed livestock forage cut from areas treated with BARRICADE.

All applicable directions, restrictions, and precautions on the labels of EPA registered tank mix partners are to be followed.

Do not blend BARRICADE 65WG onto dry fertilizer or any other granular material.

Do not apply this product through any type of irrigation system unless otherwise instructed by this label.

Do not apply aurally.

Do not apply to golf course putting greens.

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Mixing and Application

Apply BARRICADE in a minimum of 20 gal/A (0.5 gal/1000 ft²) of carrier (water and/or fluid fertilizer) using a calibrated, low pressure sprayer with 50 mesh or coarser screens. A broadcast boom or hand held wand designed for herbicide or insecticide application will provide the best results. Select nozzle pressure and gallonage to provide complete coverage.

A spray colorant may be used to modify the color of BARRICADE to improve application accuracy by minimizing swath skips and overlaps.

Thorough mixing of BARRICADE in the spray tank is essential for uniform application. Fill the spray tank half full with clean water or fluid fertilizer. Start agitation and check to ensure it is working properly, then add BARRICADE directly into the tank.

Add the rest of the carrier to obtain the final spray volume. Maintain vigorous agitation in the spray tank before and during the application. This will ensure a well mixed spray suspension.

Thoroughly clean the sprayer after use by flushing the system with water containing a detergent. Refer to **Pesticide Disposal** section of this label for waste disposal. Do not allow spray suspension to dry in the tank.

BARRICADE may be tank mixed with certain other EPA registered herbicides to provide a broader spectrum of weeds controlled or to control emerged weeds. See **Mixing Order** in this section and the ESTABLISHED TURF, ORNAMENTALS, and VEGETATION MANAGEMENT sections for specific recommendations.

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Mixing Order for Tank Mixtures

When mixing BARRICADE with other components (carrier and partner pesticide products) add the products to the spray tank in the following order:

1 - Water dispersible granules (WG formulations) and wettable powders (WP formulations). Wettable powders should be premixed with a small amount of carrier to form a slurry before addition; water dispersible granules can be added directly during filling. Allow the product to disperse completely before other products are added.

2 - Flowable liquids (FL) or suspension concentrates (SC).

3 - Emulsifiable concentrates (EC).

4 - Surfactants approved for application to turf and ornamentals listed on this label. Check surfactant label before use.

Compatibility Test

Before mixing BARRICADE with other pesticides in the spray tank, test the compatibility by mixing all components (carrier and pesticide products) in a small container in proportionate quantities (see following table).

Amount of Component to Add to One Pint of Spray Carrier
(Assuming Volume is 25 Gal/A)

COMPONENT FORMULATIONS	----RATE PER----		LEVEL TEASPOONS
	ACRE	1000 ft ²	
Dry	1.0 lb	0.4 oz	1.5
Liquid	1.0 pt	0.4 oz	0.5

If components do not ball-up or form flakes, sludge, gels, oily films or layers; then the tested spray mix is compatible. Incompatibility in any of the above forms will usually occur within 5 minutes after mixing.

If components are incompatible, the use of a compatibility agent is recommended. Rerun the above test with commercially available compatibility agents until a suitable suspension is formed.

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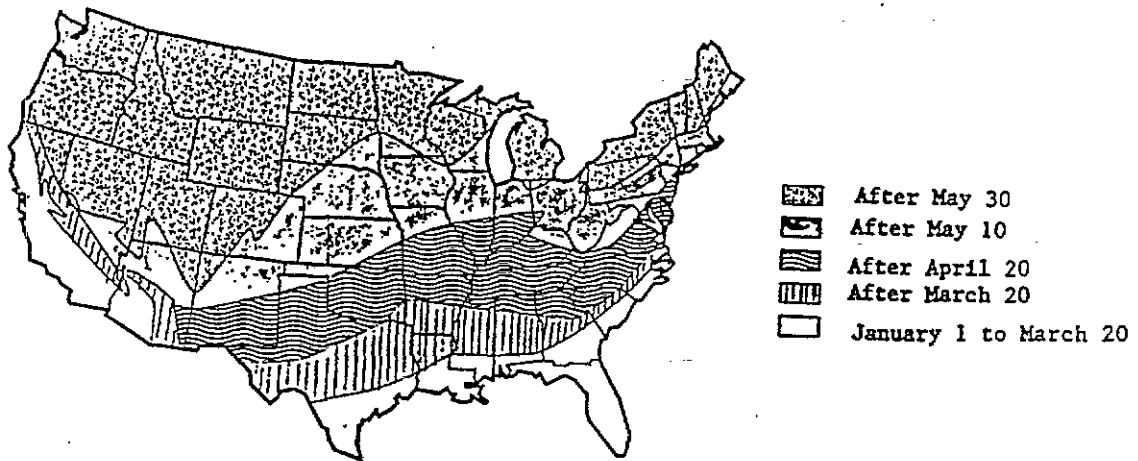
ESTABLISHED TURF

BARRICADE is a selective preemergence herbicide that, when properly applied, will control certain grass and broadleaf weeds in established turf grasses and lawns. The maximum amount of BARRICADE that may be applied per year is given for each turf grass species in the **Maximum Annual Rates** section of this label.

Most effective weed control in turf grasses will be obtained when BARRICADE is activated by at least 0.5 inch of rainfall or irrigation prior to weed seed germination and within 14 days following application. See the map below for approximate crabgrass seed germination dates.

CRABGRASS SEED GERMINATION DATES

Approximate Date



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Use Precautions

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

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

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

Do not cut (harvest) treated sod before 120 days after application. Do not apply to newly set sod until the following year.

Application of BARRICADE 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 to putting greens or areas where dichondra, colonial bentgrass, velvet bentgrass or annual bluegrass (*Poa annua*) are desirable species.

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Rates of Application

BARRICADE may be applied as a single application or in sequential applications to control weeds germinating throughout the year. All applications must be made prior to germination of the target weeds. BARRICADE will not control established weeds.

Maximum use rate selection should be based on turf species. The length of time of residual weed control provided by BARRICADE is related to the rate applied.

Maximum Annual Rates

BARRICADE is recommended for use on the turf grass species listed in the following table. Do not exceed the maximum yearly rate as given in the following table:

Maximum Application Rate/Calendar Year of BARRICADE by Turf Grass Species ¹⁾		
Turf Species	lbs product/A	oz product/1000 ft ²
Bermudagrass ²⁾ Bahia Centipedegrass Seashore Paspalum St. Augustinegrass Tall Fescue (including turf-type) Zoysia	2.3	0.83
Buffalograss Kentucky Bluegrass Perennial Ryegrass	1.50	0.55
Creeping Red Fescue	1.15	0.4
Creeping Bentgrass	1.0	0.37

¹⁾ These are the maximum rates per calendar year by species limitations.

²⁾ May be used on newly sprigged or plugged Bermudagrass at rates not to exceed 0.80 lb/A (0.30 oz/1000 ft²). Newly sprigged or plugged Bermudagrass stolon rooting may be temporarily retarded.

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Weeds Controlled

When used in accordance with this label BARRICADE will provide control of the following weeds:

- | | |
|--|---------------------------------|
| Barnyardgrass | Carpetweed |
| Bluegrass, Annual (<i>Poa annua</i>) | Chickweed, Common |
| Crabgrass (Large, Smooth) | Chickweed, Mouseear (from seed) |
| Crowfootgrass | Henbit |
| Cupgrass, Woolly | Knotweed |
| Foxtails, Annual | Kochia |
| Goosegrass ¹⁾ | Lambsquarter, Common |
| Itchgrass | Pigweed |
| Johnsongrass (from seed) | Purslane, Common |
| Junglerice | Pusley, Florida |
| Lovegrass | Shepherd's Purse ²⁾ |
| Panicum, (Texas, Fall, Browntop) | Speedwell, Persian |
| Rescuegrass ³⁾ | Spurge, Prostrate |
| Signalgrass, Broadleaf | Woodsorrel, Yellow (from seed) |
| Sprangletop | |
| Witchgrass | |

¹⁾ In many areas a single application of 1 to 2.3 lbs/A BARRICADE will control goosegrass. However, under heavy goosegrass pressure and/or an extended growing season, most effective weed control may be obtained by making an initial application of 1 to 1.5 lbs/A followed after 60 to 90 days by a second application at doses that would not exceed those given in the **Maximum Annual Rate Table**. Do not exceed the maximum rate for turf grass species listed in the **Maximum Annual Rate Table** above.

²⁾ Applications for this weed should be made in late summer, fall or winter prior to germination.

³⁾ Suppression only.

Sequential applications may be made so long as the total amount of product applied does not exceed the maximum annual application rates recommended for each turf species. All applications must be made prior to germination of the weed seeds.

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WHEN TO APPLY AFTER OVERSEEDING TURF

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

WHEN TO OVERSEED AFTER APPLICATION

BARRICADE will inhibit the germination of turf species if overseeded too soon after application. Follow rates and intervals in the table below for best overseeding/reseeding results.]

BARRICADE Rate (lbs/A)		Interval Before Overseeding		
Product	ai	North	Transition	South
.75	.50	4 mo	4 mo	4 mo
1.00	.65	5 mo	4 mo	4 mo
1.15	.75	6 mo	5 mo	5 mo
1.25	.81	---	6 mo	6 mo
1.50	.98	---	7 mo	7 mo
1.75	1.15	---	---	9 mo
2.00	1.30	---	---	10 mo
2.30	1.50	---	---	12 mo

Turf Tank Mixes

BARRICADE may be tank mixed with other registered turf herbicides for a broader spectrum weed control. Tank mixes may be used only in states where the tank mix partner(s) are registered for the application site and the turf species listed above.

Consult the label(s) of the individual tank-mix partner(s) for use, rate recommendations, application timing, weeds controlled, turf grass safety and specific precautions and/or restrictions.

Before mixing tank mix partner(s) in the spray tank it is advisable to test compatibility by mixing the products in a small container. See the **Compatibility Test** section under **Mixing and Application**.

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CONTAINER, FIELD GROWN, & LANDSCAPE ORNAMENTALS

BARRICADE may be applied for residual preemergence weed control in the culture of ornamentals (including , Christmas Tree Farms, Established Perennial and Wildflower Plantings

Use Precautions

Application of solutions containing BARRICADE directly to rapidly growing tissues or buds may cause deformation or injury. To reduce injury potential under these circumstances, avoid BARRICADE application until after newly emerged vegetation has hardened off and immediately wash BARRICADE from plant surfaces onto soil.

One half inch overhead irrigation applied immediately following 'over the top' applications will help activate BARRICADE in the soil and remove visible product residues from the exposed leaves.

Use Rates

Apply BARRICADE at 1 to 2.3 lbs/A in fall and/or spring. Equivalent applications for smaller areas are 0.36 to 0.83 oz/1000 ft.² Use higher rates of application for longer control periods. Sequential applications may be made so long as the total amount of product applied does not exceed the maximum annual application rate of 2.3 lbs/A.

Application Timing and Information

All Applications

BARRICADE is a preemergence herbicide and will not control emerged weeds. Most effective weed control in ornamentals will be obtained when BARRICADE is activated by at least 0.5 in of rainfall or irrigation, or with shallow (1 to 2 in) mechanical incorporation, prior to weed seed germination and within 14 days following application.

Best weed control is obtained when BARRICADE is applied to soil free of clods, weeds, and debris such as leaves and mulch. Prior to application of BARRICADE, control existing vegetation by hand weeding, cultivation or the use of an appropriate postemergence herbicide.

The following section gives directions for the use of BARRICADE in tank mixtures for use on ornamentals.

Established Container, Field Nursery Stock or Landscape Plants

BARRICADE may be applied at any time to established container or field nursery stock as a broadcast, over the top or directed spray. Irrigation or rainfall soon after application will wash residues off plant foliage and activate BARRICADE in the soil.

Newly Transplanted Container or Field Nursery Stock

BARRICADE may be applied to newly transplanted container or field nursery stock. Delay application to allow soil to settle around new transplants and water thoroughly before applying BARRICADE. Apply BARRICADE after cuttings form roots and become established. Apply

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before budding/grafting or after buds/grafts have taken to avoid any inhibition of the tissue union.

Shadehouses and Uncovered Polyhouses

In addition to outdoor locations, BARRICADE may be applied in shadehouses and uncovered polyhouses. Uncovered polyhouses must remain open for a minimum of 7 days and 2 irrigations totaling at least 1/2 inch of water after application.

Bare Ground Applications For Container Placement

BARRICADE may be applied to soil (including mulch, gravel, wood chips, or other permeable base) upon which containerized ornamentals are placed. Only shallow cultivation or hand weeding, if necessary, after application, should be performed so as to minimize exposure of untreated soil.

Tank Mixtures For Use On Ornamentals

BARRICADE may be tank mixed with other registered herbicides listed on this label for a broader spectrum of preemergence control or postemergent weed control. Tank mixes with BARRICADE are for use only in states where the tank mix partner(s), application site and intended use pattern are registered.

Follow the label(s) of Goal® (conifers only), Gallery®, PREDICT®, or other potential tank-mix partner(s) for use, rate recommendations, application timing, weeds controlled, phytotoxicity, and specific use precautions and/or restrictions.

Goal in tank mixes with BARRICADE is effective for the postemergence control of certain broadleaf weeds including malva and filaree. Goal in tank mixes with BARRICADE can only be applied to conifers listed on the Goal label.

Before combining tank mix partners in the spray tank it is advisable to test compatibility by mixing the products in a small container. See the **Compatibility Test** section under **Mixing and Application**.

Paraquat, glyphosate and glufosinate-ammonium (Finale®) are nonselective postemergence herbicides used for control of most emerged annual grass and broadleaf weeds. Drift of paraquat, glyphosate or glufosinate-ammonium (Finale) onto ornamental plants will cause injury. Tank mixes using paraquat, glyphosate or glufosinate-ammonium (Finale) must be applied as a directed spray to avoid contact with desirable species. When BARRICADE is applied in tank mixes with postemergent herbicides recommended on this label, delay irrigation according to the postemergent partner label to allow absorption of the postemergent herbicide.

Do not apply sprays containing either paraquat, glyphosate or glufosinate-ammonium over the tops of ornamental plants. Extreme care must be exercised to prevent contact of spray mixtures of these herbicides with foliage or stems of turfgrasses, trees, shrubs, or other

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desirable vegetation because severe damage or death may result. If spraying areas adjacent to desirable plants use a shield to prevent spray from contacting foliage or stems of desirable plants.

Tolerant Ornamental Species

BARRICADE will not harm most trees, shrubs, vines and flowers. The species listed below are tolerant to BARRICADE. BARRICADE may be applied over the top of these species.

When plants are under stress (such as heat, drought, or frost damage) some cultivars of listed plants may be sensitive to BARRICADE.

Scientific name

Abies spp.

Abelia grandiflora

Acer palmatum

A. platanoides

Achillea sp.

Actinidia chinensis

Agapanthus africanus

Agapanthus orientalis

Akebia quinata

Allium cernuum

Anemone hybrida

Aquilegia sp.

Arctostaphylos densiflora

Arctotheca calendula

Artemisia sp.

Aucuba japonica

Aster sp.

Aster X Frikartii

Athyrium Filix-femina

Begonia sp.

Berberis gladwynensis

B. Julianae

B. mentorensis

B. Thunbergii

B. verruculosa

Common name

Fir species**

(Balsam, Fraser, Noble, etc.)

Abelia: Sherwood

Japanese Maple

Norway Maple

Yarrow: King Edward

Kiwi*

Lily-of-the-Nile (African Lily)

Five-Leaf or Chocolate Vine

Lady's Leek, Nodding Onion

Japanese Anemone

Aquilegia: Red and Gold

Vine Hill Manzanita

Cape Weed

Wormwood; Silver Mound, Castle

Japanese Aucuba

Aster: Bonny Blue, Purple Dome

Lady Fern; Fern Lady

Fibrous Begonia: Hardy Grandis

Barberry

Wintergreen Barberry

Mentor Barberry

Japanese Barberry

Warty Barberry

* Do not use on food producing trees, vines, or plants.

** Not for use on container grown plants.

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Scientific name

Common name

<i>Bergenia cordifolia</i>	Snowbank
<i>Boltonia asteroides</i>	Bougainvillea
<i>Bougainvillea spp.</i>	Butterfly-Bush (Dwarf Blue); Royal Red
<i>Buddleia davidii</i>	Japanese Boxwood
<i>Buxus microphylla</i>	Crimson Bottlebrush
<i>Callistemon citrinus</i>	Weeping Bottlebrush
<i>Callistemon viminalis</i>	Scotch Heather
<i>Calluna vulgaris</i>	Tussock Bellflower; (White Clips)
<i>Campanula carpatica</i>	Trumpet Creeper, Trumpet Flower; Madame Galen
<i>Campis X Tagliabuana</i>	Hottentot Fig (Ice Plant)
<i>Carpobrotus edulis</i>	Feathery Cassia
<i>Cassia artemisoides</i>	Wild Lilac
<i>Ceanothus rigidus</i>	
<i>Ceratostigma plumbagonoides</i>	False Cypress
<i>Chamaecyparis pisifera</i>	
<i>Chrysanthemum nipponicum</i>	
<i>Cleyera japonica</i>	Cleyera
<i>Citrus spp.</i>	Citrus species*
<i>Coreopsis sp.</i>	Coreopsis (Calliopsis): Early Sunrise, Moonbeam
<i>Cornus florida</i>	Flowering Dogwood
<i>C. stolonifera</i>	American Dogwood
<i>Cortaderia Selloana</i>	Pampas Grass
<i>Cotoneaster apiculatus</i>	Cranberry Cotoneaster
<i>C. buxifolius</i>	Cotoneaster
<i>C. Dammeri</i>	Bearberry Cotoneaster
<i>C. microphyllus</i>	Rockspray Cotoneaster
<i>Crataegus spp.</i>	Hawthorn
<i>Crocsmia sp.</i>	Lucifer
<i>Cupressus sempervirens</i>	Italian Cypress
<i>Delosperma alba</i>	White Trailing Ice Plant
<i>Delosperma sp.</i>	Cooperi Pink
<i>Delphinium sp.</i>	Larkspur; Blue Elf
<i>Dianthus deltoides</i>	Dianthus, Maiden Pinks 'Zing'
<i>D. gratianopolitanus</i>	Cheddar Pink
<i>Dodonea viscosa</i>	Hop Bush
<i>Echinacea pupurea</i>	Coneflower, Purple; Magnus
<i>Elaeagnus pungens</i>	Silverberry

* Do not use on food producing trees, vines, or plants.

** Not for use on container grown plants.

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Scientific name

Euonymus Fortunei
E. japonica
E. kiautschovica
Fatsia japonica
Forsythia intermedia
Forsythia suspensa
F. viridissima
Gaillardia sp.
Gardenia jasminoides
Gaura sp.
Gentiana dahurica
Geranium cinereum
Gladiolus spp.
Gypsophila repens
Hedera helix
Hellanthemum sp.
Hemerocallis sp.
Heucherella sp.
Hibiscus
H. Rosa-sinensis
Hibiscus sp.
Hosta plantaginea
H. Sieboldiana
Houttuynia cordata var. *variegata*
Hydrangea macrophylla
Ilex Bernyi
I. cornuta
I. crenata
I. opaca
I. vomitoria
Inula ensifolia
Iris ensata
Iris siberica
Iris spp.
Jasminium nudiflorum
Juniperus chinensis
J. conferta
Juniperus davurica

Common name

Wintercreeper
Japanese Spindle Tree (Evergreen Euonymus)
Spreading Euonymus
Japanese Aralia
Border Forsythia
Weeping Forsythia
Greenstem Forsythia
Gaillardia, Blanket Flower: 'Goblin'
Gardenia, Cape-Jasmine; Radicans

Gentian
Cranesbill
Gladiolus species**
Baby's Breath
English Ivy
Sunrose
Daylily: Aztec Gold, Stella De Oro, Tender Love
Coral Bell; Bridget Bloom
Rose of Sharon**
Chinese Hibiscus
Mallow; Disco Belle White
Hosta, Plantain Lily (Fragrant)
Hosta, 'Searsucker'

Bigleaf Hydrangea
Holly
Chinese Holly
Japanese Holly; Helli
American Holly
Yaupon Holly; Schillings

Sword-Leaved Iris; Jodlesong
Siberian Iris; Cabernet
Iris species**
Winter Jasmine
Chinese Juniper; Nick's Compact, Parsonii
Shore Juniper; Blue Pacific
Parsoni

*. Do not use on food producing trees, vines, or plants.

** . Not for use on container grown plants.

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Scientific name

J. horizontalis
Juglans spp.
Justicia brandegeana
Lagerstromia indica
Lagerstromia indica x Fauriei
Lantana montevidensis
Lavender sp
Leontopodium alpinum
Ligustrum sinense
Ligustrum amurense
L. japonicum
L. lucidum
Lilium sp.
Liriope Muscari
Liriope Muscari var. variegata
Liriope spicata
Lobelia Cardinalis
Lonicera japonica
L. tatarica
Loropetalum chinense
Lythrum sp
Magnolia spp.
Maleophora luteola
Malus spp.
Miscanthus sinensis
Nandina domestica
Narcissus spp.
Nerium oleander
Oenothera missourensis
Olea europaea
Ophiopogon japonicus
Osmanthus heterophyllus
Osteospermum fruticosum
Oxydendrum arboreum
Paeonia suffruticosa
Pennisetum setaceum
Perovskia atriplicifolia

Common name

Creeping Juniper
Walnut*
Shrimp Plant
Crape Myrtle
Crape Myrtle; Tuscarora
Weeping Lantana
Lavender; Munstead
Edelweiss
Chinese Privet; Variegata
Amur Privet
Japanese Privet
Glossy Privet (Wax-Leaf)
Lily: Jazz
Big Blue Lily; Turf, Silver Mound, Evergreen Giant
Liriope, Variegated
Liriope, Creeping
Cardinal Flower, Indian Pink
Japanese Honeysuckle
Tatarian Honeysuckle
Burgundy
Loosestrife; Modern Pink
Magnolia species**
Ice Plant
Crabapple*
Yaku Jima, Silberfeder
Heavenly Bamboo
Narcissus species**
Oleander
Evening Primrose
Olive*
Mondo Grass
Osmanthus (False Holly): Gulf Tide
Trailing African Daisy
Sourwood
Tree Peony
Fountain Grass (Dwarf)

* Do not use on food producing trees, vines, or plants.

** . Not for use on container grown plants.

Scientific name

- Persea americana*
- Photinia Fraseri*
- Physostegia Virginiana*
- Picea* spp.
- Pieris japonica*
- Pinus brutia*
- P. canariensis*
- P. Elliottii*
- P. halepensis*
- P. nigra*
- P. palustris*
- P. radiata*
- P. Thunbergiana*
- P. Strobus*
- P. sylvestris*
- P. Taeda*
- P. virginiana*
- Pistaccia* sp.
- Pittosporum rhombifolium*
- P. Tobira*
- Podocarpus macrophyllus*
- Prunus Laurocerasus*
- Prunus* sp.

- Pseudotsuga Menziesii*
- Pyracantha coccinea*
- P. Fortuneana*
- P. Koidzumii*
- Pyrus* sp.
- Quercus Shumardii*
- Quercus* spp.
- Raphiolepis indica*
- Raphiolepis umbellata*

Common name

- Avocado*
- Fraser's Photinia (Redtip)
- Dragonhead, False; Vivid
- Spruce species** (Colorado Blue, Norway, etc.)
- Lily-of-the-Valley Bush
- Calabrian Pine
- Canary Island Pine
- Slash Pine
- Aleppo Pine
- Austrian Pine
- Longleaf Pine
- Monterey Pine
- Japanese Black Pine
- Eastern White Pine
- Scotch Pine
- Loblolly Pine
- Virginia Pine
- Pistachio*
- Queensland Pittosporum
- Japanese Pittosporum
- Japanese Yew
- English Laurel
- Almond, Apricot, Nectarine,
Peach, Plum and Prune*
- Douglas Fir**
- Firethorn, Scarlet
- Firethorn
- Firethorn
- Bradford Pear sp.
- Oak, Shumard's Red
- Oak species
- Indian Hawthorn
- Yedda Hawthorn

* Do not use on food producing trees, vines, or plants.

** Not for use on container grown plants.

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Scientific name

Common name

Rhododendron
(including Azalea)

'Coral Bells'
'Delaware Valley White'
'Flame Creeper'
'Formosa'
'Girard Crimson'
'George L. Tabor'
'Hino-crimson'
'PJM'
'Roseum Elegans'
Wakeiebisu
White Gumbo
Lady Bank's Rose
Rosemary*
Black-Eyed Susan: Goldstrum
Leatherleaf Fern
Santolina
Saxifrage; Purple Dome
Pincushion Flower
Stonecrop
Stonecrop; Lidakense
Stonecrop
Stonecrop; Dragon's Blood
Spirea: Anthony Waterer
Australian Brushcherry
Japanese Yew
Yew
Germander
Meadow Rue
American Arborvitae
Star Jasmine
Canada Hemlock
Tulip species
Veronica, Speedwell; Sunny Border
Japanese Viburnum
Sweet Viburnum
Japanese Snowball
Canary Island Viburnum
Arrowood Viburnum

Rosa Banksiae
Rosmarinus officinalis
Rudbeckia sp.
Rumohra adiantiformis
Santolina virens
Saxifraga sp.
Scabiosa sp.
Sedum album
Sedum caudicola
Sedum dasyphyllum
Sedum spurium
Spiraea Bumalda
Syzygium paniculatum
Taxus cuspidata
T. media
Teucrium sp.
Thalictrum dipterocarpum
Thuja occidentalis
Trachelospermum asiaticum
Tsuga canadensis
Tulipa spp.
Veronica sp.
Viburnum japonicum
V. odoratissimum
V. plicatum
V. rigidum
Viburnum suspensum

* Do not use on food producing trees, vines, or plants.
** Not for use on container grown plants.

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Barricade 65 WG Herbicide , 55947-43
September 1996, PBAR65WG.96b

Scientific name

V. Tinus
V. trilobum
V. Wrightii
Vinca major
Vinca minor
Vitis sp.
Weigela florida
Yucca aloifolia
Y. filamentosa

Common name

Laurustinus
Cranberry Bush
Leatherleaf Viburnum
Greater Periwinkle, *Vinca*
Common Periwinkle, *Vinca*
Grape*
Old Fashioned Weigela
Spanish Bayonet, *Yucca*
Adam's Needle, *Yucca*

* Do not use on food producing trees, vines, or plants.

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CONIFER AND HARDWOOD SEEDLING NURSERIES

BARRICADE may be applied for residual preemergence weed control in conifer and hardwood seedling nurseries.

BARRICADE may be applied to conifer and hardwood seedling nurseries any time after the soil has settled around newly transplanted seedlings, liners or bare root plants.

Apply BARRICADE at 1 to 2.3 lbs/A in fall and/or spring. Equivalent applications for smaller areas are 0.36 to 0.83 oz/1000 ft.² Use higher rates of application for longer control periods. Sequential applications may be made so long as the total amount of product applied does not exceed the maximum annual application rate of 2.3 lbs/A.

SOUTHERN PINE SEEDBEDS: To assist in the establishment of Southern pine seedbeds, a preemergence application should be made just after seeding. Applications made after emergence of the pine seedlings should not be made until a minimum of three weeks after the time when most seedlings have shed their seedcoat. Pines are tolerant to preemergence and postemergence applications of BARRICADE.

Dosage: Apply 0.75 pounds (0.49 lb active) of BARRICADE per broadcast acre. Mix with clean water at recommended concentration and apply at 20 to 40 psi in a minimum of 20 gallons of water per treated acre. Broadcast to beds and irrigate with approximately 1/2 inch of sprinkler irrigation.

HARDWOOD SEEDBEDS: Apply BARRICADE at a rate of 0.75 to 1.5 pounds (0.49 to .98 lb active) to the following seedlings that are at least 6 weeks old (from time of 50% germination):

- Oak (*Quercus* spp.)
- Sweetgum
- Green Ash

Use higher rate (1.5 lbs) when a longer control period (3 to 4 months) is desired or under conditions of higher anticipated weed pressure. The lower rate (0.75) will provide 2 to 3 months of weed control. Broadcast to beds and irrigate with approximately 1/2 inch of sprinkler irrigation.

Most effective weed control will be obtained when BARRICADE is activated by at least 0.5 inch of rainfall or irrigation prior to weed seed germination and within 14 days following application.

BARRICADE may be tank mixed with Goal in conifer seedling nurseries for broader spectrum preemergence weed control. Refer to the use directions of tank mix partner herbicides for additional weeds controlled, rates, and precautions.

CUT FOLIAGE PRODUCTION

BARRICADE may be applied for residual preemergence weed control in leatherleaf fern, (*Rumohra adiantiformis*), asparagus fern (aka treefern, *Asparagus virgatus*), *Pittosporum* species, *Euonymus* species, aspidistra (*Aspidistra elatior*), and *Ruscus hypopyllum*.

Apply BARRICADE as a broadcast or directed treatment to established foliage production beds at a rate of 3 to 4 lbs/A in the fall followed by 2 to 3 lbs/A in the spring. The choice of rate should depend upon anticipated weed pressure and spectrum. Sequential applications may be made so long as the total amount of product applied does not exceed the maximum annual application rate of 6 lbs/A.

One half inch irrigation should be applied immediately following application to activate BARRICADE in the soil and remove visible product residues.

Overhead Irrigation Application

Apply this product only through an overhead sprinkler irrigation system. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless pesticide label-prescribed safety devices for public water systems are in place. Should the need arise, a person knowledgeable of the chemigation system and responsible for its operation, or someone under the supervision of the responsible person, shall shut the system down and make necessary adjustments.

Operation Instructions

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

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5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Prepare a mixture with a minimum of 20 parts of water to 1 part BARRICADE and inject this herbicide suspension mixture into the overhead system. Injecting a larger volume of a more dilute mixture per hour will usually provide more accurate calibration of metering equipment. Maintain sufficient agitation to keep the herbicide in suspension.
9. Before injecting BARRICADE into the system, run the irrigation system long enough to wet the foliage, then inject BARRICADE suspension mixture in the pesticide supply tank (see number 8. above) in 1 inch of irrigation water. After the application is complete, continue the irrigation until all the residues are washed off the foliage.

Precautions for overhead applications: (1) injury may occur if foliage is not sufficiently wet prior to application or inadequate irrigation is applied after application, (2) when sprinkler distribution patterns do not overlap sufficiently, unacceptable weed control may result; and (3) where sprinkler distribution patterns overlap excessively, injury to leatherleaf ferns may result.

Application Precautions

Application of solutions containing BARRICADE directly to rapidly growing tissues or buds may cause deformation or injury. To reduce injury potential under these circumstances, immediately wash BARRICADE from plant surfaces onto soil.

Do not apply to newly transplanted ferns until after the plants have become established and begin to grow.

Weeds Controlled

Florida Betony
Buttercup Oxalis
Crabgrass species
Common Vetch

Stachys flordana
Oxalis pes-caprae
Digitaria spp.
Vicia sativa

Weeds Suppressed

Wandering-Jew

Zebrina pendula

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Barricade 65 WG Herbicide , 55947-43
September 1996, PBA65WG.96b

VEGETATION MANAGEMENT

BARRICADE may be applied to soil surfaces for preemergence control of many grass and broadleaf weeds in non-cropland areas on or surrounding:

- **non-crop areas on or surrounding managed rights-of-way for transportation systems and utilities (including roadways, roadsides, railways & equipment yards)**
- **facilities including substations, tankfarms, pumping stations, parking &**
- **storage areas, and ungrazed fencerows**

BARRICADE provides preemergence control of germinating weed seeds. Most effective weed control will be obtained when BARRICADE is activated by at least 0.5 in rainfall or irrigation, or shallow incorporation prior to weed seed germination and within 14 days following application.

Apply BARRICADE at 1 to 2.3 lbs/A in fall and/or spring. Equivalent application for smaller areas is 0.36 to 83 oz/1000 ft². Use higher rates of application for longer periods of control. Sequential applications may be made so long as the total amount of product applied does not exceed the maximum annual application rate of 2.3 lbs/A.

BARRICADE may be tank mixed with other registered herbicides for broader spectrum preemergence or postemergence weed control of existing weeds or brush. Tank mixes with BARRICADE are for use only in states where the tank mix partner(s) are registered for the application site

BARRICADE may be tank mixed with VANQUISH®, diuron, glufosinate-ammonium (Finale®), Gallery, Garlon®, Goal, glyphosate, Krovar® I and II, Oust®, paraquat, PREDICT, Princep®, Arsenal®, Spike™, and Telar®. Read and follow the label of each tank mix partner and follow precautionary statements, directions for use, weeds controlled, and all restrictions that appear on the label of the tank mix partner. This product cannot be mixed with any product that bears a label that prohibits against mixing with another pesticide product.

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NEW PLANTINGS, REPLANTING AND CROP ROTATION

If areas are to be seeded, do not apply BARRICADE until seeded plants are up and well established.

Nursery, landscape or non-cropland areas treated with BARRICADE should be rotated only to ornamental species listed on this label for 1 year following application unless the following test has shown species safety:

Before planting a species not listed on this label it is recommended that several test strips of an indicator plant such as wheat, sorghum or corn be sown into the treated area. If the indicator plants germinate and grow normally to a height of 12 inches with normal root development, it is safe to plant.

In areas disturbed by new plantings or replanting of labeled species, it may be necessary to retreat exposed soil to maintain satisfactory weed control.

STORAGE AND DISPOSAL

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

STORAGE

Store in original container away from 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

Paper bags and boxes: Completely empty container into application equipment. Then dispose of empty bag or box 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.

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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.**

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