

PM 25 62719-113

File 10/24



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

JAN 4 1994

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Douglas M. Roby
DOWELANCO
QUAD IV 9002 PURDUE ROAD
INDIANAPOLIS, IN 46268

Subject: Label Amendment Submission of 06/18/93 In Response to PR Notice 93-7
EPA Reg. No. 62719-113
SURFLAN A. S. 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 65% recycled fiber

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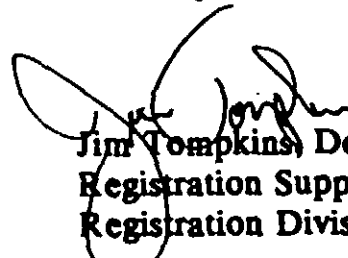
Submit the final printed labeling via the U.S. Postal Service to:

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

30124

WPS Labeling

(Editor's Note: Deleted text indicated by strike-through and added text underlined)
[Laminated Booklet - Surflan AS (Specialty)]
[Front Cover of Booklet]

(logo) DowElanco

Surflan* A.S.

A selective preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in:

- Landscape ornamentals
- Container grown ornamentals
- Field grown ornamentals
- Drainage areas under greenhouse benches
- Ornamental bulbs
- Ground covers
- Christmas tree plantations
- Noncropland
- Non-bearing trees and vines
- Industrial sites
- Established warm season turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass, Tall Fescue and Zoysiagrass)

Active Ingredient:

oryzalin: 3,5-dinitro-N,N'-dipropylsulfanilamide . 40.4%
Inert Ingredients . 59.6%
Total . 100.0%
Contains 4.0 pounds of active ingredient per gallon.

ACCEPTED
with COMMENTS
In EPA Letter Dated

JAN 4 1994

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

62719-113

Keep Out of Reach of Children

CAUTION

Refer to inside of label booklet for precautionary information and Directions for Use including STORAGE AND DISPOSAL.

Shake Well Before Using.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

EPA Reg. No. 62719-113
20122

EPA Est. 37429-GA-01
900-00xxxx

*Trademark of DowElanco
DowElanco • Indianapolis, IN 46268, U.S.A.

Specialty Herbicide

Net Contents XX gal

40/24

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Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION — PRECAUCION:

~~Precaucion al usuario: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada ampliamente.~~

Causes Eye Irritation • Harmful If Swallowed, Inhaled Or Absorbed Through The Skin

~~Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Surflan A.S. may cause skin sensitization reactions in certain individuals. Mixer/loader/applicators must wear eye protection. Protective clothing such as coveralls and/or a long-sleeved shirt, shoes, and impermeable gloves should be worn when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.~~

Personal Protective Equipment (PPE)

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.

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.

First Aid

If in eyes: Flush with plenty of water. Get medical attention if irritation develops.

If on skin: Wash with plenty of soap and water. Get medical attention if irritation develops.

If swallowed: Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoonfuls) with a large quantity of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.

If inhaled: Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation and get medical attention immediately.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Cover or incorporate spills.

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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. Read All Directions for Use carefully before applying.

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 exemptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

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

- Coveralls
- Waterproof gloves
- Shoes plus socks

STORAGE AND DISPOSAL

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

Storage: Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.

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

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

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General Information

Surflan A.S. herbicide is a preemergence surface-applied herbicide for the control of annual grasses and many broadleaf weeds in ornamental plantings, bulbs, ground covers, established warm-season turfgrass, Christmas tree plantations, non-bearing trees and vines, non-cropland and industrial sites.

Shake Well Before Using.

General Use Precautions

Surflan A.S. will not control emerged weeds. Poor weed control may result if directions are not followed. Over-application may result in crop injury or excessive soil residue.

Surflan A.S. is orange in color and may cause temporary discoloration of sprayed surfaces. If this discoloration is undesirable, it may be altered by using a commercially available colorant such as Blazon or removed by spraying surface with water or washing with an industrial cleaner immediately after application. Surflan A.S. may also be applied with mulch colorants, such as Mulch Magic or Nu-Mulch.

Users who wish to use Surflan A.S. on plant species not recommended on this label may determine the suitability for such uses by treating a small number of such plants at a recommended rate. Prior to treatment of larger areas, the treated plants should be observed for any sign of herbicidal injury for 30 to 60 days to determine if the treatment is non-injurious to the target plant species. The user assumes responsibility for any plant damage or other liability resulting from use of Surflan A.S. on plant species not recommended on this label.

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

Soil Preparation

Surflan A.S. will not control emerged weeds. Therefore, areas to be treated should be free of emerged weeds. Weed residues, prunings and trash should be thoroughly mixed into the soil or removed prior to treatment. In field applications, the soil should be in good tilth and free of clods at the time of application.

Mixing Directions

Surflan A.S. Alone

Make sure spray tank is clean and use only clean water. Fill spray tank 1/2 to 3/4 full. Start agitation and add the required amount of Surflan A.S. Continue agitation and finish filling the spray tank. Maintain continuous agitation until application is completed.

Surflan A.S. Tank Mix Combinations

Prior to mixing, read and carefully follow all label instructions and precautions for each product added to the tank mixture. Vigorous, continuous agitation is required for all Surflan A.S. tank mixes. Sparger pipe agitators generally provide the best agitation in spray tanks.

Precaution: Do not allow the spray mixture to siphon back into the water source.

Mixing Order: Fill the tank 3/4 full with clean water. Start agitation and add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products.

Add different formulation types in the following order: dry flowables (DF); wettable powders (WP); Surflan A.S. and other aqueous suspensions (AS), flowables (F) and liquids (L); solutions (S); and emulsifiable concentrates (EC).

Continue agitation and finish filling the spray tank with clean water. Maintain agitation until application is completed. If spraying and agitation must be stopped before the spray tank is empty,

the materials may settle to the bottom. Settled materials must be completely resuspended before spraying is continued. A sparger agitator is particularly useful for this purpose.

Premixing: When tank mixing, initial mixing and dispersion of certain dry flowable or wettable powder products may be improved by premixing with water (slurrying). Adding the slurried material to the spray tank through a 20 or 35 mesh wetting screen will help assure good initial dispersion. Line screens in the tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

Application Methods

Ground Application

Apply Surflan A.S. as a directed spray to the soil surface or over top of plants using a vehicle-mounted, pull-type, or backpack sprayer. Apply the appropriate rate of Surflan A.S. as outlined in "Approved Uses" section of this label. In all cases, use sufficient water volume to obtain uniform coverage and deliver the desired rate of Surflan A.S. to the treated area. The volume of water used is not critical, as long as the desired rate of Surflan A.S. is delivered uniformly across the area treated. When calibrating, determine the volume of water delivered by the sprayer to a given area (1,000 sq ft, acre, etc.). Then mix the desired rate of Surflan A.S. in the amount of water required to cover the entire area to be treated. Use only a properly calibrated, low-pressure herbicide sprayer that will apply the spray uniformly. Use herbicide tips with screens no finer than 50 mesh in nozzles and in-line strainers. As the amount of water used (spray volume) decreases, the importance of accurate calibration and uniform application increases. Check the sprayer daily to ensure proper calibration and uniform application. Maintain continuous agitation from mixing through application. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application.

Aerial Application

Use a standard aerial herbicide boom sprayer. Aerial spray equipment should be calibrated to apply the proper amount of Surflan A.S. alone or in tank mix combinations in 2 to 10 gallons of spray mixture per acre. Nozzle screens and in-line strainers should be no finer than 50 mesh. Surflan A.S. mixes readily with water for concentrate aerial sprays; however, constant vigorous agitation that sweeps the contents from the bottom of the spray tank up into the main body of the liquid is required to maintain a uniform suspension until the spray tank is empty. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. Do not apply when wind conditions favor drift from the target area.

Equipment Cleaning

If a buildup of material occurs on the walls of the spray tank, it should be removed between fillings by washing with soap and water and rinsing thoroughly. Tanks, lines, screens and nozzles should be cleaned thoroughly after each use.

Activation and Cultivation

Surflan A.S. will remain stable on the soil surface up to 21 days following application. In the absence of timely rainfall, irrigation can be used to activate Surflan A.S. A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler irrigation is necessary to activate Surflan A.S.. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate 1 to 2 inches deep to destroy existing weeds or remove them by hand. Shallow cultivation to a depth of 1 to 2 inches will enhance herbicidal effectiveness. If Surflan A.S. is not activated by rainfall, irrigation or cultivation within 21 days of application or existing weeds have not been removed, erratic weed control may result.

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Weeds Controlled by Surlan A.S.**Annual Grasses:**

<u>Common Name</u>	<u>Scientific Name</u>
barley, little	<i>Hordeum pusillum</i>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
bluegrass, annual	<i>Poa annua</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crowfootgrass	<i>Dactyloctenium aegyptium</i>
cupgrass, southwestern	<i>Eriochloa gracilis</i>
foxtail, bristleglass	<i>Setaria magna</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>
foxtail, robust	<i>Setaria robusta</i>
foxtail, yellow	<i>Setaria glauca</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
junglerice	<i>Echinochloa colonum</i>
lovegrass, Mexican	<i>Eragrostis mexicana</i>
lovegrass, orcutt	<i>Eragrostis orcuttiana</i>
oat, wild	<i>Avena fatua</i>
panicum, browntop	<i>Panicum fasciculatum</i>
panicum, fall (spreading panicgrass)	<i>Panicum dichotomiflorum</i>
panicum, Texas (buffalograss) (Coloradograss)	<i>Panicum texanum</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>
signalgrass (Brachiaria)	<i>Brachiaria</i> spp.
sprangletop, red	<i>Leptochloa filiformis</i>
witchgrass	<i>Panicum capillare</i>

Broadleaf Weeds:

<u>Common Name</u>	<u>Scientific Name</u>
bittercress	<i>Cardamine oligosperma</i>
carpetweed	<i>Mollugo verticillata</i>
chickweed, common	<i>Stellaria media</i>
fiddleneck, coast	<i>Amsinckia intermedia</i>
filaree, redstem	<i>Erodium cicutarium</i>
filaree, whitestem	<i>Erodium moschatum</i>
groundsel, common	<i>Senecio vulgaris</i>
henbit	<i>Lamium amplexicaule</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
lambsquarters	<i>Chenopodium album</i>
pigweed, prostrate	<i>Amaranthus blitoides</i>
pigweed, redroot	<i>Amaranthus retroflexus</i>
pigweed, spring	<i>Amaranthus hybridus</i>
pigweed, tumble	<i>Amaranthus albus</i>
puncturevine	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>

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pusley, Florida
(Florida purslane)
(Mexican clover)
(pusley)

Richardia scabra

rocket, London
rockpurslane, desert
shepherdspurge
spurge, prostrate
woodsorrel, yellow

Sisymbrium irio
Calandrinia ciliata
Capsella bursa-pastoris
Euphorbia humistrata
Oxalis stricta

Weeds Suppressed by Surflan A.S.

Control of the following weeds may be erratic, ranging from poor to excellent, depending upon soil temperature, time of germination, depth of seed in the soil, and amount and timing of soil moisture:

<u>Common Name</u>	<u>Scientific Name</u>
horseweed	<i>Coryza canadensis</i>
ladysthumb	<i>Polygonum persicaria</i>
lettuce, prickly	<i>Lactuca seriola</i>
mallow, common	<i>Malva neglecta</i>
milkweed, climbing	<i>Sarcostemma cynanchoides</i>
morningglory	<i>Ipomoea</i> spp.
mustard, black	<i>Brassica nigra</i>
mustard, wild	<i>Brassica kaber</i>
nightshade, black	<i>Solanum nigrum</i>
ragweed, common	<i>Ambrosia artemisiifolia</i>
smartweed	<i>Polygonum pensylvanicum</i>
sowthistle, annual	<i>Sonchus oleraceus</i>
spurge, spotted	<i>Euphorbia maculata</i>
teaweed (prickly sida)	<i>Sida spinosa</i>
velvetleaf	<i>Abutilon theophrasti</i>
wheat, volunteer	<i>Triticum</i> spp.

Approved Uses

Ornamental Plantings

Special Use Precautions:

Apply only to established plantings. Established plants are defined as those that have been transplanted into their growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation.

To avoid possible injury, do not apply Surflan A.S. to:

- Either nursery seedbeds or forest or Christmas tree seedling transplant beds.
- Unrooted liners or cuttings that have been planted in pots for the first time.
- Pots less than four inches wide.
- Ground covers until they are established and well rooted.
- Ornamental plantings where there is likelihood of runoff onto lawn areas.
- Areas containing dichondra or cool season turfgrass species.

Rooted liners should be removed from their original growing containers and placed in new containers at least two weeks prior to treatment or injury may occur.

On container grown ornamentals where weed seed germination continues for extended periods of time, do not make repeat applications of Surflan A.S. for at least 90 days or crop injury may occur.

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For soils treated with Surflan A.S. during the previous season, plant only the ornamental species listed on this label or injury may occur.

Ice Plant: When establishing unrooted ice plant (*Mesembryanthemum crystallinum* and *Carpobrotus edulis*) on coarse soils in landscape plantings, use only the 2 quart per acre rate of Surflan A.S. or crop injury may occur. After the ice plant is well established, a second application may be made.

Broadcast Application Rates

Length of Control	Surflan A.S.	
	quarts/acre	fl oz/1000 sq ft
2 to 4 months	2	1.5
4 to 8 months	4	3

Handheld or Backpack Sprayer Application

Apply Surflan A.S. at a rate of 1.5 to 3 ounces per 1000 square feet. The amount of water used to apply Surflan A.S. is not critical, but should be sufficient for uniform treatment of the target area. Calibrate by determining the volume of water required to treat 1000 square feet. Use this calibration volume to determine the amount of water and Surflan A.S. needed to treat the target area (see following table). **Note:** Sprayer calibration (volume of spray needed to treat 1,000 square feet) will vary with each individual operator.

Length of Control	Application Rate (fl oz/1000 sq ft)	Quantity of Water Needed
2 to 4 months	1.5	The amount required by your sprayer to cover 1000 sq ft of area
4 to 8 months	3.0	

Sample Calculation:

Size of target area + 1000 x Application rate = Amount of Surflan A.S. required

Size of target area + 1000 x Calibration volume per 1000 sq ft = Amount of water required

Recommended Species Including Fruit Plant Nursery Liners

Surflan A.S. is recommended for use on certain container- and field-grown established ornamental plants, trees and shrubs; established ground covers; field grown fruit tree and shrub nursery liners; and in the production of ornamental bulbs (See "Ornamental Bulbs" for special use directions).

Do not apply Surflan A.S. to the following plant species when container grown or field grown or injury may occur:

- Deutzia gracilis* (slender deutzia)
- Pseudotsuga menziesii* (Douglas-fir)
- Thuja occidentalis* 'Techny' (Techny arborvitae)
- Tsuga canadensis* (eastern hemlock)

Surflan A.S. May be Used on the Following Field- and Liner†- Grown Plants and Plants In Landscape Plantings:

†Plants transplanted for additional growth before transplanting to final growing location.

<u>Common Name</u>	<u>Scientific Name</u>
abelia, glossy	<i>Abelia grandiflora</i>
acacia, prostrate	<i>Acacia redolens</i>
agave	<i>Agave macroculmis</i>
Andromeda	<i>Pieris japonica</i>
apple	<i>Malus</i> spp.
arborvitae, American	<i>Thuja occidentalis</i>
arborvitae, Oriental	<i>Platycladus orientalis</i>
ash	<i>Fraxinus</i> spp.
aster, stokes	<i>Stokesia laevis</i>
astilbe/false spirea	<i>Astilbe chinensis</i> and <i>A. chinensis</i> hybrids
azalea	<i>Rhododendron</i> spp.
baby's breath	<i>Gypsophila paniculata</i>
barberry, Japanese	<i>Berberis thunbergii</i>
bellflower	<i>Campanula elatines</i>
birch, river	<i>Betula nigra</i>
birch, white	<i>Betula pendula</i>
bird of paradise	<i>Strelitzia reginae</i>
blazing star	<i>Liatris spicata</i>
bleeding heart	<i>Dicentra spectabilis</i>
bottlebrush, lemon	<i>Callistemon citrinus</i>
boxwood, common	<i>Buxus sempervirens</i>
boxwood, Japanese	<i>Buxus microphylla japonica</i>
brush cherry	<i>Syzygium paniculata</i>
caladium, fancy leafed	<i>Caladium bicolor</i>
California laurel	<i>Umbellularia californica</i>
campanula (bellflower)	<i>Campanula</i> spp.
cape marigold	<i>Dimorphotheca</i> spp.
carpet bugle	<i>Ajuga</i> spp.
cassia, feathery	<i>Cassia artemisioides</i>
cherry, Mahaleb	<i>Prunus mahaleb</i>
cherry, sweet	<i>Prunus avium</i>
chrysanthemum, florists	<i>Chrysanthemum morifolium</i>
cleysera, Japanese	<i>Cleyera japonica</i>
coneflower, purple	<i>Echinacea purpurea</i>
coreopsis	<i>Coreopsis lanceolata</i>
cotoneaster, bearberry	<i>Cotoneaster dammeri</i>
cotoneaster, brightbead	<i>Cotoneaster buxifolius</i>
cotoneaster, cranberry	<i>Cotoneaster apiculatus</i>
cotoneaster, parney	<i>Cotoneaster lacteus</i>
cotoneaster, Pyrenees	<i>Cotoneaster congestus</i>
cotoneaster, rock	<i>Cotoneaster horizontalis</i>
cotoneaster, rockspray	<i>Cotoneaster microphyllus</i>
cottonwood	<i>Populus deltoides</i>
(grown for pulp)	
coyotebush, dwarf	<i>Baccharis pilularis</i>
crape Myrtle, common	<i>Lagerstroemia indica</i>
cryptomeria, Japanese	<i>Cryptomeria japonica</i>
cypress, Arizona	<i>Cupressus arizonica (glabra)</i>
cypress, Italian	<i>Cupressus sempervirens</i>
daisy, gloriosa	<i>Rudbeckia hirta</i>
(black-eyed Susan)	
daisy, painted	<i>Chrysanthemum coccineum</i>

daisy, shasta	<i>Chrysanthemum maximum</i>
daisy, trailing African	<i>Osteospermum fruticosum</i>
daylily	<i>Hemerocallis</i> spp.
dogwood, flowering	<i>Cornus florida</i>
dogwood, kousa	<i>Cornus kousa</i>
eastercactus	<i>Rhipsalidopsis gaertneri</i>
escallonia	<i>Escallonia exoniensis</i>
eucalyptus, mealy	<i>Eucalyptus cinerea</i>
eucalyptus, narrow-leaved	<i>Eucalyptus nicholii</i>
eucalyptus, red	<i>Eucalyptus sideroxylon</i>
euonymus, evergreen	<i>Euonymus japonica</i>
euonymus, stringybark	<i>Euonymus fortunei</i>
euonymus, winged	<i>Euonymus alata</i>
falsecypress, Lawson	<i>Chamaecyparis lawsoniana</i>
fatshedera	<i>Fatshedera lizei</i>
fir, alpine	<i>Abies lasiocarpa</i>
fir, balsam	<i>Abies balsamea</i>
fir, fraser	<i>Abies fraseri</i>
fir, grand	<i>Abies grandis</i>
fir, Vietch	<i>Abies veitchii</i>
fir, white	<i>Abies concolor</i>
firethorn	<i>Pyracantha fortuneana</i>
firethorn, formosa	<i>Pyracantha skoidzumi</i>
firethorn, scarlet	<i>Pyracantha coccinea</i>
forsythia, border	<i>Forsythia intermedia</i>
geum	<i>Geum quellyon</i>
gardenia	<i>Gardenia jasminoides</i>
gazania, trailing	<i>Gazania rigens leucolaena</i>
geranium (Pelargonium)	<i>Pelargonium hortorum</i>
geum	<i>Geum quellyon</i>
ginkgo	<i>Ginkgo biloba</i>
garden gladiolus	<i>Gladiolus hortulanus</i>
goldenrain tree	<i>Koeleruteria paniculata</i>
heavenly bamboo (Nandina)	<i>Nandina domestica</i>
hibiscus, Chinese	<i>Hibiscus rosa-sinensis</i>
holly, Chinese	<i>Ilex cornuta</i>
holly, English	<i>Ilex aquifolium</i>
holly, Japanese	<i>Ilex crenata</i>
honeysuckle, Japanese	<i>Lonicera japonica</i>
honeysuckle, Mexican	<i>Justicia spicigera</i>
hopseedbush, clammy	<i>Dodonaea viscosa</i>
ice plant	<i>Mesembryanthemum crystallinum</i>
(See precautions for ornamental plantings)	
ice plant, largeleaf	<i>Carpobrotus edulis</i>
(See precautions for ornamental plantings)	
impatiens (Busy lizzie)	<i>Impatiens wallerana</i>
iris, bearded	<i>Iris</i> spp.
ivy, Algerian	<i>Hedera canariensis</i>
ivy, English	<i>Hedera helix</i>
Jerseytea, redroot	<i>Ceanothus americanus</i>
juniper	<i>Juniperus</i> spp.
kumquat	<i>Fortunella</i> spp.
laurel, mountain	<i>Kalmia latifolia</i>
laurelcherry, Carolina	<i>Prunus caroliniana</i>
laurelcherry, English	<i>Prunus laurocerasus</i>
leucothoe, coast	<i>Leucothoe axillaris</i>
leucothoe, drooping	<i>Leucothoe fontanesiana</i>
lilac, common	<i>Syringa vulgaris</i>

lily, plantain
 lilyturf, bigblue
 lily-of-the-Nile
 Linden, little leaf
 magnolia, Southern
 manzanita, Stanford
 maple
 marigold
 mockorange
 moss, rose
 myoporum, prostrate
 myrtle, true
 oak
 oleander
 orange, ornamental
 Oregon grape
 osmanthus, holly-leaf
 Palo Verde, blue
 pansy
 pear
 pecan, ornamental
 periwinkle, bigleaf
 periwinkle, dwarf
 petunia
 photinia
 pine
 pittosporum
 privet, amur
 privet, glossy
 privet, golden
 privet, Japanese
 protea
 ranunculus, Persian
 redbud
 redcedar, eastern
 redcedar, western
 redwood, coast
 raphiolepis (India hawthorn)
 rhododendron
 rose
 rose-of-Sharon (Shrubalthea)
 Russian olive
 sage
 shrimp plant
 snapdragon
 sotol, desert spoon
 spruce, black
 spruce, Colorado
 spruce, Englemann
 spruce, Norway
 spruce, white
 star jasmine, Chinese
 stonecrop
 sumac, African
 sweetgum, American
 sweet William
 tobira
 trumpet vine, violet

Hosta spp.
 Liriope muscari
 Agapanthus africanus
 Tilia cordata
 Magnolia grandiflora
 Arctostaphylos stanfordiana
 Acer spp.
 Tagetes spp.
 Philadelphus spp.
 Portulaca grandiflora
 Myoporum parvifolium
 Myrtus communis
 Quercus spp.
 Nerium oleander
 Citrus spp.
 Mahonia aquifolium
 Osmanthus heterophyllus
 Cercidium floridum
 Viola wittrockiana
 Pyrus communis
 Carya spp.
 Vinca major
 Vinca minor
 Petunia spp.
 Photinia fraseri
 Pinus spp.
 Pittosporum spp.
 Ligustrum amurense
 Ligustrum lucidum
 Ligustrum vicaryi
 Ligustrum japonicum
 Protea neriifolia
 Ranunculus asiaticus
 Cercis canadensis
 Juniperus virginiana
 Thuja plicata
 Sequoia sempervirens
 Raphiolepis indica
 Rhododendron spp.
 Rosa spp.
 Hibiscus syriacus
 Elaeagnus angustifolia
 Salvia spp.
 Justicia brandegeana
 Antirrhinum majus
 Dasylirion wheeleri
 Picea mariana
 Picea pungens
 Picea englemanni
 Picea abies
 Picea glauca
 Trachelospermum jasminoides
 Sedum brevifolium
 Rhus lancea
 Liquidambar styraciflua
 Dianthus barbatus
 Pittosporum tobira
 Chytostoma callistegioides

viburnum, Laurustinus
virburnum, Sandankwa
weigela, oldfashioned
wintercreeper
xylosma, Japanese
yarrow
yaupon
yew
yew, Japanese
yewpine
yucca, pendulous
yucca, soaptree
zinnia, common

Viburnum tinus
Virburnum suspensum
Weigela florida
Euonymus fortunei
Xylosma congestum
Achillea spp.
Ilex vomitoria
Taxus media
Taxus cuspidata
Podocarpus macrophyllus
Yucca recurvifolia
Yucca elata
Zinnia elegans

Surflan A.S. May be Used on the Following Container-Grown Plants:

<u>Common Name</u>	<u>Scientific Name</u>
andromeda	<i>Pieris japonica</i>
arborvitae, American	<i>Thuja occidentalis</i>
arborvitae, Oriental	<i>Platycladus orientalis</i>
astilbe/false spirea	<i>Astilbe chinensis</i> and <i>A. chinensis</i> hybrids
barberry, Japanese	<i>Berberis thunbergii</i>
bellflower	<i>Campanula elatines</i>
blazing star	<i>Liatris spicata</i>
bleeding heart	<i>Dicentra spectabilis</i>
bottlebrush, lemon	<i>Callistemon citrinus</i>
boxwood, common	<i>Buxus sempervirens</i>
brush cherry	<i>Syzygium paniculata</i>
cleyera, Japanese	<i>Cleyera japonica</i>
cotoneaster, bearberry	<i>Cotoneaster dammeri</i>
cotoneaster, cranberry	<i>Cotoneaster apiculatus</i>
cotoneaster, pamey	<i>Cotoneaster lacteus</i>
cotoneaster, rock	<i>Cotoneaster horizontalis</i>
crape Myrtle, common	<i>Lagerstroemia indica</i>
cryptomeria, Japanese	<i>Cryptomeria japonica</i>
cypress, Arizona	<i>Cupressus arizonica (glabra)</i>
cypress, Italian	<i>Cupressus sempervirens</i>
daylily	<i>Hemerocallis</i> spp.
dogwood, kousa	<i>Cornus kousa</i>
eastercactus	<i>Rhipsalidopsis gaertneri</i>
escallonia	<i>Escallonia exoniensis</i>
euonymus, evergreen	<i>Euonymus japonica</i>
euonymus, stringybark	<i>Euonymus fortunei</i>
fatshedera	<i>Fatshedera lizei</i>
firethorn	<i>Pyracantha, fortuneana</i>
firethorn, formosa	<i>Pyracantha skoidzumii</i>
firethorn, scarlet	<i>Pyracantha coccinea</i>
gardenia	<i>Gardenia jasminoides</i>
ginkgo	<i>Ginkgo biloba</i>
holly, Chinese	<i>Ilex cornuta</i>
holly, Japanese	<i>Ilex crenata</i>
Jerseytea, redroot	<i>Ceanothus americanus</i>
juniper	<i>Juniperus</i> spp.
kumquat	<i>Fortunella</i> spp.
lilac, common	<i>Syringa vulgaris</i>
lilyturf, bigblue	<i>Lilium muscari</i>
lily-of-the-Nile	<i>Agapanthus africanus</i>

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linden, little leaf	<i>Tilia cordata</i>
mockorange	<i>Philadelphus</i> spp.
myrtle, true	<i>Myrtus communis</i>
oak	<i>Quercus</i> spp.
oleander	<i>Nerium oleander</i>
orange, ornamental	<i>Citrus</i> spp.
pecan, ornamental	<i>Carya</i> spp.
photinia	<i>Photinia fraseri</i>
pine	<i>Pinus</i> spp.
pittosporum	<i>Pittosporum</i> spp.
privet, amur	<i>Ligustrum amurense</i>
privet, glossy	<i>Ligustrum lucidum</i>
privet, golden	<i>Ligustrum vicaryi</i>
privet, Japanese	<i>Ligustrum japonicum</i>
redbud	<i>Cercis canadensis</i>
rhamnolepis (India hawthorn)	<i>Rhamnolepis indica</i>
rhododendron	<i>Rhododendron</i> spp.
Russian olive	<i>Elaeagnus angustifolia</i>
shrimp plant	<i>Justicia brandegeana</i>
spruce, Colorado	<i>Picea pungens</i>
sumac, African	<i>Rhus lancea</i>
sweetgum, American	<i>Liquidambar styraciflua</i>
trumpet vine, violet	<i>Cytostoma callistegioides</i>
viburnum, Laurustinus	<i>Viburnum tinus</i>
wintercreeper	<i>Euonymus fortunei</i>
yaupon	<i>Ilex vomitoria</i>
yucca, soaptree	<i>Yucca elata</i>

Surflan A.S. May be Used on the Following Field Grown Fruit Plant Nursery

Liners†:

almond	grapefruit	pear
apple	kiwi	pecan
apricot	lemon	pistachio
avacado	macadamia nut	plum
cherry	nectarine	pomegranate
fig	olive	prune
filbert	orange	walnut, English
grape		

Small Fruits:

blackberry	currant	gooseberry
blueberry	dewberry	loganberry
boysenberry	elderberry	raspberry

†Plants transplanted for additional growth before transplanting to final growing location.

Tank Mix Combinations

Tank mix combinations of Surflan A.S. plus Roundup, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Surflan A.S. may also be tank mixed with Gallery® herbicide (California registration pending) and applied preemergence to broaden the spectrum of broadleaf weed control in ornamental areas. Applied as directed, these Surflan A.S. tank mixes will provide control of susceptible weed species listed on the respective labels. Refer to tank mix product labels for specific use directions, precautions and limitations before use.

Surflan A.S. Plus Roundup: Tank mix combinations of Surflan A.S. plus Roundup are recommended to control existing undesirable vegetation. Applied as directed, Surflan A.S. plus Roundup will provide postemergence control of susceptible weed species listed on the label for Roundup and residual preemergence control of susceptible weed species listed on the label for

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Surflan A.S. Refer to the label for Roundup for specific use directions, precautions and limitations before use.

Precautions:

Do not apply sprays containing Roundup over the top of ornamental plants. Extreme care must be exercised to prevent contact of sprays containing Roundup with foliage and stems of turfgrasses, trees, shrubs, or other desirable vegetation since severe damage or death may result.

Note: If spraying with Roundup in areas adjacent to desirable plants, use a shield to prevent spray from contacting foliage and stems of desirable plants.

Ornamental Bulbs

Surflan A.S. may be applied for control of susceptible annual weeds in ornamental bulbs, e.g., bulbous iris, daffodil (narcissus), hyacinth and tulip. Apply Surflan A.S. to the soil surface 2 to 4 weeks after planting, but prior to the emergence of annual weeds. For fall planted bulbs, apply Surflan A.S. again in late winter or early spring to weed-free soil surfaces.

Special Use Precautions:

Do not apply to tulip plants that have emerged to a height greater than 3/4 inch. Do not apply to gladioli corms prior to emergence or less than one inch in diameter.

Broadcast Application Rates

Time of Application	Soil Texture	Surflan A.S.	
		quarts/acre	fl oz/1000 sq ft
Fall	Coarse	0.75	0.5
Fall	Medium and Fine	1.5	1.0
Feb. - March	All Soil Textures	0.75	0.5

Greenhouse Areas

Surflan A.S. may be applied to drainage areas under benches in open greenhouse-type structures. Do not apply in enclosed greenhouses or in enclosed shadehouse-type structures. Do not apply within three weeks prior to enclosure in greenhouse-type structures.

Christmas Tree Plantations

Surflan A.S. Alone

Apply Surflan A.S. as a directed spray to the soil surface or as an overtop spray to established plantings of field grown Christmas tree species, including fir (*Abies* spp.), pine (*Pinus* spp.), and spruce (*Picea* spp.). Do not apply to Douglas-fir (*Pseudotsuga menziesii*). Do not apply to seedbeds or seedling transplant beds. Apply only to established plantings. Established plants are defined as those that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation. Follow all instructions provided in the "General Information" section of this label.

Broadcast Application Rates

Length of Control	Surflan A.S.	
	quarts/acre	fl oz/1000 sq ft
2 to 4 months	2	1.5
4 to 8 months	4	3

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Tank Mix Combinations

Tank-mix combinations of Surflan A.S. plus other labeled herbicides may be used as directed or overtop sprays in established Christmas tree plantings. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions and limitations before use.

Surflan A.S. Plus Roundup: Apply tank mix combinations of Surflan A.S. plus Roundup only as directed sprays in Christmas tree plantings. When applied according to use directions, Surflan A.S. plus Roundup will provide postemergence control of susceptible weed species listed on the Roundup label and residual preemergence control of susceptible weed species listed on the Surflan A.S. label. Refer to the Roundup label for specific use directions, precautions and limitations before use.

Precautions:

Do not apply sprays containing Roundup over the top of Christmas tree plantings. Extreme care must be exercised to avoid contact of spray containing Roundup with foliage and stems of Christmas trees or severe damage or death may result.

Noncropland Areas and Industrial Sites**Noncropland Areas -- Tank Mix Combinations**

Tank mix combinations of Surflan A.S. plus Roundup and many other labeled herbicides may be used to control undesirable vegetation in noncropland areas. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions and limitations before use.

Length of Control	Surflan A.S.	
	quarts/acre	fl oz/1000 sq ft
2 to 4 months	2	1.5
4 to 8 months	4	3
8 to 12 months	6	4.5

Industrial Sites -- Tank Mix Combinations

Tank mix combinations of Surflan A.S. plus Roundup, Spike and many other labeled herbicides may be used as overtop sprays to control existing vegetation on industrial sites such as utility substations, highway guard rails, sign posts and delineators. When applied according to use directions, these tank mixes will provide control of susceptible weed species listed on the respective product labels. Refer to tank mix product labels for specific use directions, precautions and limitation before use.

Warm Season Turfgrasses

Surflan A.S. may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, buffalograss, centipedegrass, St. Augustinegrass and zoysiagrass or established tall fescue growing in warm season areas. Established turf is defined as a dense turf having a well-anchored root system and healthy, vigorous top growth. Surflan A.S. may be tank mixed with Gallery herbicide (California registration pending) and applied preemergence to broaden the spectrum of broadleaf weed control in warm season turf. Refer to the Gallery label for specific use directions, precautions, and limitations before use.

Successful preemergence control of weeds listed on this label requires that Surflan A.S. be applied prior to weed germination and be activated by at least one-half (1/2) inch of rainfall or irrigation within 21 days of application.

Special Use Precautions:

To avoid possible injury, do not apply Surflan A.S. to:

- Cool season turfgrass species.
- Golf course putting greens or tees or lawns containing dichondra or cool season turfgrass species.
- Newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipede grass, or zoysiagrass until these turfs are well-established and have well-anchored root systems.
- Newly hydromulched areas of bermudagrass until such areas are well-established.
- Bermudagrass variety "Sun Turf" when tank mixed with atrazine.

Surflan A.S. will not control emerged weeds.

Any cultural practices that disturb the soil, such as aerification or verticutting, should be done prior to application of Surflan A.S..

Surflan A.S. may injure turf that is not well-established or is stressed or weakened due to unfavorable winter climatic conditions, drought, nematodes, or other factors which damage or weaken turf root systems. Apply Surflan A.S. only to healthy, well-established turf that has a well-anchored root system.

Use Surflan A.S. only as a part of a total turf management program that includes good fertilization practices.

Do not apply Surflan A.S. in the spring or early summer to tall fescue turfgrass reseeded the previous fall. In such cases, apply Balan[®] 2.5G granular herbicide at 60 to 80 pounds per acre in early summer (Round 1) and Surflan A.S. at 1.5 quarts per acre approximately eight weeks later (Round 2). Do not apply Surflan A.S. at the single application rate (2 quarts per acre) to established tall fescue; in such cases, apply 1.5 quarts per acre of Surflan A.S. in an initial application, followed by a second application of 1.5 quarts per acre 8 to 10 weeks later.

In bermudagrass areas that have been overseeded with winter grasses, a spring application of Surflan A.S. will thin the overseeded grasses.

Annual Grasses Controlled by Surflan A.S.**Summer Annuals:**

<u>Common Name</u>	<u>Scientific Name</u>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
crabgrass, large	<i>Digitaria sanguinalis</i>
crabgrass, smooth	<i>Digitaria ischaemum</i>
crabgrass	<i>Digitaria</i> spp.
crowfootgrass	<i>Dactyloctenium aegyptium</i>
foxtail, bristlegass	<i>Setaria magna</i>
foxtail, giant	<i>Setaria faberi</i>
foxtail, green (pigeongrass)	<i>Setaria viridis</i>
foxtail, robust	<i>Setaria robusta</i>
foxtail, yellow	<i>Setaria glauca</i>
goosegrass (silver crabgrass)	<i>Eleusine indica</i>
Johnsongrass (seedling only)	<i>Sorghum halepense</i>
ryegrass, Italian	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>

Winter Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
bluegrass, annual	<i>Poa annua</i>

Annual Broadleaf Weeds Controlled by Surlan A.S.**Summer Annuals:**

<u>Common Name</u>	<u>Scientific Name</u>
carpetweed	<i>Mollugo verticillata</i>
knotweed, prostrate	<i>Polygonum aviculare</i>
purslane, common	<i>Portulaca oleracea</i>

Winter Annuals:

<u>Common Name</u>	<u>Scientific Name</u>
chickweed, common	<i>Stellaria media</i>
henbit	<i>Lamium amplexicaule</i>

Broadleaf Weeds Suppressed by Surlan A.S.

<u>Common Name</u>	<u>Scientific Name</u>
groundsel, common	<i>Senecio vulgaris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

Application Rates, Frequency and Timing of Application

Surlan A.S. can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for annual bluegrass (*Poa annua*) and winter annual broadleaf weed control.

1. Summer Annual Grasses and Broadleaf Weeds

Single Application Program: Apply 2 quarts per acre of Surlan A.S. per acre in late winter or early spring, prior to the onset of conditions favorable for annual weed germination.

Split Application Program: As an alternative to a single application program, Surlan A.S. may be applied in a split application. This program is desirable when the initial application is made well in advance of weed germination and where weed control is desired for a longer period of time. Apply 1.5 quarts per acre of Surlan A.S. in an initial application, followed by a second application of 1.5 quarts per acre 8 to 10 weeks later.

The second treatment of the split application may follow application of a different preemergence grass herbicide in place of the initial Surlan A.S. application.

2. Annual Bluegrass (*Poa annua*) and Winter Annual Broadleaf Weeds

In areas of heavy annual bluegrass infestation, its elimination will result in temporary thinning of turfgrass cover. Proper fertilization, irrigation and soil incorporated reseeding should be employed to speed the restoration of desirable turfgrass cover in areas previously occupied by annual bluegrass (See section on reseeding).

Apply Surlan A.S. as a preemergence treatment in late summer or early fall, prior to the expected germination period for annual bluegrass and winter annual broadleaf weeds. If annual bluegrass infestation is severe and its elimination will result in thinning of turfgrass cover, apply Surlan A.S. at 1.5 quarts per acre. If thinning of turfgrass cover is not a potential problem, Surlan A.S. may be applied at 2 quarts per acre.

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Broadcast Application Rates

Surflan A.S.	
quarts/acre	fl oz/1000 sq ft
1.5	1
2	1.5

Weed Control In Florida

In Florida, apply 1.5 quarts per acre of Surflan A.S. three times per year, or every 90 to 100 days, in the fall, early spring, and early summer. Do not apply more than 1.5 quarts per acre of Surflan A.S. in any single application.

Application Equipment

Apply Surflan A.S. evenly over the turfgrass area. Avoid spray pattern skips and overlaps that may result in incomplete coverage or over-application. For best results use application equipment designed to uniformly broadcast liquid herbicides. Calibrate application equipment prior to use, according to manufacturer's directions. Check equipment frequently to make sure it is working properly and distributing spray uniformly.

Reseeding

Herbicides that control annual weeds may also affect establishment of desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days following application of Surflan A.S.. When reseeding, it is essential that proper cultural practices such as soil cultivation and seedbed preparation, irrigation and fertilization be followed. For satisfactory reseeding results following Surflan A.S. use, the seeding rate should be increased and equipment designed to place seed in full contact with soil (such as the Rogers Aero Seeder) should be employed.

Warranty Disclaimer

DowElanco 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 strict accordance with the directions, subject to the inherent risks set forth below. DOWELANCO MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperature, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of DowElanco or the seller. All such risks shall be assumed by Buyer.

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Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at DowElanco's election, one of the following:

1. Refund of purchase price paid by buyer or user for product bought, or
2. Replacement of amount of product used.

DowElanco shall not be liable for losses or damages resulting from handling or use of this product unless DowElanco is promptly notified of such loss or damage in writing. In no case shall DowElanco be liable for consequential or incidental damages or losses.

The terms of the "Warranty Disclaimer" above and this "Limitation of Remedies" cannot be varied by any written or verbal statements or agreements. No employee or sales agent of DowElanco or the seller is authorized to vary or exceed the terms of the "Warranty Disclaimer" or this "Limitation of Remedies" in any manner.

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(Base Label which remains on container after booklet is removed.)

(logo) DowElanco

Surflan* A.S.

A selective preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in:

- Landscape ornamentals
- Container grown ornamentals
- Field grown ornamentals
- Drainage areas under greenhouse benches
- Ornamental bulbs
- Ground covers
- Christmas tree plantations
- Noncropland
- Non-bearing trees and vines
- Industrial sites
- Established warm season turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass, Tall Fescue and Zoysiagrass)

Active Ingredient:

oryzalin: 3,5-dinitro-*N,N*-dipropylsulfanilamide . 40.4%

Inert Ingredients . 59.6%

Total . 100.0%

Contains 4.0 pounds of active ingredient per gallon.

Precautionary Statements

Hazards to Humans and Domestic Animals

Keep Out Of Reach Of Children

CAUTION

Causes Eye Irritation • Harmful If Swallowed, Inhaled Or Absorbed Through The Skin.

Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Surflan A.S. may cause skin sensitization reactions in certain individuals. ~~Mixer/loader/applicators must wear eye protection. Protective clothing such as coveralls and/or a long-sleeved shirt, shoes, and impermeable gloves should be worn when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.~~

Personal Protective Equipment (PPE)

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.

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.

First Aid

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If in eye: Flush with plenty of water. Get medical attention if irritation develops.
If on skin: Wash with plenty of soap and water. Get medical attention if irritation develops.
If swallowed: Do not induce vomiting. Call a physician or Poison Control Center. If available, administer activated charcoal (6-8 heaping teaspoons) with a large quantity of water. Do not give anything by mouth to an unconscious person. Immediately transport to a medical care facility and see a physician.
If inhaled: Remove individual to fresh air. Get medical attention if breathing difficulty occurs. If not breathing, give artificial respiration, preferably cardiopulmonary resuscitation and get medical attention immediately.

Environmental Hazards

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate. Cover or incorporate spills.

Directions for Use

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read All Directions for Use carefully before applying.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.
Storage: Store in original container only. In case of leak or spill, use absorbent materials to contain liquids and dispose as waste.
Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.
Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Refer to inside of label booklet for additional precautionary information and Directions for Use.

Notice: Read the entire label. Use only according to label directions. Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" inside label booklet.

In case of emergency endangering health or the environment involving this product, call collect 517-636-4400.

Agricultural Chemical: Do not ship or store with food, feeds, drugs or clothing.

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20122

EPA Est. 37429-GA-01
900-00xxxx

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Specialty Herbicide

Net Contents XX gal

Label text is based on EPA accepted copy dated 03/12/92

Revised 06/10/93

Amendments:

1) Added labels statements required by the Worker Protections Standard (PR Notice 93-7).