

DowElanco

**Surflan A.S.**  
Herbicide

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- <i>N,N</i> -dipropylsulfanilamide.....	40.4%
Inert Ingredients.....	59.6%
Total .....	100.0%

Contains 4.0 pounds of active ingredient per gallon.

\*Trademark of DowElanco

**Keep Out of Reach of Children**  
**CAUTION**

See additional precautionary information, First Aid and Directions for Use inside label booklet.

Notice: Read the entire label before using. Use only according to label directions.

Before buying or using this product, read "Warranty Disclaimer" and "Limitation of Remedies" elsewhere on this label.

In Case of Emergency endangering life or property involving this product, call collect 517-636-4400

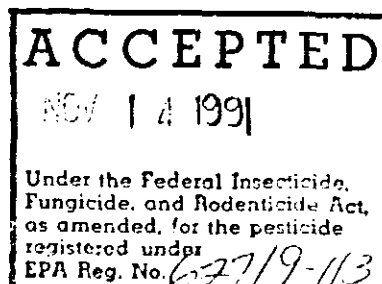
Specialty Chemical -- Do not ship or store with food, feeds, drugs or clothing.

EPA Registration No. 62719-113.  
EPA Est. No. 00000-XX-00

DowElanco  
Quad IV, 9002 Purdue Road  
Indianapolis, IN 46268-1189, U.S.A.

Herbicide

Net Contents - 2 1/2 Gallons



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**Precautionary Statements**

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**Hazards to Humans and Domestic Animals****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 and protective clothing consisting of coveralls, a long sleeved shirt, shoes, and impermeable gloves when handling this product. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**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 or wetlands. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spills.

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**Directions for Use**

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

## General Information

Surflan A.S. 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 selective to the target plant species. The user assumes responsibility for any crop 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. Foaming may be prevented by placing the end of the fill pipe below the surface of the water in the spray tank.

**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).

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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 overtop 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.

## Weeds Controlled by Surflan A. S.

### Annual Grasses:

#### Common Name

Barley, little  
Barnyardgrass  
(Watergrass)  
Bluegrass, annual

#### Scientific Name

*Hordeum pusillum*  
*Echinochloa crus-galli*  
*Poa annua*

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Crabgrass, large  
 Crabgrass, smooth  
 Crowfootgrass  
 Cupgrass, Southwestern  
 Foxtail, bristlegrass  
 Foxtail, giant  
 Foxtail, green  
   (Pigeongrass)  
 Foxtail, robust  
 Foxtail, yellow  
 Goosegrass  
   (Silver crabgrass)  
 Johnsongrass  
   (seedling only)  
 Junglerice  
 Lovegrass, Mexican  
 Lovegrass, orcutt  
 Oat, wild  
 Panicum, browntop  
 Panicum, fall  
   (Spreading panicgrass)  
 Panicum, Texas  
   (Buffalograss)  
   (Coloradograss)  
 Ryegrass, Italian  
 Sandbur, field  
 Signalgrass (Brachiaria)  
 Sprangletop, red  
 Witchgrass

**Broadleaf Weeds:**Common Name

Bittercress  
 Carpetweed  
 Chickweed, common  
 Fiddleneck, coast  
 Filaree, redstem  
 Filaree, whitestem  
 Groundsel, common  
 Henbit  
 Knotweed, prostrate  
 Lambsquarters  
 Pigweed, prostrate  
 Pigweed, redroot  
 Pigweed, spring  
 Pigweed, tumble  
 Puncturevine  
 Purslane, common  
 Pusley, Florida  
   (Florida purslane)  
   (Mexican clover)  
   (Pusley)  
 Rocket, London  
 Rockpurslane, desert  
 Shepherdspurse  
 Spurge, prostrate  
 Woodsorrel, yellow

*Digitaria sanguinalis*  
*Digitaria ischaemum*  
*Dactyloctenium aegyptium*  
*Eriochloa gracilis*  
*Setaria magna*  
*Setaria faberi*  
*Setaria viridis*

*Setaria robusta*  
*Setaria glauca*  
*Eleusine indica*

*Sorghum halepense*

*Echinochloa colonum*  
*Eragrostis mexicana*  
*Eragrostis orcuttiana*  
*Avena fatua*  
*Panicum fasciculatum*  
*Panicum dichotomiflorum*

*Panicum texanum*

*Lolium multiflorum*  
*Cenchrus incertus*  
*Brachiaria spp.*  
*Leptochloa filiformis*  
*Panicum capillare*

Scientific Name

*Cardamine oligosperma*  
*Mollugo verticillata*  
*Stellaria media*  
*Amsinckia intermedia*  
*Erodium cicutarium*  
*Erodium moschatum*  
*Senecio vulgaris*  
*Lamium amplexicaule*  
*Polygonum aviculare*  
*Chenopodium album*  
*Amaranthus blitoides*  
*Amaranthus retroflexus*  
*Amaranthus hybridus*  
*Amaranthus albus*  
*Tribulus terrestris*  
*Portulaca oleracea*  
*Richardia scabra*

*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>Conyza canadensis</i>
Ladysthumb	<i>Polygonum persicaria</i>
Lettuce, prickly	<i>Lactuca serriola</i>
Mallow, common	<i>Malva neglecta</i>
Milkweed, climbing	<i>Sarcostemma cynanchoides</i>
Morningglory	<i>Ipomoea spp.</i>
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 spp.</i>

**Approved Uses****Ornamental Plantings****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.

Do not apply Surflan A.S. to either nursery seedbeds or forest or Christmas tree seedling transplant beds.

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.

Do not apply Surflan A. S. in ornamental plantings where the likelihood of runoff onto lawn areas containing dichondra or cool-season turfgrass species exists as severe injury or death may occur.

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

**Douglas-fir:** Do not apply Surflan A.S. to Douglas-fir (*Pseudotsuga menziesii*).

**Ice Plant:** When establishing unrooted ice plant (*Mesembryanthemum crystallinum*) and *Carpobrotus edulis* on coarse soils in landscape plantings, use only the 2 quan 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.

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**Broadcast Application Rates**

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

**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).

**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 spp.</i>
✓ Arborvitae, American	<i>Thuja occidentalis</i>
✓ Arborvitae, Oriental	<i>Platycladus orientalis</i>
✓ Ash	<i>Fraxinus spp.</i>
Aster, stokes	<i>Stokesia laevis</i>
Astilbe/false spirea	<i>Astilbe chinensis and</i> <i>A. chinensis hybrids</i>
✓ Azalea	<i>Rhododendron spp.</i>
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 spp.</i>
✓ Cape marigold	<i>Dimorphotheca spp.</i>
✓ Carpet bugle	<i>Ajuga spp.</i>
✓ 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>



**Field- and Liner- Grown Species, continued**

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>
✓ Grape 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 spp.</i>
✓ 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 veitchi</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)

**Field- and Liner- Grown Species, continued**

✓ 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	<i>Hosta</i> spp.
✓ Lilyturf, bigblue	<i>Liriope muscari</i>
✓ Lily-of-the-Nile	<i>Agapanthus africanus</i>
✓ Linden, little leaf	<i>Tilia cordata</i>
✓ Magnolia, Southern	<i>Magnolia grandiflora</i>
✓ Manzanita, Stanford	<i>Arctostaphylos stanfordiana</i>
✓ Maple	<i>Acer</i> spp.
✓ Marigold	<i>Tagetes</i> spp.
✓ Mockorange	<i>Philadelphus</i> spp.
✓ Moss, rose	<i>Portulaca grandiflora</i>
✓ Myoporum, prostrate	<i>Myoporum parvifolium</i>
✓ Myrtle, true	<i>Myrtus communis</i>
✓ Oak	<i>Quercus</i> spp.
✓ Oleander	<i>Nerium oleander</i>
✓ Orange, ornamental	<i>Citrus</i> spp.
✓ Oregon grape	<i>Mahonia aquifolium</i>
✓ Osmanthus, holly-leaf	<i>Osmanthus heterophyllus</i>
✓ Palo Verde, blue	<i>Cercidium floridum</i>
✓ Pansy	<i>Viola wittrockiana</i>
✓ Pear	<i>Pyrus communis</i>
✓ Pecan, ornamental	<i>Carya</i> spp.
✓ Periwinkle, bigleaf	<i>Vinca major</i>
✓ Periwinkle, dwarf	<i>Vinca minor</i>
✓ Petunia	<i>Petunia</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>
✓ Protea	<i>Protea nerifolia</i>
✓ Ranunculus, Persian	<i>Ranunculus asiaticus</i>
✓ Redbud	<i>Cercis ca. densis</i>
✓ Redcedar, Eastern	<i>Juniperus virginiana</i>
✓ Red Cedar, Western	<i>Thuja plicata</i>
✓ Redwood, coast	<i>Sequoia sempervirens</i>
✓ Rhaphiolepis (India hawthorn)	<i>Rhaphiolepis indica</i>
✓ Rhododendron	<i>Rhododendron</i> spp.
✓ Rose	<i>Rosa</i> spp.
✓ Rose-of-Sharon (Shrubalthea)	<i>Hibiscus syriacus</i>
✓ Russian olive	<i>Elaeagnus angustifolia</i>

**Field- and Liner- Grown Species, continued**

✓ Sage	<i>Salvia spp.</i>
✓ Shrimp plant	<i>Justicia brandegeana</i>
✓ Snapdragon	<i>Antirrhinum majus</i>
✓ Sotol, desert spoon	<i>Dasyliion wheeleri</i>
✓ Spruce, black	<i>Picea mariana</i>
✓ Spruce, Colorado	<i>Picea pungens</i>
✓ Spruce, Englemann	<i>Picea englemanni</i>
✓ Spruce, Norway	<i>Picea abies</i>
✓ Spruce, white	<i>Picea glauca</i>
✓ Star jasmine, Chinese	<i>Trachelospermum jasminoides</i>
✓ Stonecrop	<i>Sedum brevifolium</i>
✓ Sumac, African	<i>Rhus lancea</i>
✓ Sweetgum, American	<i>Liquidambar styraciflua</i>
✓ Sweet William	<i>Dianthus barbatus</i>
✓ Tobira	<i>Pittosporum tobira</i>
✓ Trumpet vine, violet	<i>Clytostoma callistegioides</i>
✓ Viburnum, Laurustinus	<i>Viburnum tinus</i>
✓ Viburnum, Sandankwa	<i>Viburnum suspensum</i>
✓ Weigela, oldfashioned	<i>Weigela florida</i>
✓ Wintercreeper	<i>Euonymus fortunei</i>
✓ Xylosma, Japanese	<i>Xylosma congestum</i>
✓ Yarrow	<i>Achillea spp.</i>
✓ Yaupon	<i>Ilex vomitoria</i>
✓ Yew	<i>Taxus media</i>
✓ Yew, Japanese	<i>Taxus cuspidata</i>
✓ Yewpine	<i>Podocarpus macrophyllus</i>
✓ Yucca, pendulous	<i>Yucca recurvifolia</i>
✓ Yucca, soaptree	<i>Yucca elata</i>
✓ Zinnia, common	<i>Zinnia elegans</i>

**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 and</i>
✓ 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, parney	<i>Cotoneaster lacteus</i>
Cotoneaster, rock	<i>Cotoneaster horizontalis</i>
✓ Grape 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 spp.</i>
Dogwood, kousa	<i>Cornus kousa</i>
✓ Eastercactus	<i>Rhipsalidopsis gaertneri</i>
✓ Escallonia	<i>Escallonia exoniensis</i>

**Container-Grown Species, continued**

✓ 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 skoidzumi</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> sp.
Kumquat	<i>Fortunella</i> sp.
Lilac, common	<i>Syringa vulgaris</i>
✓ Lilyturf, bigblue	<i>Liriope muscari</i>
✓ Lily-of-the-Nile	<i>Agapanthus africanus</i>
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>
Rhaphiolepis (India hawthorn)	<i>Rhaphiolepis 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>Clytostoma 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<sup>1</sup>:**

✓ 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

✓ Blueberry

✓ Boysenberry

✓ Currant

✓ Dewberry

✓ Elderberry

✓ Gooseberry

✓ Loganberry

✓ Raspberry

<sup>1</sup> 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<sup>®</sup> herbicide 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./Roundup:** Tank-mix combinations of Surflan A. S./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 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 ornamental plants.

Extreme care must be exercised to prevent contact of Roundup-containing sprays 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.

**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 per acre	fl oz per 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.

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## 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 per acre	fl oz per 1000 sq ft
2 to 4 months	2	1.5
4 to 8 months	4	3

### **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./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 per acre	fl oz per 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

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respective product labels. Refer to tank mix product labels for specific use directions, precautions and limitation before use.

### **Warm Season Turfgrasses**

#### **General Information**

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 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.

#### **Precautions:**

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..

Do not apply Surflan A.S. to cool season turfgrass.

Do not apply Surflan A.S. to golf course putting greens or lawns containing dichondra or cool-season turfgrass species as severe injury or death may occur.

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.

Do not apply Surflan A. S. to newly sprigged or sodded areas of bermudagrass, St. Augustinegrass, centipedegrass or zoysiagrass until these turfs are well-established and have well-anchored root systems.

Do not apply Surflan A. S. to newly hydromulched areas of bermudagrass until these areas are well-established.

Areas planted to bermudagrass var. "Sun Turf" in northeastern Oklahoma have shown sensitivity to Surflan A. S. that has been tank-mixed with atrazine.

**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 spp.</i>
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 Surflan 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 Surflan 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

Surflan 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 Surflan 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, Surflan 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 Surflan 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 Surflan 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 Surflan 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 Surflan A.S. at 1.5 quarts per acre. If thinning of turfgrass cover is not a potential problem, Surflan A.S. may be applied at 2 quarts per acre.

#### Broadcast Application Rates

Surflan A.S.	
quarts per acre	fl oz per 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.

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**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. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to the label instructions (including conditions noted on the label, such as unfavorable temperatures, 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 the buyer.

**LIMITATION OF REMEDIES**

The exclusive remedy for losses or damages resulting from the use of 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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DowElanco  
Quad IV, 9002 Purdue Road  
Indianapolis, Indiana 46268-1189, U. S.A.  
Revised 10/16/91

**Revisions:**

- 1) General editing to clarify use directions.
- 2) Equipment cleaning instructions added.
- 3) Added Instructions for cleaning treated surfaces and use of masking colorants.
- 4) Added instructions to determine plant tolerance for treatment of species not listed on label.
- 5) Added detailed definition of what constitutes "established plantings".
- 6) Use on nursery seedbeds and forest and Christmas tree nursery transplant beds prohibited.
- 7) Added prohibition of use on Douglas-fir.
- 8) Added cottonwood trees grown for pulp to species list for treatment.
- 9) Revised weeds controlled list
- 10) Revised ornamental species lists and provided separate lists for field and liner grown vs: suc container grown species.
- 11) Tank mix with Gallery herbicide added.
- 12) Revised use directions for Christmas tree plantations.
- 13) Added use around "Greenhouse Areas"
- 14) Revised definition of "established turf".
- 15) Use on golf course putting greens and lawns containing dichondra prohibited.
- 16) Revised use directions and application rates for warm season turfgrasses.

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Reg # 62719-113

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# Specialty Products Supplemental Labeling



DowElanco

Quad IV, 9002 Purdue Road

P.O. Box 681428

Indianapolis, Indiana 46268-1189 USA

Surflan\* A.S. (EPA Reg. No. 62719-113)

## Special Precautions for Use of Surflan A.S.

### ATTENTION

- It is a violation of Federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Read the label affixed to the container for Surflan A.S. before applying. Carefully follow all precautionary statements and applicable use directions.
- Use of Surflan A.S. according to this supplemental labeling is subject to all use precautions and limitations imposed by the label affixed to the container for Surflan A.S.

### Use on Ornamental Plant Species Not Listed in the Surflan Label

Users who wish to use Surflan A.S. on ornamental plant species not listed on this label may determine suitability for such uses by making a trial application at recommended rates to a small number of plants. Prior to additional use of Surflan A.S. on the target plant species, the trial treatment should be observed while actively growing for signs of herbicidal injury (reduced growth rate or stunting) for a minimum of 3 months.

**Note:** The user assumes responsibility for any crop damage or other liability resulting from use of Surflan A.S. on plant species not listed on this label.

### Use precautions for Ornamental and Fruit Tree Nurseries, Forest Nurseries and Christmas Tree Plantations

The following use precautions, applicable to ornamental nurseries, forest nurseries and Christmas tree plantations, have been added to the Surflan A.S. label to avoid potential plant injury:

- Apply Surflan A.S. 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.
- Do not use Surflan A.S. on either nursery seedbeds or on forest and Christmas tree transplant/liner beds.
- Do not apply Surflan A.S. to Douglas fir (*Pseudotsuga menziesii*).

ACCEPTED

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under  
EPA Reg. No. 62719-113

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