

(Container label)

(Logo) DowElanco

**Surflan\* 0.25 A.S.**

A Selective Preemergence Surface-Applied Herbicide for Use in Established Ornamentals and Southern Turfgrasses for the Control of Annual Grasses and Many Broadleaf Weeds In:

- Container Grown Ornamental Plants
- Ground Covers
- Noncropland Areas
- Ornamental Trees
- Ornamental Plants (Including Around Highway and Industrial Sites)
- Ornamental Woody Shrubs
- Southern Turfgrasses (Including Bahlagrass, Bermudagrass, Centipedegrass, St. Augustinegrass, Tall Fescue and Zoyslagrass)

Active Ingredient:

oryzalin: 3,5-dinitro- <i>N,N</i> -dipropylsulfanilamide.....	3%
Inert Ingredients.....	97%
Total .....	100%

Contains 0.25 pounds active ingredient per gallon.

Avoid Freezing--Store Above 40°F

**Precautionary Statements**

**Hazards to Humans and Domestic Animals**

Keep Out of Reach of Children

**CAUTION**

Avoid breathing spray mist, ingestion and contact with eyes, skin, or clothing. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

**First Aid**

If In eyes: Flush eyes with plenty of water. Call a physician if irritation develops.

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

If swallowed: Call a physician or Poison Control Center.

If inhaled: Remove individual to fresh air. If breathing difficulty occurs, get medical attention.

**Environmental Hazards**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment washwaters or rinsate.

**ACCEPTED**

JUL 11 1994

EPA Reg. No. 62719-140

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**Storage and Disposal**

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

**Storage:** Avoid freezing. Store above 40°F. 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.

**Notice:** Read entire label. Use only according to label directions. Before buying this product, read Limited Warranty and Disclaimer Section elsewhere on this label.

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

Do Not Ship or Store with Food, Feeds, Drugs, or Clothing.

EPA Reg. No. 62719-140

EPA Est. \_\_\_\_\_

\*Trademark of DowElanco

DowElanco • Indianapolis, Indiana 46268 U.S.A.

**Herbicide**

**Net Contents - \_\_\_\_\_**

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(Label Booklet)

(Logo) DowElanco

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See back or container/side panel for additional precautionary statements.

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## Precautionary Statements

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**If swallowed:** Call a physician or Poison Control Center.

**If inhaled:** Remove individual to fresh air. If breathing difficulty occurs, get medical attention.

#### Environmental Hazards

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Do not contaminate water when disposing of equipment wash waters or rinsate.

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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 for use carefully before applying.

**Not for use on plants grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior plantscapes, ornamental gardens or parks, or on golf courses or lawns and grounds.**

### Storage and Disposal

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

**Storage:** Avoid freezing. Store above 40°F. 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.

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## Ornamentals

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### General Information

Surflan is a preemergence surface-applied herbicide for the control of annual grasses and many broadleaf weeds.

**Soil Preparation:** Surflan will not control established weeds. Therefore, areas to be treated should be free of established weeds. Weed residues, prunings and trash should be thoroughly mixed into the soil or removed prior to treatment. The soil should be in good tilth and free of clods at the time of application.

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**General Use Precautions**

Apply only to established plantings. Rooted liners should be established in containers two weeks prior to treatment or crop injury may occur.

On container grown ornamentals where weed seed germination continues for extended periods of time, subsequent applications of Surflan should not be made any sooner than 90 days or crop injury may occur.

Do not apply Surflan 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. Poor weed control may result if directions are not followed. Over application may result in crop injury or excessive soil residue.

Plant only ornamental species listed on this label into soil treated the previous season with Surflan or injury may occur.

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

**Grasses Controlled by Surflan****Common Name****Scientific Name**

barley, little  
 banyardgrass (Watergrass)  
 bluegrass, annual  
 brachiaria (Signalgrass)  
 crabgrasses  
 (large crabgrass)  
 (smooth crabgrass)  
 crowfootgrass  
 cupgrass, southwestern  
 foxtails  
 (bottlegrass)  
 (bristlegrass)  
 (giant foxtail)  
 (green foxtail)  
 (pigeongrass)  
 (robust foxtail)  
 (yellow foxtail)  
 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  
 sprangletop, red  
 witchgrass

*Hordeum pusillum*  
*Echinochloa crusgalli*  
*Poa annua*  
*Brachiaria* spp.  
*Digitaria* spp.  
  
*Dactyloctenium aegyptium*  
*Eriochloa gracilis*  
*Setaria* spp.  
  
*Eleusine indica*  
*Sorghum halepense*  
*Echinochloa colonum*  
*Eragrostis mexicana*  
*Eragrostis orcuttiana*  
*Avena fatua*  
*Panicum fasciculatum*  
*Panicum dichotomiflorum*  
*Panicum texanum*  
  
*Lolium multiflorum*  
*Cenchrus incertus*  
*Leptochloa filiformis*  
*Panicum capillare*

## Broadleaf Weeds Controlled by Surflan -Alone

<u>Common Name</u>	<u>Scientific Name</u>
bittercress	<i>Cardamine spp.</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>
pigweeds	<i>Amaranthus spp.</i>
(carelessweed)	
(prostrate pigweed)	
(redroot)	
(rough pigweed)	
(spring pigweed)	
(tumble pigweed)	
puncturevine	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, Florida	<i>Richardia scabra</i>
(florida purslane)	
(mexican clover)	
(pusley)	
rocket, London	<i>Sisymbrium irio</i>
rockpurslane, desert	<i>Calandrinia ciliata</i>
shepherdspurse	<i>Capsella bursa pastoris</i>
spurge, prostrate	<i>Euphorbia humistrata</i>
woodsorrel, yellow	<i>Oxalis stricta</i>

Suppression 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, amount and timing of soil moisture.

<u>Common Name</u>	<u>Common Name</u>
annual sowthistle	morningglory
black mustard	prickly lettuce
black nightshade	smartweed
climbing milkweed	spotted spurge
common mallow	teaweed (prickly sida)
common ragweed	velvetleaf
horsetweed	volunteer wheat
ladysthumb	wild mustard

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Surflan will not control established weeds.

### Mixing Directions

Start with a clean spray tank. Fill sprayer one-third (1/3) to one-half (1/2) full with clean water. Start agitation. Add correct quantity of Surflan, continue agitation and finish filling the tank. Maintain agitation from mixing through application.

If you see a buildup of material on the walls of the spray tank, wash the tank with soapy water between fillings. Rinse and continue the spraying operation. Clean the tank, lines, and screens thoroughly after use.

## Application

**Ground Application:** Apply Surflan as a directed spray to the soil surface or as an overtop spray. Apply Surflan in sufficient water per acre to uniformly treat the area. Use only a properly calibrated, low-pressure herbicide sprayer that will apply the spray uniformly. Use herbicide tips and screens no finer than 50 mesh in nozzle 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 agitation from mixing through application. Avoid boom overlaps that will increase rates above those recommended.

## Activation and Cultivation

Surflan will remain stable on the soil surface up to 21 days. In the absence of timely rainfall, irrigation can be used to move Surflan into soil surface. A one-half (1/2) inch rain or its equivalent in sprinkler irrigation is necessary to activate Surflan. If weeds begin to emerge due to lack of rainfall or irrigation, shallow cultivate (1 to 2 inches) to destroy existing weeds or remove by hand in containers and place Surflan in the weed germination zone. Shallow cultivation (1 to 2 inches) will not reduce herbicidal effectiveness. If Surflan is not activated by rainfall, irrigation or cultivation within 21 days of application, erratic weed control may result.

## Recommended Species

Surflan May Be Used On The Following Ornamental Plant Species:

<u>Common Name</u>	<u>Scientific Name</u>
abelia, glossy	<i>Abelia grandiflora</i>
apple	<i>Malus</i> spp.
arborvitae, Giant	<i>Thuja plicata</i>
arborvitae, Oriental	<i>Platycladus orientalis</i>
azalea	<i>Rhododendron</i> spp.
barberry, Japanese	<i>Berberis thunbergii</i>
begonia	<i>Begonia semper florans</i>
bird of paradise	<i>Strelitzia reginae</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>
California laurel	<i>Umbellularia californica</i>
cape marigold	<i>Dimorphotheca</i> spp.
cherry, Mahaleb	<i>Prunus mahaleb</i>
cherry, sweet	<i>Prunus avium</i>
chrysanthemum, florists	<i>Chrysanthemum morifolium</i>
cleysera, Japanese	<i>Cleyera japonica</i>
cotoneaster, bearberry	<i>Cotoneaster dammeri</i>
cotoneaster, brightbead	<i>Cotoneaster buxifolius</i>
cotoneaster, cranberry	<i>Cotoneaster apiculatus</i>
cotoneaster, Pyrenees	<i>Cotoneaster congestus</i>
cotoneaster, rock	<i>Cotoneaster horizontalis</i>
cotoneaster, rockspray	<i>Cotoneaster microphyllus</i>
coyotebush, dwarf	<i>Baccharis pilularis</i>
crabe Myrtle, common	<i>Lagerstroemia indica</i>
cryptomeria, Japanese	<i>Cryptomeria japonica</i>
cypress, Italian	<i>Cupressus sempervirens</i>
daisy, trailing African	<i>Osteospermum fruticosum</i>
douglasfir	<i>Pseudotsuga taxifolia</i>
eastercactus	<i>Rhipsalidopsis gaertneri</i>
escallonia	<i>Escallonia exoniensis</i>
eucalyptus, mealy	<i>Eucalyptus cinerea</i>

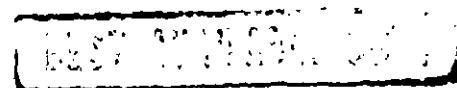
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eucalyptus, narrow-leaved	<i>Eucalyptus nicholii</i>
eucalyptus, red	<i>Eucalyptus sideroxylon</i>
euonymus, evergreen	<i>Euonymus japonica</i>
euonymus, stringybark	<i>Euonymus fortunei</i>
euonymus, winged	<i>Euonymus alata</i>
falsecypress, Lawson	<i>Chamaecyparis lawsoniana</i>
fatsyhedera	<i>Fatsyhedera 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>
gazania, trailing	<i>Gazania rigens leucolaena</i>
geranium (Pelargonium)	<i>Pelargonium hortorum</i>
ginkgo	<i>Ginkgo biloba</i>
hibiscus, Chinese	<i>Hibiscus rosa-sinesis</i>
holly, Chinese	<i>Ilex comuta</i>
holly, English	<i>Ilex aquifolium</i>
holly, Japanese	<i>Ilex crenata</i>
honeysuckle, Japanese	<i>Lonicera japonica</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)	
ivy, Algerian	<i>Hedera canariensis</i>
ivy, English	<i>Hedera helix</i>
jerseytea, redroot	<i>Ceanothus americanus</i>
juniper	<i>Juniperus spp.</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 spp.</i>
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 spp.</i>
marigold	<i>Tagetes spp.</i>
mockorange	<i>Philadelphus spp.</i>
moss, rose	<i>Portulaca grandiflora</i>
myoporum, prostrate	<i>Myoporum parvifolium</i>
myrtle, true	<i>Myrtus communis</i>
oak	<i>Quercus spp.</i>
oleander	<i>Nerium oleander</i>
orange, ornamental	<i>Citrus spp.</i>
oregon grape	<i>Mahonia aquifolium</i>
osmanthus, holly-leaf	<i>Osmanthus heterophyllus</i>
palo verde, blue	<i>Cercidium floridum</i>

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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 neriifolia</i>
ranunculus, Persian	<i>Ranunculus asiaticus</i>
redbud	<i>Cercis canadensis</i>
redcedar, eastern	<i>Juniperus virginiana</i>
redcedar, western	<i>Thuja plicata</i>
redwood, coast	<i>Sequoia sempervirens</i>
rhapsiolepis (India hawthorn)	<i>Rhapsiolepis 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>
sage	<i>Salvia</i> spp.
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>
sweetgurr, 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</i> spp.
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>



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## Surflan A.S. May be Used on the Following Container-Grown Plant Species:

<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, parney	<i>Cotoneaster lacteus</i>
cotoneaster, rock	<i>Cotoneaster horizontalis</i>
crape Myrtle, common	<i>Layerstroemia 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 skordzumi</i>
firethorn, scarlet	<i>Pyracantha coccinea</i>
gardenia	<i>Gardenia jasminoides</i>
ginkgo	<i>Ginkgo biloba</i>
holly, Chinese	<i>Ilex comuta</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>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, arbor	<i>Ligustrum amurense</i>
privet, glossy	<i>Ligustrum lucidum</i>
privet, golden	<i>Ligustrum vicaryi</i>
privet, Japanese	<i>Ligustrum japonicum</i>

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redbud	<i>Cercis canadensis</i>
rhapsiolepis (India hawthorn)	<i>Rhapsiolepis 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>
viornum, Laurustinus	<i>Viburnum tinus</i>
wintercreeper	<i>Eunonymus fortunei</i>
yaupon	<i>Ilex vomitoria</i>
yucca, soaptree	<i>Yucca elata</i>

### Precaution

**Ice Plant:** When establishing unrooted ice plant on coarse soils in landscape plantings, use only the 1.5 pint of Surflan 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.
Short-Term Control (2-4 months)	1.5 pints (24 fl oz) per 1000 sq ft
Long-Term Control (6-8 months)	3 pints (48 fl oz) per 1000 sq ft
(8-12 months †)	4.5 pints (72 fl oz) per 1000 sq ft

†Not recommended in ornamental plantings.

### Southern Turfgrass Areas

Surflan is a preemergence herbicide, which is applied to established Southern turf including bahiagrass, bermudagrass, centipedegrass, established tall fescue, St. Augustinegrass and zoysiagrass for the control of annual grasses and some broadleaf weeds. Surflan works by controlling weeds as the seeds germinate.

Surflan will not harm nearby established ornamental trees and shrubs. Do not apply Surflan on golf course putting greens.

### General Use Precautions

Surflan will not control established weeds.

Surflan may injure turf that is under weakened conditions due to degree of establishment or winter climatic conditions. Apply Surflan to healthy, established turf only.

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

Surflan should not be applied in the spring or summer to tall fescue turfgrass reseeded the previous fall. In bermudagrass areas that have been overseeded with winter grasses, a spring application of Surflan will thin the overseeded grasses.

Surflan should not be applied to newly sprigged areas of bermudagrass, St. Augustinegrass, centipedegrass or zoysiagrass until these turfs are well established.

Surflan should not be applied to newly hydromulched areas of bermudagrass until these areas are well established.

Do not spray Surflan in combination with atrazine on turf.

Areas planted with bermudagrass variety "Sun Turf" in Northern Oklahoma have shown sensitivity to Surflan treatments.

Do not apply Surflan on golf course putting greens.

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**Grasses Controlled by Surflan****Summer Annuals**

<u>Common Name</u>	<u>Scientific Name</u>
barley, little	<i>Hordeum pusillum</i>
barnyardgrass (watergrass)	<i>Echinochloa crus-galli</i>
bluegrass, annual (poa)	<i>Poa annua</i>
brachiana (signalgrass)	<i>Brachiana</i> spp.
browntop panicum	<i>Panicum fasciculatum</i>
crabgrass	<i>Digitaria</i> spp.
(large crabgrass)	
(smooth crabgrass)	
crowfootgrass	<i>Dactyloctenium aegyptium</i>
cupgrass	<i>Eriochloa gracilis</i>
downy brome	<i>Bromus tectorum</i>
fall panicum	<i>Panicum dichotomiflorum</i>
(spreading panicgrass)	
foxtails	<i>Setaria</i> spp.
(bottlegrass)	
(bristlegrass)	
(giant foxtail)	
(green foxtail)	
(pigeongrass)	
(robust foxtail)	
(yellow foxtail)	
guineagrass	<i>Panicum maximum</i>
(narrowleaf panicum)	
johnsongrass (seedling only)	<i>Sorghum halepense</i>
jungerice	<i>Echinochloa colonum</i>
lovegrass, Mexican	<i>Eragrostis mexicana</i>
lovegrass, orcutt	<i>Eragrostis orcuttiana</i>
oat, wild	<i>Avena fatua</i>
ryegrass, annual (Italian)	<i>Lolium multiflorum</i>
sandbur, field	<i>Cenchrus incertus</i>
sprangletop, red	<i>Leptochloa filiformis</i>
texas panicum	<i>Panicum texanum</i>
(buffalograss)	
(coloradograss)	
witchgrass	<i>Panicum capillare</i>

**Winter Annuals**

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

**Broadleaf Weeds Controlled by Surflan****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>

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## Broadleaf Weeds Partially Controlled by Surflan

### Common Name

groundsel, common  
spurge, prostrate  
woodsorrel, yellow

### Scientific Name

Senecio vulgaris  
Euphorbia humistrata  
Oxalis stricta

Surflan will not control established weeds.

## General Use Directions

### Rates, Frequency and Timing of Application

Successful preemergence control of the annual grass weeds listed on this label requires proper timing of application.

Apply Surflan prior to the germination of annual grass weeds. All summer annual grasses do not germinate at the same time. If application timing does not coincide with the normal germination period of any of the annual grass weeds listed on this label, weed control results may be erratic or poor. In the absence of timely rainfall, irrigation can be used to move Surflan into the soil surface. Any cultural practices that disturb the soil, such as aerification or verticutting, should be done prior to application of Surflan.

### Application Directions

Surflan can be applied in the spring for summer annual grass and broadleaf weed control, and in the fall for *Poa annua* and winter annual broadleaf weed control.

#### 1. Spring Germinating Summer Annual Grasses and Broadleaf Weeds

For preemergence control, apply 1.5 pints (24 ounces) Surflan per 1000 square feet per acre in late winter or early spring prior to the onset of conditions favorable for annual weed grass germination.

For application to smaller areas, apply the following amounts of Surflan:

Amount Per 100 sq. ft.	Amount Per 500 sq. ft.	Amount Per 1000 sq. ft.
2 1/2 oz	12 1/2 oz	24 oz

#### 2. Annual Bluegrass (*Poa Annua*) and Broadleaf Winter Annuals

In areas of heavy infestation of annual bluegrass, its elimination will temporarily result in thin turfgrass areas. Proper fertilization, irrigation and soil incorporated reseeding will encourage existing desirable turfgrasses and newly planted seedling turfgrasses to fill in these thin areas previously occupied by annual bluegrass. For preemergence control, apply 18 ounces Surflan per 1000 square feet in the late summer or early fall prior to the expected germination of annual bluegrass and broadleaf winter annual weeds.

For application to smaller areas, apply the following amounts of Surflan:

Amount Per 100 sq. ft.	Amount Per 500 sq. ft.	Amount Per 1000 sq. ft.
1 3/4 oz	8 3/4 oz	18 oz

## Application Equipment

Apply Surflan evenly over the turfgrass areas without skips, misses, or overlaps. For best results use equipment designed to apply liquid herbicides and insecticides. Calibrate application equipment prior to use, according to the manufacturer's directions. Check frequently to be sure equipment is working properly and distributing spray uniformly.

Surflan is an orange chemical. No marker dyes are needed as this orange characteristic will serve as a marker dye.

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## Reseeding

Chemicals that effectively control annual weeds may also affect new desirable turfgrass seedlings. Reseeding should be delayed for at least 90-120 days after applying Surlan. When reseeding, it is essential that proper cultural practices such as soil cultivation, irrigation and fertilization be followed. For satisfactory reseeding results after using Surlan, the amount of seed used should be increased and equipment designed to place seed in contact with the soil (such as the Rogers Aero Seeder) should be employed.

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### Warranty Disclaimer

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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.

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### Inherent Risks of Use

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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

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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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