Philips

(Product Label Booklet)

**DowElanco** 

# Surflan 75W

Water Soluble Package

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

A. Alva . Imposediant.

Ground Covers

- · Christmas Tree Plantations
- Noncropland
- Non-bearing Trees and Vines
- · Industrial Sites
- · Established Warm Season Turf

(including Bahlagrass, Bermudagrass,

Buffalograss, Centipedegrass,

St. Augustinegrass, Tail Fescue and Zoyslagrass)

oryzalin: 3,5-dinitro-N <sup>4</sup> N <sup>4</sup> -dipropylsulfanilamide	75%
Inert Ingredients	25%
Total	100%
Contains 0.75 pounds of active ingredient per pound of product.	

# 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 health or the environment involving this product, call collect 517-636-4400

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

EPA Registration No. 62719-110

EPA Est. 00000-XX-00

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

Herbicide

Net Weight 45.5 lb (Contains 35 x 1.3 lb water soluble packets)

ACCEPTED 20 082

Under the Federal Insecticide. Fungitide, and Rodenucide Act, as amended, for the pesticide registered under.

EPA Fag. No

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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.

Cauces Eye Irritation - Harmful if Swallowed, inhaled Or Absorbed Through The Skin

Avoid breathing spray mist and contact with skin, eyes or clothing. Mixer/loader/applicators must wear eye protection. Protective clothing such as coveralls and/or a long-sleeved shirt, shoes, and impormeable gloves should be worn 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 develop-

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 at 3 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

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

### **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 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 Carefully Before Applying

## Handling Precautions for Water Spluble Packets

Do not remove water soluble packet from foil overpack except for immediate use. Do not allow water soluble packet to come in contact with water prior to use. Do not handle water soluble packet with wet hands. Carefully reseal package containing unopened foil pouches after use and protect package from moisture.

## STORAGE AND DISPOSAL

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

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

Pesticide Disposal: Wastes resulting from the use of this product may be used according to label directions or disposed of at an approved waste disposal facility.

Container Disposal: Dispose of overpack in a sanitary landfill or by incineration, or, if allowed by state or local authorities, by burning. If burned, stay out of smoke.

# **General Information**

Surflan 75W 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 turigrass, Christmas tree plantations, non-bearing trees and vines, non-cropland and industrial sites.

# General Use Precautions

Surflan 75W 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 75W 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 75W may also be applied with mulch colorants, such as Mulch Magic or Nu-Mulch.

Users who wish to use Surflan 75W 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 75W on plant species not recommended on this label.

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

# Soil Preparation

Surflan 75W 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

## Surfian 75W Alone

Make sure spray tank is clean and use only clean water. Fill spray tank 1/2 to 3/4 full. Start agitation. Add the required number of water soluble packets to the spray tank. Allow time for complete mixing of Surflan 75W after packets have disinfegrated. Continue agitation and fill spray tank to required spray volume. Maintain continuous agitation from mixing through application.

## Surflan 75W 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 75W tankmixes. 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); Surflan 75W and other wettable powders (WP); 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 sturried 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 75W as a directed spray to the soil surface or overtop of plants using a vehicle-mounted or pull-type sprayer. Apply the appropriate rate of Surflan 75W 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 75W to the treated area. The volume of water used is not critical, as long as the desired rate of Surflan 75W 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 75W in the amount of water required to cover the entire area to be treated. Use only a property 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 75W 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 75W 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 overapplication. 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 75W will remain stable on the soil surface up to 21 days following application. In the absence of timely rainfall, impation can be used to activate Surflan 75W A minimum of one-half (1/2) inch of rain or its equivalent in sprinkler impation is necessary to activate Surflan 75W. 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 75W is not activated by rainfall, impation or cultivation within 21 days of application or existing weeds have not been removed, erratic weed control may result.

# Weeds Controlled by Surflan 75W

Annual Grasses:

Common Name Barley, little

Parnyardgrass (Watergrass)

Bluegrass, annual Crabgrass, large Crabgrass, smooth

Crowfootgrass Cupgrass, Southwestern

Foxtail, bristlegrass Foxtail, giant

Foxtail, green (Pigeongrass)

Foxtail, robust Foxtail, yellow Goosegrass

(Silver crabgrass)

Johnsongrass (seedling only)

Junglence

Lovegrass, Mexican Lovegrass, orcutt

Oat, wild

Panicum, browntop

Panicum, fall

(Spreading panicgrass) Panicum, Texas

(Butfalograss) (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

Lambequarters Pigweed, prostrate Pigweed, redroot Pigweed, spring Pigweed, tumble **Puncturevine** 

Pursiane, common

Pusley, Florida (Florida purstane) Scientific Name

Hordeum pusillum Echinochloa crus-galli

Poa annua

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

tvena fatua

Panicum fasciculatum Panicum dichetomiflorum

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

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(Mexican clover)

(Pusley)

Rocket, London
Rockpurslane, desert
Shepherdspurse
Spurge, prostrate

Sisymbrium irio Calandrinia ciliata Capsella bursa-pastoris Euphorbia humistrata

Woodsorrel, yellow Oxalis stricta

## Weeds Suppressed by Surflan 75W

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:

Common Name

Horseweed Ladysthumb Lettuce, prickly Matlow, common Milkweed, climbing

Milkweed, climbing Morningglory

Mustard, black Mustard, wild Nightshade, black Ragweed, common Smartweed

Sowthistle, annual Spurge, spotted

Teaweed (prickly sida) Velvetleaf

Wheat, volunteer

Scientific Name

Conyza canadensis Polygonum persicaria Lactuca serriola Malva neolecta

Sarcostemma cynanchoides

Ipomoea spp.
Brassica nigra
Brassica kaber
Solanum nigrum
Ambrosia artemisiifolia
Polygonum pensylvanicum

Sonchus oleraceus Euphorbia maculata

Sida spinosa Abutilon theophrasti

Triticum spp.

# 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 impation.

To avoid possible injury, do not apply Surflan 75W 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.
- Omamental plantings where there is likelihood of runoff onto lawn areas.
- · Areas containing dichondra or cool season turigrass 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.

For soils treated with Surflan 75W 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 Carpobrutus edulis) on coarse soils in landscape plantings, use only the 2 packet per acre rate of Surflan 75W 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 75W
Short term	2 packets per acre
(2 to 4 months)	(2.6 pounds per acre)
Long term	4 packets per acre
(4 to 8 months)	(5 2 pounds per acre)

Recommended Species Including Fruit Plant Nursery Liners

Surflan 75W 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 75W 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 75W 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>	Scientific Name
Abelia, glossy	Abelia grandiflora
Acacia, prostrate	Acacia redolens
Agava	Agave macroculmis
Andromeda	Pieris japonica
Apple	Malus sop.
Arborvitae, American	Thuja occidentalis
Arborvitae, Oriental	Platycladus orientalis
Ash	Fraxinus spp.
Aster, stokes	Stokesia laevis
Astilbe/false spirea	Astilbe chinensis and
	A. chinensis hybrids
Azalea	Rhododendron spp.
Baby's breath	Gypsophila paniculata
Barberry, Japanese	Berberis thunbergii
y Bellflower	Campanula elatines
Birch, river	Betula nigra
Birch, white	Betula pendula
Bird of paradise	Strelitzia reginae
Blazing star	Liatris spicata
Bleeding heart	Dicentra spectabilis
Bottlebrush, lemon	Callistemon citrinus
Boxwood, common	Buxus sempervirens
Boxwood, Japane e	Buxus microphylla japonica
Brush cherry	Syzygium paniculata
Caldaium, fancy leafed	Caladium bicolor
California laurel	Umbellulana californica
Campanula (beliflower)	Campanula spp.
Cape marigold	Dimorphotheca spp.
Carpet bugle	Ajuga spp.
Cassia, feathery	Cassia artemisioides

Fleid- and Liner- Grown Species, continued

Cherry, Mahaleb Cherry, sweet

Chrysanthemum, florists

Cleyera, Japanese Coneflower, purple

Coreopsis Cotoneaste

Cotoneaster, bearberry Cotoneaster, brightbead Cotoneaster, cranberry Cotoneaster, parney Cotoneaster, Pyrenees Cotoneaster, rock Cotoneaster, rockspray

Cottonwood (grown for pulp) Coyotebush, dwarf Crape Myrtle, common Cryptomeria, Japanese Cypress, Arizona

Cypress, Italian Daisy, gloriosa

(black-eyed Susan)

Daisy, painted Daisy, Shasta Daisy, trailing African

Daylily Dogwood, flowering

Dogwood, kous a Eastercactus Escallonia

Eucalyptis, mealy Eucalyptus, narrow-leaved

Eucalyptus, red Euonymus, evergreen Euonymus, stringybark Euonymus, winged

Falsecypress, Lawson

Fatshedera Fir, alpine Fir, balsam Fir, fraser Fir, grand Fir, Vietch Fir, white Firethorn

Firethorn, formosa Firethorn, scarlet Forsythia, border

Geum Gardenia Gazania, trailing

Geranium (Pelargonium)

Geum Ginkgo Garden gladiolus Goldenrain tree

Heavenly bamboo (Nandina)

Prunus mahaleb Prunus avium

Chrysanthemum morifolium

Cleyera japonica
Echinacea purpurea
Coreopsis lanceolata
Cotoneaster dammeri
Cotoneaster buxifolius
Cotoneaster apiculatus
Cotoneaster lacteus
Cotoneaster congestus
Cotoneaster horizontalis
Cotoneaster microphyllus
Populus deltoides

Baccharis pilularis Lagerstroemia indica Cryptomeria japonica Cupressus arizonica (glabra) Cupressus sempervirens Rudbeckia hirta

Chrysanthemum coccineum Chrysanthemum maximum Osteospermum fruticosum

Hemerocallis spp. Cornus florida Cornus kousa

Rhipsalidopsis gaertneri Escallonia exoniensis Eucalyptus cinerea Eucalyptus nicholii Eucalyptus sideroxylon Euonymus japonica Euonymus fortunei Euonymus alata

Chamaecypans lawsoniana

Fatshedera lizei Abies lasiocarpa Abies balsamea Abies fraseri Abies grandis Abies vertchi Abies concolor

Pyracantha, fortuneana
Pyracantha skoidzumi
Pyracantha coccinea
Forsythia intermedia
Geum quellyon
Gardenia jasminoides
Gazania rigens leucolaena
Pelargonium hortorum

Geum quellyon
Ginkgo biloba
Gladiolus hortulanus
Koelreuteria paniculata
Nandina domestica

Fleid- and Liner- Grown Species, continued

Hibiscus, Chinese Hibiscus rosa-sinesis

Holly, Chinese
Holly, English
Holly, Japanese
Honeysuckle, Japanese
Honeysuckle, Mexican
Hopseedbush, clammy

Ilex comuta
Ilex aquifolium
Ilex crenata
Lonicera japonica
Justicia spicigera
Dodonaea viscosa

, toe plant Mesembryanthemum crystallinum

(See precautions for ornamental plantings)

ice plant, largeleaf Carpobrutus edulis

(See precautions for ornamental plantings)

Impatiens (Busy lizzie) Impatiens wallerana

Iris, bearded Iris spp.

Ivy, Algerian Hedera canariensis

Ivy, English Hedera helix
Jerseytea, redroot Ceanothus americanus

Juniper Juniperus spp
Kumquat Fortunella spp.
Laurel, mountain Kalmia latifolia
Laurelcherry, Carolina Prunus caroliniana
Laurelcherry, English Prunus laurocerasus
Leucothoe, coast Leucothoe axillaris
Leucothoe, drooping Leucothoe fontanesiana

Lilac, common

Lily, plantain

Lilyturf, bigblue

Liry-of-the-Nile

Linden, little leat

Live train to the state of the st

Linden, little leaf Tilia cordata
Magnolia, Southern Magnolia grandiflora

Manzanita, Stanford

Maple

Arctostaphylos stanfordiana
Acer spp.

Marigold
Tagetes spp.
Mockorange
Philadelphus spp.
Moss, rose
Myoporum, prostrate
Myoporum parvifolium
Myrtle, true
Myrtle communis
Oak
Tagetes spp.
Philadelphus spp.
Myoporum parvifolium
Myrtle communis
Ouercus spp.

Oak Oleander Orange, omamental Myrtus communis
Out Ouercus spp.
Oleander Orange, omamental Citrus spp.

Oregon grape Mahonia aquifoiium
Osmanthus, holly-leaf Osmanthus heterophyllus

Palo Verde, blue

Carcidium floridum

Pansy

Viola wittrockiana

Pear

Pear

Pear

Pear Pyrus communis
Pecan, ornamental Carya spp.
Periwinkle, bigleal Vinca major
Periwinkle duari

Periwinkle, dwarf Vinca minor Petunia Petunia spp. Photinia Photinia fraseri Pine Pinus spp. Pittosporum Pittosporum spp. Privet, amur Ligustrum amurense Privet, glossy Ligustrum lucidum Privet, golden Ligustrum vicaryi

Privet, Japanese Ligustrum japonicum
Protea Protea nenifolia
Ranunculus, Persian Ranunculus asiaticus

Field- and Liner- Grown Species, continued

Redbud Cercis canadensis Redcedar, Eastern Juniperus virginiana Red Cedar, Western Thuia plicata

Redwood, coast Sequoia sempervirens Rhaphiolepsis (India hawthorn) Rhaphiolepsis indical Rhododendron Rhododendron spp. Rose Rosa spo.

Rose-of-Sharon (Shrubalthea) Hibiscus syriacus Russian olive Elaeagnus angustifolia Sage Salvia spp.

Shrimp plant Justicia brandegeana Snapdragon Antirrhinum majus Sotol, desert spoon Dasylirion wheeleri Spruce, black Picea manana Spruce, Colorado Picea pungens Spruce, Englemann Picea englemanni Spruce, Norway Picea abies Spruce, white Picea glauca

Star jasmine, Chinese Trachelospermum jasminoides

Stonecrop Sedum brevitolium Sumac, African Rhus lancea

Sweetgum, American Liquidambar styraciflua Sweet William Dianthus barbatus Tobira Pittosporum tobira

Trumpet vine, violet Clytostoma callistegioides

Viburnum, Laurustinus Viburnum tinus Virburnum, Sandankwa Virbunum suspensum Weigela, oldfashioned Weigela florida

Wintercreeper Euonymus fortunei Xylosma, Japanese Xylosma congestum Yалтоw Achillea spp.

Yaupon llex vomitoria Yew Taxus media Yew, Japanese Taxus cuspidata

Yewpine Podocarpus macrophyllus Yucca, pendulous Yucca recurvitolia Yucca, soaptree Yucca elata

Zinnia, common Zinnea elegans

# Surflan 75W May be Used on the Following Container-Grown Plants:

Common Name Scientific Name Andromeda Pieris japonica Arborvitae, American Thuja occidentalis Arborvitae, Oriental Platycladus orientalis Astilbe/false spirea Astilbe chinensis and Barberry, Japanese Berberis thunbergii Belflower Campanula elatines Blazing star Liatris spicata Bleeding heart Dicentra spectabilis

Bottlebrush, lemor, Callistemon citrinus Boxwood, common Buxus sempervirens Brush cherry Syzygium paniculata Cleyera, Japanese Cleyera japonica Cotoneaster, bearberry Cotoneaster dammeri Cotoneaster, cranberry Cotoneaster apiculatus Coloneaster, parney Cotoneaster lacteus

Container-Grown Species, continued

Cotoneaster, rock Crape Myrtle, common Cryptomeria, Japanese

Cypress, Arizona Cypress, Italian

Daylily

Dogwood, kousa Eastercactus Escallonia

Euonymus, evergreen Euonymus, stringybark

Fatshedera Firethorn

Firethorn, formosa F. thorn, scarlet

Gardenia Ginkgo Holly, Chinese Holly, Japanese

Jerseytea, redroot Juniper Kumquat

Lilac, common Lilyturf, bigblue Lily-of-the-Nile Linden, little leaf Mockorange Myrtle, true Oak

Oleander Orange, ornamental Pecan, ornamental

Photinia
Pine
Pittosporum
Privet, amur
Privet, glossy
Privet, golden
Privet, Japanese

Redbud Rhaphiolepsis (India hawthom)

Rhododendron
Russian olive
Shrimp plant
Spruce, Colorado
Sumac, African
Sweetgum, American

Trumpet vine, violet Viburnum, Laurustinus

Wintercreeper Yaupon

Yucca, soaptree

Cotoneaster horizontalis Lagerstroemia indica Cryptomeria japonica Cupressus arizonica (glabra)

Cupressus arizonica (giabra) Cupressus sempervirens

Hemerocallis spp. Cornus kousa

Rhipsalidopsis gaertneri Escallonia exoniensis Euonymus japonica Euonymus fortunei Fatshedera linei

Pyracantha, fortuneana Pyracantha skoidzumi Pyracantha coccinea Gardenia jasminoides

Ginkgo siloba Ilex comuta Ilex crenata

Ceanothus americanus

Juniperus spp.
Fortunella spp.
Syringa vulgaris
Liriope muscari
Agapanthus africanus

Tilia cordata Philadelphus spp. Myrtus communis Quercus spp. Nerium oleander Citrus spp. Carya spp. Photinia fraseri Pinus spp. Pittosoorum spp. Lig istrum amurense Ligustrum lucidum Ligustrum vicaryi Ligustrum japonicum Cercis canadensis Rhaphiolepsis indica Rhododendron spp. Elaeagnus angustifolia Justicia brandegeana

Picea pungens Rhus lancea

Liquidambar styraciflua Clytostoma callistegioides

Viburnum tinus
Euonymus fortunei
Ilex vomitoria
Yucca elata

# Surflan 75W May be Used on the Following Field Grown Fruit Plant Nursery Liners:

Almond Grapefruit **₽**ear Pecan Apple Kiwi: 1 Pistachio Lemon Apricot Macadamia Nut Plum Avacado Nectarine Pomegranate Cherry Fig Olive Prune

Filbert Orange , Walnut, English

Grape

Small Fruits:

Blackbarry Currant Gooseberry
Blueberry Dewberry Loganberry
Boysenberry Elderberry Raspberry

## Tank-Mix Combinations

Tank-mix combinations of Surflan 75W plus Roundup, and many other labeled herbicides may be used to control undesirable vegetation in ornamental areas. Surflan 75W 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 75W 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 75W/Roundup:** Tank-mix combinations of Surflan 75W/Roundup are recommended to control existing undesirable vegetation. Applied as directed, Surflan 75W plus Roundup will provide posternergence control of susceptible weed species listed on the Roundup label and residual preemergence control of susceptible weed species listed on the Surflan 75W 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 turigrasses, 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 75W may be applied for control of susceptible annual weeds in ornamental hilbs, e.g., bulbous irls, deficial (narcissus), hyazinth and tulip. Apply Surflan 75W to the soil surface 2 to 4 weeks after planting, but prior to the emergence of annual weeds. For fall planted bulbs, apply Surflan 75W 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.

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

**Breadcast Application Rates** 

Time of Application	Soll Texture	Surflan 75W
Fall	Coarse	1 packet per 1.3 acre (1.0 pound per acre)
Fall	Medium and Fine	1 packet per 0.67 acre (2.0 lb per acre)
Feb March	All Soil Textures	1 packet per 1.3 acre (1.0 lb per acre)

# Greenhouse Areas

Surflan 75W 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 75W Alone

Apply Surflan 75W 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 Appli ation Rates

Length of Control	Surflan 75W
Short term	2 packets per acre
(2 to 4 months)	(2.6 pounds per acre)
Long term	4 packets per acre
(4 to 8 months)	(5 2 pounds per acre)

### Tank-Mix Combinations

Tank-mix combinations of Surflan 75W 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, ovide 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 75W/Roundup: Apply tank-mix combinations of Surflan 75W plus Roundup only as directed sprays in Christmas tree plantings. When applied according to use directions, Surflan 75W 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 75W 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 75W 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 75W
Short term	2 packets per acre
(2 to 4 months)	(2 6 pounds per acre)
Long term	4 packets per acre
(4 to 8 months)	(5 2 pounds per acre)
Long term	6 packets per acre
(8 to 12 months)	(8.0 pounds per acre)

## Industrial Sites -- Tank-Mix Combinations

Tank-mix combinations of Surflan 75W plus Roundup, Spike and many other labeled herbicides may be used as overlop 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 Turigrasses

#### General : formation

Surflan 75W may be applied as a preemergence treatment for control of annual grasses and certain broadleaf weeds in established warm season turf including bahiagrass, bermudagrass, butfalograss, 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 75W 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 75W 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:

To avoid possible injury, do not apply Surflan 75W to:

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

Surflan 75W will not control emerged weeds

Any cultural practices that disturb the soil, such as aentication or verticulting, should be done prior to application of Surflan 75W.

Surflan 75W 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. Apply Surflan 75W only to healthy, well-established turf that is well-anchored.

Use Surflan 75W only as a part of a total turf management program that includes good fertilization practices.

Do not apply Surflan 75W 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 75W at a rate of 1 packet per 0.67 acre (2 pounds per acre) approximately eight weeks later (Round 2). Do not apply Surflan 75W at the single application rate of 1 packet per acre (2.6 pounds per acre) to established tall fescue; in such cases, apply 1 packet per 0.67 acre (2 pounds per acre) of Surflan 75W in an initial application, followed by a second application of 1 packet per 0.67 acre 8 to 10 weeks late

In bermudagiass areas that have been overseeded with winter grasses, a spring application of Surfle 175W will thin the overseeded grasses.

# Annual Grasses Controlled by Surfian 75W

## Summer Annuals:

<u>Common Name</u>
Barnyardgrass
<u>Scientific Name</u>
Echinochioa crus-galli

(Watergrass)
Crabgrass, large Digitaria sanguinalis
Crabgrass, smooth Digitaria ischaemum

Crabgrass Digitana spp.

Crowfootgrass Dactyloctenium aegyptium

Foxtail, bristlegrass Setaria magna
Foxtail, giant Setaria faberi
Foxtail, green Setaria viridis

(Pigeongrass)
Foxtail, robust Setaria robusta
Foxtail, yellow Setaria glauca
Goosegrass Eleusine indica

(Silver crabgrass)
Johnsongrass Sorghum halepense
(Seedling only)

Ryegrass, Italian Lolium multiflorum Sandbur, field Cenchrus incertus

## Winter Annuals:

Common Name

Bluegrass, annual

Scientific Name

Poa annua

Annual Broadleaf Weeds Controlled by Surflan 75W

## Summer Annuals:

Carpetweed Scientific Name
Carpetweed Moliugo verticiliata
Knotweed, prostrate
Pursiane, common Portulaca oleracea

### Winter Annuals:

Common Name

Scientific Name

Chickweed, common Stellaria media

Henbit

Lamium amplexicaule

Broadleaf Weeds Suppressed by Surflan 75W

Common Name

Scientific Name

Groundsel, common Spurge, prostrate

Senecio vulgaris Euphorbia humistrata

Woodsorrel, yellow

Oxalis stricta

# Application Rates, Frequency and Timing of Application

Surflan 75W 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 to 3 packets (2.6 to 3.9 pounds) of Surllan 75W per acre in late winter or early spring, prior to the onset of conditions favorable for annual weed germination. Apply at a rate of 3 packets (3.9 pounds)per acre in areas with a longer growing season or where control of weeds is required for a longer period of time

Split Application Program: As an alternative to a single application program, Surflan 75W 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 ar a rate of 1 packet (2 pounds per acre) per 0.67 acre in an initial application, followed by a second application of 1 packet per 0.67 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 75W 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 turigrass cover. Proper fertilization, irrigation and soil incorporated reseeding should be employed to speed the restoration of desirable turigrass cover in areas previously occupied by annual bluegrass (See section on reseeding).

Apply Surlian 75W 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 turigrass cover, apply Surflan 75W at a rate of 1 packet per 0.67 acre (2 pounds per acre). If thinning of turigrass cover is not a potential problem, Surflan 75W may be applied at a rate of 2 packets per acre (2.6 pounds per acre)

## **Broadcast Application Rates**

Surflan 75W	
pounda per acre	Packets per Acre
2	1.5 packets per acre (1 packet per 0.67 acre)
2.6	2 packets per acre

Weed Control in Florida: In Florida, apply at a rate of 1 packet per 0.67 acre (2 pounds per acre) of Surflan 75W three times per year, or every 90 to 100 days, in the fall, early spring, and early summer. Do not apply more than 1 packet per 0.67 acre (2 pounds) of Surflan 75W in any single application.

Application Equipment

Apply Surflan 75W evenly over the turigrass 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 turigrass seedlings. Reseeding should be delayed for at least 90-120 days following application of Surflan 75W. 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 75W 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 pacificular 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, tack 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 darnages 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. I 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 DowElance 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 Indiana 4626/ 1189, U. S.A.

Revised 2/25/92

#### Revisions:

- 1) Revised protective equipment requirements.
- 2) New wetlands statement added to "Environmental Hazards" section.
- 3) General editing to clarify use directions.
- 4) "To prevent foaming ..." statement deleted from "Mixing Directions"
- 5) Equipment cleaning instructions added.
- 6) Revised precautions for ornamentals and warm season turf.
- 7) Additional species added to "do not treat list" for ornamentals.
- 8) Added Instructions for cleaning treated surfaces and use of masking colorants
- 9) Added instructions to determine plant tolerance for treatment of species not listed on label
- 10) Added detailed definition of what constitutes "established plantings".
- 11) Use on nursery seedbeds and forest and Christmas tree nursery transplant beds prohibited
- 12) Added prohibition of use on Douglas-fir, slender duetzia, techny arborvitae and eastern hemlock.
- 13) Added cottonwood trees grown for pulp to species list for treatment.
- 14) Revised weeds controlled list
- 15) Revised ornamental species lists and provided separate lists for field and liner grown versus container grown species.
- 16) Tank mix with Gallery herbicide added.
- 17) Revised use directions for Christmas tree plantations.
- 18) Added use around "Greenhouse Areas".
- 19) Revised definition of "established turf".
- Use on golf course putting greens and tees and lawns containing dichondra prohibited.
- 21) Revised use directions and application rates for warm season turigrasses.