

ACCEPTED

OCT 8 - 1986

Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 147-153

(Revised 02/17/86)

ELANCO IDXXXX
SURFLAN® 0.25 A.S.

Net Contents 1 Quart

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:

- | | |
|---|---|
| Christmas Tree Plantations | Nursery Stock |
| Container Grown Ornamental Plants | Ornamental Plants
(Including around Highway and Industrial Sites) |
| Drainage Areas Under Greenhouse Benches | Ornamental Trees |
| Field Grown Roses | Ornamental Woody Shrubs |
| Forest Nursery Plantations | Southern Turfgrasses
(Including Bahiagrass, Bermudagrass, Centipedegrass, St. Augustinegrass, Tall Fescue and Zoysiagrass) |
| Ground Cover | |
| Noncropland Areas | |

Active Ingredient:

oryzalin* (3,5-dinitro-N⁴,N⁴-dipropylsulfanilamide).....3%
Inert Ingredients.....97%

Contains 0.25 pounds active ingredient per gallon.

SURFLAN® - the registered trademark for Elanco Products oryzalin

AVOID FREEZING - STORE ABOVE 40°F.

Keep Out of Reach of Children

CAUTION

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Harmful if inhaled, or absorbed through the skin. 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.

Statements of Practical Treatment

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If swallowed: Call a physician or Poison Control Center .

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

If inhaled: Remove individual to fresh air. If breathing difficulty occurs, provide cardiopulmonary resuscitation assistance and get medical attention.

Environmental Hazards

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes. Cover or incorporate spills.

STORAGE AND 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: Do not contaminate water, food or feed by storage or disposal. Waste 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.

DIRECTIONS FOR USE

See literature on container for complete Directions for Use. Read all Directions Carefully Before Applying.

EPA Est. No.
EPA Reg. No. 1471-XXX
FN 7076
Lot ()

Elanco Products Company
A Division of Eli Lilly and Company
Lilly Corporate Center
Indianapolis, Indiana 46285, U.S.A.

40621

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ORNAMENTAL AND NONCROPLAND AREAS

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.

GRASSES CONTROLLED BY SURFLAN ALONE

<u>Common Name</u>	<u>Scientific Name</u>
Barley, little	<u>Hordeum pusillum</u>
Barnyardgrass (Watergrass)	<u>Echinochloa crus-galli</u>
Bluegrass, annual	<u>Poa annua</u>
Brachiaria (Signalgrass)	<u>Brachiaria</u> spp.
Crabgrasses	<u>Digitaria</u> spp.
(Large crabgrass)	
(Smooth crabgrass)	
Crowfootgrass	<u>Dactyloctenium aegyptium</u>
Cupgrass, southwestern	<u>Eriochloa gracilis</u>
Foxtails	<u>Setaria</u> spp.
(Bottlegrass)	
(Bristlegrass)	
(Giant foxtail)	
(Green foxtail)	
(Pigeongrass)	
(Robust foxtail)	
(Yellow foxtail)	
Goosegrass	<u>Eleusine indica</u>
(Silver crabgrass)	
Johnsongrass	<u>Sorghum halepense</u>
(Seedling only)	
Junglerice	<u>Echinochloa colonum</u>
Lovegrass, Mexican	<u>Eragrostis mexicana</u>
Lovegrass, orcutt	<u>Eragrostis orcuttiana</u>
Oat, wild	<u>Avena fatua</u>
Panicum, browntop	<u>Panicum fasciculatum</u>

<u>Common Name</u>	<u>Scientific Name</u>
Panicum, fall (Spreading panicgrass)	<u>Panicum dichotomiflorum</u>
Panicum, Texas Buffalograss Coloradograss	<u>Panicum texanum</u>
Ryegrass, Italian	<u>Lolium multiflorum</u>
Sandbur, field	<u>Cenchrus incertus</u>
Sprangletop, red	<u>Leptochloa filiformis</u>
Witchgrass	<u>Panicum capillare</u>

BROADLEAF WEEDS CONTROLLED BY SURFLAN ALONE

Bittercress	<u>Cardamine spp.</u>
Carpetweed	<u>Mollugo verticillata</u>
Chickweed, common	<u>Stellaria media</u>
Fiddleneck, coast	<u>Amsinckia intermedia</u>
Filaree, redstem	<u>Erodium cicutarium</u>
Filaree, whitestem	<u>Erodium moschatum</u>
Groundsel, common	<u>Senecio vulgaris</u>
Henbit	<u>Lamium amplexicaule</u>
Knotweed, prostrate	<u>Polygonum aviculare</u>
Lambsquarters	<u>Chenopodium album</u>
Pigweeds (Carelessweed) (Prostrate pigweed) (Redroot) (Rough pigweed) (Spring pigweed) (Tumble pigweed)	<u>Amaranthus spp.</u>
Puncturevine	<u>Tribulus terrestris</u>
Purslane, common	<u>Portulaca oleracea</u>
Pusley, Florida (Florida purslane) (Mexican clover) (Pusley)	<u>Richardia scabra</u>
Rocket, London	<u>Sisymbrium irio</u>
Rockpurslane, desert	<u>Calandrinia ciliata</u>
Shepherdspurse	<u>Capsella bursa-pastoris</u>
Spurge, prostrate	<u>Euphorbia humistrata</u>
Woodsorrel, yellow	<u>Oxalis stricta</u>

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:

black nightshade	common ragweed
ladysthumb	morningglory
smartweed	teaweed (prickly sida)
velvetleaf	horseweed
prickly lettuce	common mallow
black mustard	wild mustard
annual sowthistle	climbing milkweed
spotted spurge	volunteer wheat

SURFLAN will not control established weeds.

DIRECTIONS FOR USE - Read All Directions Carefully Before Applying

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 or 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.

MIXING DIRECTIONS

SURFLAN Alone in Water

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.

SURFLAN Tank-Mix in Water

Vigorous, continuous agitation is required for all tank-mixes. Sparger pipe agitators generally provide the best agitation in spray tanks. Avoid stirring or splashing air into the mixture during filling to prevent foaming. To do this, place the end of the fill pipe below the surface of the water in the spray tank. Do not allow the mixture to siphon back into the water source.

Mixing Order: Fill the tank three-fourths (3/4) full with clean water. Start the agitation. Add dry flowables or wettable powders (WP) and agitate until the products are completely dispersed in the water. Allow additional mixing and dispersion time when using dry flowable type products. Add SURFLAN A.S. or other liquids and agitate until completely dispersed in the water. Next add any solution (S) products, mix thoroughly. Add emulsifiable concentrate (EC) products last, agitate and finish filling the tank. Maintain agitation from mixing through application. If spraying and agitation must be stopped before the tank is empty, the materials may settle to the bottom. In this case, it is important to again suspend all of the material in the bottom of the tank before continuing the spray application. A sparger agitator is particularly useful for

this purpose. Sometimes it is more difficult to suspend settled material than it is to suspend it originally.

Read and carefully follow all label instructions for each material added to the tank. Premixing dry and flowable formulations with water (slurrying) and pouring the slurry through a 20 or 35 mesh wetting screen in the top of the tank will help assure good initial dispersion in the tank water. Line screens in the tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

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 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.

ORNAMENTAL PLANTS

SURFLAN is recommended for use on the following species:

Common Name	Scientific Name
Abelia, Glossy	<u>Abelia grandiflora</u>
Apple, Common	<u>Malus pumila</u>
Arborvitae, Giant	<u>Thuja plicata</u>
Arborvitae, Oriental*	<u>Thuja orientalis</u>
Azalea	<u>Rhododendron spp.</u> cv. "Louisa" cv. "Stewartsonianum"

Common Name	Scientific Name
Barberry, Japanese*	<u>Berberis thunbergi</u>
Begonia, Perpetual	<u>Begonia semperflorens</u>
Bird-of-Paradise	<u>Strelitzia reginae</u>
Bottlebrush, Lemon*	<u>Callistemon citrinus</u>
Boxwood, Common*	<u>Buxus sempervirens</u>
Boxwood, Japanese*	<u>Buxus microphylla</u>
Brushcherry*	<u>Eugenia paniculata</u>
Californialaurel	<u>Umbellularia californica</u>
Capejasmine	<u>Gardenia jasminoides</u>
Capemargold	<u>Cryptostemma calendula</u>
Cherry, Mahaleb	<u>Prunus mahaleb</u>
Cherry, Mazzard (Sweet)	<u>Prunus avium</u>
Chrysanthemum, Florists	<u>Chrysanthemum morifolium</u>
Cleyera, Japanese	<u>Cleyera japonica</u>
Cotoneaster*	<u>Cotoneaster lactea</u>
Cotoneaster, Bearberry*	<u>Cotoneaster dammeri</u>
Cotoneaster, Brightbead	<u>Cotoneaster glaucophylla</u>
Cotoneaster, Cranberry*	<u>Cotoneaster apiculata</u>
Cotoneaster, Pyrenees	<u>Cotoneaster congesta</u>
Cotoneaster, Rock*	<u>Cotoneaster horizontalis</u>
Cotoneaster, Rockspray	<u>Cotoneaster microphylla</u>
Coyotebush, Dwarf	<u>Baccharis pilularis</u>
Crapemyrtle, Common*	<u>Lagerstroemia indica</u>
Cryptomeria, Japanese*	<u>Cryptomeria japonica</u>
Cypress, Italian*	<u>Cupressus sempervirens</u>
Daisy, Trailing African	<u>Osteospermum fruticosum</u>
Douglasfir	<u>Pseudotsuga taxifolia</u>
Eastercactus*	<u>Schlumbergera gaertneri</u>
Escallonia*	<u>Escallonia frades</u>
Eucalyptus, Mealy Stringybark	<u>Eucalyptus cinerea</u>
Eucalyptus, Mulga Ironbark	<u>Eucalyptus sideroxylon</u>
Eucalyptus, Narrow-Leaved	<u>Eucalyptus nicholii</u>
Euonymus*	<u>Euonymus fortunei</u> var. "Vegetus"
Euonymus, Evergreen*	
(Japanese Spindle Tree)	<u>Euonymus japonicus</u>
Euonymus, Winged	<u>Euonymus alatus</u>
Falsecypress, Lawson	<u>Chamaecyparis lawsoniana</u>
Fatshedera*	<u>Fatshedera lizei</u>
Fir, Alpine	<u>Abies lasiocarpa</u>
Fir, Balsam	<u>Abies balsamea</u>
Fir, Fraser	<u>Abies fraseri</u>
Fir, Grand	<u>Abies grandis</u>
Fir, Veitch	<u>Abies veitchi</u>
Fir, White (concolor)	<u>Abies concolor</u>
Firethorn*	<u>Pyracantha fortuneana</u>
Firethorn, Formosa*	<u>Pyracantha koidzumi</u>
Firethorn, Scarlet*	<u>Pyracantha coccinea</u>
Forsythia, Border	<u>Forsythia intermedia</u>
Gazania, Treasureflower	<u>Gazania rigens</u>

Common Name	Scientific Name
Ginkgo*	<u>Ginkgo biloba</u>
Goldenrain Tree	<u>Koelreuteria paniculata</u>
Hibiscus, Chinese	<u>Hibiscus rosa-sinensis</u>
Holly, Chinese*	<u>Ilex cornuta</u>
Holly, Convexleaf Japanese*	<u>Ilex crenata</u> var. "Convexa"
Holly, English	<u>Ilex aquifolium</u>
Holly, Howard Japanese*	<u>Ilex crenata</u> var. "Howardi"
Honeysuckle, Japanese	<u>Lonicera japonica</u>
Hopseedbush, Clammy	<u>Dodonaea viscosa</u>
Ice Plant	<u>Mesembryanthemum crystallinum</u>
Ice Plant, Largeleaf	<u>Mesembryanthemum edule</u>
Ivy, Algerian	<u>Hedera canariensis</u>
Ivy, English	<u>Hedera helix</u>
Jerseytea (redroot)*	<u>Ceanothus americanus</u>
Juniper, Andorra	<u>Juniperus horizontalis</u> var. "Plaumosa"
Juniper, Chinese*	<u>Juniperus chinensis</u>
Juniper, Creeping*	<u>Juniperus horizontalis</u>
Juniper, Greek*	<u>Juniperus excelsa</u>
Juniper, Japgarden*	<u>Juniperus procumbens</u>
Juniper, Rockymountain*	<u>Juniperus scopulorum</u>
Juniper, Savin*	<u>Juniperus sabina</u>
Juniper, Shore*	<u>Juniperus conferta</u>
Juniper, Wilson Chinese*	<u>Juniperus chinensis</u> var. "Wilsonii"
Laurelcherry, Carolina	<u>Prunus caroliniana</u>
Laurelcherry, English	<u>Prunus laurocerasus</u>
Leucothoe, Coast	<u>Leucothoe axillaris</u>
Leucothoe, Drooping	<u>Leucothoe catesbaei</u>
Lilac, Common*	<u>Syringa vulgaris</u>
Lily-of-the-Nile*	<u>Agapanthus africanus</u>
Lilyturf, Bigblue*	<u>Liriope muscari</u>
Magnolia, Southern	<u>Magnolia grandiflora</u>
Manzanita, Stanford	<u>Arctostaphylos stanfordiana</u>
Maple, Bigtooth*	<u>Acer grandidentatum</u>
Marigold, French	<u>Tagetes patula</u>
Mockorange*	<u>Philadelphus</u> spp.
Mountainlaurel	<u>Kalmia latifolia</u>
Myoporum	<u>Myoporum parvifolium</u>
Myrtle*	<u>Myrtus communis</u>
Nandina*	<u>Nandina domestica</u>
Oak, Interior Live*	<u>Quercus wislizeni</u>
Oleander*	<u>Nerium oleander</u>
Oregongrape	<u>Mahonia aquifolium</u>
Osmanthus, Holly (Holly Olive)	<u>Osmanthus ilicifolius</u>
Pansy, Garden	<u>Viola tricolor</u>
Pear, Bartlett	<u>Pyrus communis</u>
Pelargonium, Sprinter Red	<u>Pelargonium hortorum</u>
Periwinkle, Bigleaf	<u>Vinca major</u>
Periwinkle, Common	<u>Vinca minor</u>

<u>Common Name</u>	<u>Scientific Name</u>
Petunia	<u>Petunia grandiflora</u>
Petunia, Red Cascade	<u>Petunia hybrida</u>
Photinia*	<u>Photinia frazerii</u>
Pieris, Japanese*	<u>Pieris japonica</u>
Pine, Austrian	<u>Pinus nigra</u>
Pine, Bishop	<u>Pinus muricata</u>
Pine, Canary*	<u>Pinus canariensis</u>
Pine, Coulter	<u>Pinus coulteri</u>
Pine, Eastern White	<u>Pinus strobus</u>
Pine, Japanese Black*	<u>Pinus thunbergii</u>
Pine, Monterey	<u>Pinus radiata</u>
Pine, Mugho*	<u>Pinus mugo</u> var. "Mughus"
Pine, Scotch (var. Spanish and Nelson)	<u>Pinus sylvestris</u>
Pine, Virginia	<u>Pinus virginiana</u>
Podocarpus, Shrubby Yew*	<u>Podocarpus macrophyllus</u>
Privet, Amur*	<u>Ligustrum amurense</u>
Privet, Glossy*	<u>Ligustrum lucidum</u>
Privet, Golden*	<u>Ligustrum vicaryi</u>
Privet, Japanese*	<u>Ligustrum japonicum</u>
Raphiolepis, India	<u>Raphiolepis indica</u>
Redcedar, Eastern	<u>Juniperus virginiana</u>
Redwood, Giant	<u>Sequoia sempervirens</u>
Rhododendron*	<u>Rhododendron</u> spp. cv. "Chionoides" cv. "Hinodegiri" cv. "PJM" cv. "Rosebud"
Rose	<u>Rosa</u> spp.
Rose, Belinda*	<u>Rosa</u> spp. var. "Belinda"
Rose, Cara-Nia	<u>Rosa</u> spp. var. "Cara-Nia"
Rose-of-Sharon (Shrubalthea)	<u>Hibiscus syriacus</u>
Shrimp Plant*	<u>Beloperone guttata</u>
Snapweed, Sultan	<u>Impatiens sultanii</u>
Spruce, Black	<u>Picea mariana</u>
Spruce, Colorado Blue*	<u>Picea pungens</u> var. "Glauca"
Spruce, Engelmann	<u>Picea engelmannii</u>
Spruce, Norway	<u>Picea abies</u>
Spruce, White	<u>Picea glauca</u>
Starjasmine, Chinese	<u>Trachelospermum jasminoides</u>
Stonecrop	<u>Sedum brevifolium</u>
Sweetgum*	<u>Liquidambar styraciflua</u>
Trumpetvine, Violet*	<u>Clytostoma callistegioides</u>
Viburnum, Laurestinus*	<u>Viburnum tinus</u>
Viburnum, Sandankwa	<u>Viburnum suspensum</u>
Weigela, Oldfashioned	<u>Weigela florida</u>
Wintercreeper, Bigleaf*	<u>Euonymus fortunei</u> var. "Emerald Cushion"
Wintercreeper, Purpleleaf	<u>Euonymus fortunei</u> var. "Coloratus"

Common Name	Scientific Name
Xylosma, Japanese	<u>Xylosma japonica</u>
Yaupon*	<u>Ilex vomitoria</u>
Yew, Japanese	<u>Taxus cuspidata</u>
Yucca, Soap tree*	<u>Yucca elata</u>
Zinnia, Common	<u>Zinnia elegans</u>

*May be treated with SURFLAN when container grown.

Precaution

Ice Plant: When establishing unrooted Ice Plant on coarse soils in landscape plantings, use only the 2 quart rate of SURFLAN or crop injury may occur. After the Ice Plant is well established, a second application may be made.

FIELD GROWN FRUIT TREE NURSERY LINERS

SURFLAN is recommended for use on the following species:

Almond	Grapefruit	Pear
Apple	Kiwi	Pecan
Apricot	Lemon	Pistachio
Avocado	Macadamia Nut	Plum
Cherry	Nectarine	Pomegranate
Fig	Olive	Prune
Filbert	Orange	Walnut, English
Grape		

Small Fruits:

Blackberry	Currant	Gooseberry
Blueberry	Dewberry	Loganberry
Boysenberry	Elderberry	Raspberry

RECOMMENDATIONS-SURFLAN ALONE

Broadcast Application Rates

<u>Length of Control</u>	<u>SURFLAN A.S.</u>
Short Term Control (2-4 months)	1.5 pints (24 fluid ounces) per 1,000 square feet
Long Term Control (6-8 months)	3 pints (48 fluid ounces) per 1,000 square feet
(8-12 months**)	4.5 pints (72 fluid ounces) per 1,000 square feet

** Not recommended in ornamental plantings.

RECOMMENDATIONS TANK-MIX COMBINATIONS

ORNAMENTAL PLANTINGS AND NONCROPLAND AREAS

Tank-mix combinations of SURFLAN plus Roundup®, Fusilade®, Goal® and Poast® are recommended to control undesirable vegetation in ornamental and noncropland areas. Applied as directed these SURFLAN tank-mixes will provide control of susceptible species listed on the respective labels. Read the product labels for directions, precautions and limitations prior to use.

SURFLAN/Roundup Tank-Mix

Tank-mix combinations of SURFLAN/Roundup are recommended to control existing undesirable vegetation. Applied as directed, SURFLAN plus Roundup will provide control of susceptible species listed on the respective labels of the two herbicides.

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Broadcast Application Rates

SURFLAN/Roundup

<u>SURFLAN A.S.*</u> <u>Ornamental Plantings</u>	<u>SURFLAN A.S.*</u> <u>Noncropland Areas</u>	<u>Roundup</u>	
Pints Per 1000 sq. ft.	Pints Per 1000 sq. ft.	Existing Annual and Broadleaf Weeds	Ounces Per 1000 sq. ft.
1 1/2 - 3	1 1/2 - 4 1/2	Less Than 6" Tall	3/4
1 1/2 - 3	1 1/2 - 4 1/2	More Than 6" Tall	1 1/8
1 1/2 - 3	1 1/2 - 4 1/2	Existing Perennial Weeds	1 1/2 - 3 3/4

* For length of control desired see SURFLAN Broadcast Application Rate table on page 00.

Precaution

Roundup is not recommended as an over-the-top spray in ornamentals. Extreme care must be exercised to avoid contact of spray containing Roundup with foliage of desirable turfgrasses, trees, shrubs, or other desirable vegetation since severe damage or destruction may result.

Note: If spraying areas adjacent to desirable plants with Roundup, use a shield made of cardboard, sheet metal, or plyboard while spraying to help prevent spray from contacting foliage of desirable plants.

CHRISTMAS TREE PLANTINGS

Tank-mix combinations of SURFLAN and Princep® 80W or Goal® are recommended as overtop sprays on field grown Christmas tree species. Applied as directed, these SURFLAN tank-mixes will provide control of susceptible species listed on the respective labels. Read the product labels for directions, precautions and limitations prior to use.

INDUSTRIAL SITES

Tank-mix combinations of SURFLAN plus Spike®, Casoron®, Dowpon® 74SP, Hyvar®X, Karmex® (diuron), Krovar® I & II, MSMA, Oust®, Paraquat CL, Princep® (simazine), Sencor®, and Telar®, are recommended as overtop sprays to existing vegetation in industrial areas including utility substations, highway guard rails, sign posts and delineators. Applied as directed these SURFLAN tank-mixes will provide control of susceptible species listed on the respective labels. Read the product labels for directions, precautions and limitations prior to use.

SOUTHERN TURFGRASS AREAS

SURFLAN is a preemergence herbicide, which is applied to established Southern turf including bahiagrass, bermudagrass, centipedegrass, 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.

Grasses Controlled by SURFLAN

<u>Summer Annuals</u>		<u>Winter Annual</u>	
<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>
Barnyardgrass (Watergrass)	<u>Echinochloa crus-galli</u>	Bluegrass, Annual	<u>Poa annua</u>
Crabgrasses (Large Crabgrass) (Smooth Crabgrass)	<u>Digitaria</u> spp.		
Crowfootgrass	<u>Dactyloctenium aegyptium</u>		
Foxtails (Bottlegrass) (Bristlegrass) (Giant Foxtail) (Green Foxtail) (Pigeongrass) (Robust Foxtail) (Yellow Foxtail)	<u>Setaria</u> spp.		
Goosegrass (Silver Crabgrass)	<u>Eleusine indica</u>		
Johnsongrass (Seedling only)	<u>Sorghum halepense</u>		
Ryegrass, Italian	<u>Lolium multiflorum</u>		
Sandbur, field	<u>Cenchrus incertus</u>		

17/5/77

Broadleaf Weeds Controlled by SURFLAN

<u>Summer Annuals</u>		<u>Winter Annuals</u>	
<u>Common Name</u>	<u>Scientific Name</u>	<u>Common Name</u>	<u>Scientific Name</u>
Carpetweed	<u>Molugo verticillata</u>	Chickweed,	<u>Stellaria media</u>
Knotweed, prostrate	<u>Polygonum aviculare</u>	common	
Purslane, common	<u>Portulaca oleracea</u>	Henbit	<u>Lamium amplexicaule</u>

Broadleaf Weeds Partially Controlled by SURFLAN

<u>Common Name</u>	<u>Scientific Name</u>
Groundsel, common	<u>Senecio vulgaris</u>
Spurge, prostrate	<u>Euphorbia humistrata</u>
Woodsorrel, yellow (creeping)	<u>Oxalis stricta</u>

SURFLAN will not control established weeds.

GENERAL USE DIRECTIONS - Read All Directions Carefully Before Applying

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 verti-cutting, 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:

	<u>Amount Per 100 Square Feet</u>	<u>Amount Per 500 Square Feet</u>	<u>Amount Per 1000 Square Feet</u>
SURFLAN A.S.	2 1/2 ounces	12 1/2 ounces	24 ounces

2. POA ANNUA (ANNUAL BLUEGRASS) 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:

	<u>Amount Per 100 Square Feet</u>	<u>Amount Per 500 Square Feet</u>	<u>Amount Per 1000 Square Feet</u>
SURFLAN A.S.	1 3/4 ounces	8 3/4 ounces	18 ounces

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 SURFLAN. When reseeding, it is essential that proper cultural practices such as soil cultivation, irrigation and fertilization be followed. For satisfactory reseeding results after using SURFLAN, 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.

APPLICATION EQUIPMENT

Apply SURFLAN evenly over the turfgrass area 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.

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 to turfgrass planted in 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 var. "Sun Turf" in Northern Oklahoma have shown sensitivity to SURFLAN treatments.

Do not apply SURFLAN on golf course putting greens.

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

Caution

Harmful if inhaled or absorbed through the skin. 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.

STATEMENTS OF PRACTICAL TREATMENT

If in eyes: Flush eyes with plenty of water. Call a physician if irritation persists.

If swallowed: Call a physician or Poison Control Center.

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

If inhaled: Remove individual to fresh air. If breathing difficulty occurs, provide cardiopulmonary resuscitation assistance and get medical attention.

Environmental Hazards

Do not apply directly to water or wetlands. Do not contaminate water by cleaning of equipment or disposal of wastes. Cover or incorporate spills.

STORAGE AND 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: Do not contaminate water, food or feed by storage or disposal. Waste 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.

(SURFLAN® - oryzalin, Elanco Products Company)
(Spike® - tebuthiuron, Elanco Products Company)
(Casoron® - dichlobenil, Philips-Duphar)
(Dowpon® - dalapon, Dow Chemical Company)
(Fusilade® - fluazifop-butyl, ICI Americas Inc.)
(Goal® - oxyfluorfen, Rohm and Haas Company)
(Hyvar® - bromacil, E.I. du Pont de Nemours and Company)
(Karmex® - diuron, E.I. du Pont de Nemours and Company)
(Krovar® - I & II - bromacil/diuron, E.I. du Pont De Nemours and Company)
(Oust® - sulfometuron methyl, E.I. du Pont de Nemours and Company)
(Poast® - sethoxydim, BASF Wyandotte Corporation)
(Princep® - simazine, Ciba-Geigy)
(Roundup® - glyphosate, Monsanto Company)
(Sencor® - metribuzin, Bayer GmbH)
(Telar® - chlorsulfuron, E.I. du Pont de Nemours and Company)

DISCLAIMER OF WARRANTIES

The manufacturer makes no warranties concerning this product or its use, which extend beyond the description on the label. All other warranties, express or implied, including but not limited to, any implied warranties of merchantability and fitness for a particular purpose, are disclaimed. All statements concerning this product apply only when used as directed.

Limitation of Damages

Elanco's liability, whether in contract, warranty, tort, negligence, strict liability or otherwise, should not exceed the return of the amount of the purchase price of the SURFLAN A.S. and under no circumstances shall Elanco be liable for special, indirect or consequential damages.

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SURFLAN 0.25 A.S. Label
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