



11-20-2001

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES
AND TOXIC SUBSTANCES

Mr. Steve A. McMaster
Regulatory Manager
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268

NOV 20 2001

Dear Mr. McMaster:

Subject: Treflan® E.C. Weed and Grass Preventer
EPA Registration No. 62719-97
Application and Your Letter Dated November 8, 2001,
Request To Amend Registration by Revising First Aid
Statements in Compliance with PR Notice 2001-1; and the
Terms and Conditions of Use Section

The proposed labeling amendments have been reviewed and found acceptable under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, provided that you:

1. Correct the chemical expression for trifluralin, by either adding the Greek "alpha, alpha, alpha or α, α, α " to the express used in labeling of this product.
2. Revise the "Table of Contents" to reflect the section titles as given throughout the proposed label. Section titles must be uniformly presented, i.e., same case and bold or not bold.
3. Revise the directions of use given under the section **"Under Paved Surfaces"**: "Directions for Use and Site Preparation". The claim: "Treflan E.C. should be used only where the area to be treated has been prepared according to good constructon practices.", must be clarified by changing the word "area" as "soil". Revise the following statement to read: "Application may be made after the final road bed is established or after the base rock has been added. Do not move soil after application of Treflan E.C. and do not apply Treflan E.C. to soil where asphalt is to be applied directly on top of the treated soil.
Under "Large Areas" revise the third and forth sentence to read: "Apply uniformly with a ground sprayer. Using a ground sprayer add Treflan E.C. to clean water during filling of spray tank."
Under "Small Areas" revise the first statement by deleting the words "tank type".

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4. On pages 17 and 18, revise the crop grouping "Cole Crops" by deleting the sentences: "See next section for direct seeded" and "See above section for transplant.", respectively.
5. Submit one (1) copy of the final printed label prior to your shipment of this pesticide product under the enclosed revised stamped label.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA, section 6(e). Your release for shipment under this labeling constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records.

Sincerely yours,

Eugene M. Wilson
for Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Enclosure

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(Base label):

(Logo) Dow AgroSciences

Treflan* E.C.**Weed and Grass Preventer**

A selective preemergence herbicide for the control of annual grasses and broadleaf weeds in nursery stock, ornamental trees, ornamental woody shrubs, ornamental groundcovers, roses, established flowers, vegetable gardens and under paved surfaces.

Active Ingredient:

trifluralin: □, □, □-trifluoro-2,6-dinitro-*N*,*N*-dipropyl-*p*-toluidine..... 43%

Inert Ingredients:..... 57%

Total100%

**ACCEPTED
with COMMENTS
in EPA Letter Dated**

NOV 20 2001

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

62719-97

Contains petroleum distillates.

Contains 4 pounds active ingredient per gallon.

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

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

Precautionary Statements

Hazards to Humans and Domestic Animals

Causes Moderate Eye Irritation • Harmful If Swallowed • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reaction In Some Individuals

Avoid contact with eyes, skin, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on an EPA chemical resistance category selections chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

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Engineering Controls Statements

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Note to physician: This product contains an aromatic hydrocarbon and can be extremely harmful if swallowed. Aspiration of this product may produce a severe pneumonitis. Stomach lavage with a cuffed endotracheal tube in place and immediate administration of activated charcoal, 6 to 8 heaping teaspoonfuls with water, should be considered. Treatment is otherwise symptomatic and supportive.

Environmental Hazards

This pesticide is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply in a manner that will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to label booklet for Directions for Use including Storage and Disposal.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read "Warranty Disclaimer," "Inherent Risks of Use," and "Limitation of Remedies" at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994. If you wish to obtain additional product information, visit our web site at www.dowagro.com.

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

Avoid Freezing -- Store Above 40°F

EPA Reg. No. 62719-97

EPA Est. 1471-IN-2

*Trademark of Dow AgroSciences LLC

Dow AgroSciences LLC • Indianapolis, IN 46268 U.S.A.

Specialty Herbicide

Net Contents XXX

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(Datapack cover):
(Logo) **Dow AgroSciences**

Treflan* E.C.

Weed and Grass Preventer

A selective preemergence herbicide for the control of annual grasses and broadleaf weeds in nursery stock, ornamental trees, ornamental woody shrubs, ornamental groundcovers, roses, established flowers, vegetable gardens and under paved surfaces.

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Inert Ingredients: 57%
Total 100%

Contains petroleum distillates.
Contains 4 pounds active ingredient per gallon.

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Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to label booklet under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

Refer to inside of label booklet for additional precautionary information including Personal Protective Equipment (PPE), Engineering Controls Statements and User Safety Recommendations, and Directions for Use including Storage and Disposal.

Notice: Read the entire label. Use only according to label directions. **Before using this product, read "Warranty Disclaimer," "Inherent Risks of Use," and "Limitation of Remedies" at end of label booklet. If terms are unacceptable, return at once unopened.**

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Specialty Herbicide

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Net Contents XXX

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Precautionary Statements

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When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protections Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

User Safety Recommendations

Users should:

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Environmental Hazards

This pesticide is extremely toxic to freshwater marine, and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply in a manner that will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.

Directions for Use

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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

Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls
- Chemical-resistant gloves such as Nitrile, Butyl, Neoprene, or Barrier Laminate
- Shoes plus socks

Non-Agricultural Use Requirements

The requirements of this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow others to enter the treated area until sprays have dried.

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Storage and Disposal

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

Storage: Store in original container only. Avoid freezing. Store above 40°F. If frozen, poor weed control may result. Do not store near heat or open flame. 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.

Plastic 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.

Metal Container Disposal: Triple rinse (or equivalent). Then offer for recycling, or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

Bulk/Mini-bulk Tank Cleaning: Triple rinse (or equivalent) and wash with appropriate cleaners before reusing.

General Information

Treflan® E.C. herbicide is a selective preemergence herbicide for the control of annual grasses and broadleaf weeds in nursery stock, ornamental trees, ornamental woody shrubs, ornamental groundcovers, roses, established flowers, vegetable gardens and under paved surfaces.

Treflan E.C. is incorporated (mixed) into the soil to provide long-lasting control of annual grasses and broadleaf weeds (see list below). Treflan E.C. controls weeds by killing their seeds as they germinate. It does not control established weeds.

Incorporation of Treflan E.C. helps assure effective weed control regardless of weather conditions and permits shallow cultivation, rotary hoeing and hand hoeing without reducing its weed control activity.

Treflan E.C. is recommended for use on a wide variety of vegetables, ornamental trees, ornamental groundcovers, shrubs, and flowers. The ornamental species on which Treflan E.C. can be used at recommended rates without damage include those listed in this booklet under "Approved Ornamental Species".

General Use Precautions

Applied according to directions and under normal growing conditions, Treflan E.C. will not harm the treated crop. Over application may result in crop injury or a soil residue. Uneven application or improper soil incorporation of Treflan E.C. can result in erratic weed control or crop injury. Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought may weaken crop seedlings and increase the possibility of damage from Treflan E.C. Under these conditions, delayed crop development or reduced yields may result.

Do not aerially apply Treflan E.C.

Do not apply Treflan E.C. through any type of irrigation system.

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Grasses Controlled by Treflan E.C.

Annual bluegrass
Barnyardgrass (Watergrass)
Brachiaria
Bromegrass
Cheat
Crabgrasses
Foxtail
Johnsongrass (from seed)
Junglerice
Panicum, fall
Panicum, Texas
Sandbur
Sprangletop
Stinkgrass
Woolly cupgrass

Broadleaf Weeds Controlled by Treflan E.C.

Carpetweed
Chickweed
Florida pusley
Goosefoot
Knotweed
Kochia
Lambsquarters
Pigweed
Puncturevine (Western U. S. only)
Purslane
Russian thistle
Stinging nettle

Note: Treflan E.C. will not control certain resistant weeds such as Cocklebur, Velvetleaf, Jimsonweed, Ragweed, Venice Mallow and Nutgrass.

Ornamentals

Application Directions

Treflan E.C. is to be mixed with water and applied as spray before, or in the same operation as soil incorporation. Apply in 5 to 40 gallons of water per acre (broadcast basis) using any properly calibrated low-pressure boom-type herbicide sprayer that will uniformly apply the spray. Pour the recommended amount of Treflan E.C. for your soil type into the spray tank during the filling operation and mix thoroughly before spraying. Do not apply more than the recommended amount.

Incorporation Directions

Treflan E.C. must be incorporated into the soil after application to prevent loss of its activity. Spraying and incorporation should be done in the same operation, if possible. Incorporation may be delayed up to 24 hours after application. Variable weed control may result from delayed incorporation if Treflan E.C. is applied to a wet, warm soil surface or if the wind velocity is 10 mph or higher.

The machinery used for incorporation should break up large clods and mix Treflan E.C. thoroughly with the soil. The more thoroughly the Treflan E.C. is mixed with the soil, the more consistent the weed control will be.

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Apply and incorporate Treflan E.C. prior to planting new nursery stock liners, ornamentals, trees and woody shrubs, and gladioli. (Gladioli corms less than 1 inch in diameter may be injured by pre-plant applications of Treflan E.C.). Treflan E.C. may also be applied to established plantings by using a directed spray to the soil between the rows and beneath the plants.

Incorporation Before Planting (Pre-plant): Thorough incorporation may be achieved with the following:

1. **P.T.O.-driven equipment** (tillers, cultivators, hoes) set to cut 2 to 3 inches deep with rotors spaced to provide a clean sweep of the soil.
2. **Double disc** (or double disc with spike tooth harrow in tandem) set to cut 3 to 4 inches deep and operated in two different directions (cross disced) at 4 to 6 mph.
3. **Mulch treader** and other similar disc-type implements set to cut 3 to 4 inches deep and operated twice at 5 to 8 mph.
4. **Rolling cultivators** set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph.
5. **Bed conditioner** (Do-All) set to cut 2 to 4 inches deep and operated at 4 to 6 mph.

Incorporation After Planting (Post-plant): Incorporation May Be Achieved Around Established Plants By Using:

1. **P.T.O.-driven equipment** (tillers, cultivators, hoes) set to cut 2 to 3 inches deep with rotors spaced to provide a clean sweep of the soil.
2. **Rolling cultivators** set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph. When incorporating Treflan E.C. in transplants, new liners, or established plants, the implement should be adjusted so that treated soil is thrown forward and around the plants in a row.

Clean cultivate area to be treated before application since Treflan E.C. will not control established weeds.

Shallow incorporation with implements set to cut less than 2 inches deep may result in erratic weed control. Do not use spike tooth or springtooth harrows alone for incorporation.

Broadcast (Overall) Application Rates for Soil Incorporation Only

Coarse Soils	Sand and sandy loam 1 pint/acre (1/2 lb active)
Medium Soils	Loam, silt loam and silt 1-1/2 pint/acre (3/4 lb active)
Fine Soils	Clay loam, silty clay and clay 2 pint/acre (1 lb active)

For band applications, use the following formula to figure the proportionate amount:

$$\begin{array}{l} \text{band width in inches} \\ \text{row width in inches} \end{array} \times \begin{array}{l} \text{recommended} \\ \text{broadcast rate} \end{array} = \begin{array}{l} \text{amount to apply} \\ \text{per acre on band} \end{array}$$

Treflan E.C. is not recommended on muck soils.

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Ornamental Groundcover Plantings

Surface Application and Water Incorporation

Add Treflan E.C. to clean water in the spray tank during the filling operation. Agitate thoroughly prior to spraying. Apply in 5 to 40 gallons of water per acre using any properly calibrated low pressure herbicide sprayer that will uniformly apply the spray mixture. A one-half inch rain or its equivalent in sprinkler irrigation must be received within 24 hours or poor weed control will result.

Application Rates

Apply 1 gallon of Treflan E.C. per acre or 3 ounces per 1,000 sq ft of groundcover area.

Approved Ornamental Species

Woody Shrubs

Common Name	Scientific Name
Andromeda, Japanese	<i>Pieris japonica</i>
Arborvitae, American	<i>Thuja occidentalis</i>
Azalea	<i>Rhododendron</i> spp.
Barberry, Japanese	<i>Berberis thunbergii</i>
Barberry, mento	<i>Berberis mentorensis</i>
Boxwood, common	<i>Buxus sempervirens</i>
Boxwood, harlands	<i>Buxus harlandi</i>
Boxwood, littleleaf	<i>Buxus microphylla</i>
Camellia, Japanese	<i>Camellia japonica</i>
Camellia, sasanqua	<i>Camellia sasanqua</i>
Cherrylaurel, American	<i>Prunus caroliniana</i>
Cinquefoil	<i>Potentilla</i> spp.
Cleyera, Japanese	<i>Cleyera japonica</i>
Cotoneaster, cranberry	<i>Cotoneaster apiculata</i>
Cotoneaster, zabel	<i>Cotoneaster zabelii</i>
Deutzia	<i>Deutzia</i> spp.
Elaeagnus, silverberry	<i>Elaeagnus pungens</i>
Euonymus, spreading	<i>Euonymus kiautschovica</i>
Euonymus, winged	<i>Euonymus alatus</i>
Euonymus, wintercreeper	<i>Euonymus fortunei</i>
Firethorn	<i>Pyracantha</i> spp.
Forsythia	<i>Forsythia</i> spp.
Guava, pineapple	<i>Feijoa sellowiana</i>
Hawthorn, India	<i>Rhaphiolepis indica</i>
Holly	<i>Ilex</i> spp.
Honeysuckle	<i>Lonicera</i> spp.
Juniper	<i>Juniperus</i> spp.
Laurel, mountain	<i>Kalmia latifolia</i>
Lilac, common	<i>Syringa vulgaris</i>
Mockorange	<i>Philadelphus</i> spp.
Pittosporum, Japanese	<i>Pittosporum tobira</i>
Privet	<i>Ligustrum</i> spp.
Redcedar, eastern	<i>Juniperus virginiana</i>
Rhododendron	<i>Rhododendron</i> spp.
Spiraea, vanhoutte	<i>Spiraea vanhouttei</i>
Viburnum	<i>Viburnum</i> spp.
Weigela	<i>Weigela</i> spp.
Willow	<i>Salix</i> spp.

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Yew, anglojap	<i>Taxus media</i>
Yew, Japanese	<i>Taxus cuspidata</i>
Yewpine	<i>Podocarpus macrophyllus</i>

Trees

Common Name	Scientific Name
Almond	<i>Prunus dulcis</i>
Apple, Crabapple	<i>Malus</i> spp.
Apricot	<i>Prunus armeniaca</i>
Ash, white	<i>Fraxinus americana</i>
Baldcypress	<i>Taxodium distichum</i>
Birch, european white	<i>Betula pendula</i>
Blackgum	<i>Nyssa sylvatica</i>
Cherry	<i>Prunus</i> spp.
Chestnut, Chinese	<i>Castanea mollissima</i>
Cottonwood	<i>Populus deltoides</i>
Dogwood, flowering	<i>Cornus florida</i>
Dogwood, kousa	<i>Cornus kousa</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
Fir, balsam	<i>Abies balsamea</i>
Hemlock, Canada	<i>Tsuga canadensis</i>
Honey locust	<i>Gleditsia triacanthos</i>
Larch, Japanese	<i>Larix kaempferi</i>
Locust, black	<i>Robinia pseudoacacia</i>
Maple, Norway	<i>Acer platanoides</i>
Maple, red	<i>Acer rubrum</i>
Maple, silver	<i>Acer saccharinum</i>
Maple, sugar	<i>Acer saccharum</i>
Oak, pin	<i>Quercus palustris</i>
Oak, red	<i>Quercus rubra</i>
Oak, scarlet	<i>Quercus coccinea</i>
Peach	<i>Prunus persica</i>
Pine, Austrian	<i>Pinus nigra</i>
Pine, eastern white	<i>Pinus strobus</i>
Pine, Japanese black	<i>Pinus thunbergiana</i>
Pine, loblolly	<i>Pinus taeda</i>
Pine, red	<i>Pinus resinosa</i>
Pine, scotch	<i>Pinus sylvestris</i>
Planetree, London	<i>Platanus acerifolia</i>
Plum	<i>Prunus</i> spp.
Redbud, eastern	<i>Cercis canadensis</i>
Spruce, colorado	<i>Picea pungens</i>
Spruce, Norway	<i>Picea abies</i>
Spruce, white	<i>Picea glauca</i>
Sweetgum	<i>Liquidambar styraciflua</i>
Sycamore	<i>Platanus occidentalis</i>
Tuliptree	<i>Liriodendron tulipifera</i>
Walnut, black	<i>Juglans nigra</i>

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Groundcover Plantings

Common Name	Scientific Name
Aaronsbeard	<i>Hypericum calycinum</i>
Bellflower, adriatic	<i>Campanula elatines</i>
Bellflower, poscharsky	<i>Campanula poscharskyana</i>
Ceanothus	<i>Ceanothus</i> spp.
Coreopsis	<i>Coreopsis</i> spp.
Cotoneaster	<i>Cotoneaster</i> spp.
Coyote brush	<i>Baccharis pilularis</i>
Crown vetch	<i>Coronilla vana</i>
Daisy, trailing African	<i>Osteospermum fruticosum</i>
Fern, asparagus	<i>Asparagus densiflorus</i>
Gazania	<i>Gazania</i> spp.
Germander	<i>Teucrium chamaedrys</i>
Ice plant, largeleaf	<i>Carpobrotus edulis</i>
Ivy, algerian	<i>Hedera canariensis</i>
Ivy, English	<i>Hedera helix</i>
Lily-of-the-Nile	<i>Agapanthus</i> spp.
Lilyturf, bigblue	<i>Liriope muscari</i>
Marigold	<i>Tagetes</i> spp.
Myoporum	<i>Myoporum laetum</i>
Plumbago, dwarf	<i>Ceratostigma plumbaginoides</i>
Rockrose	<i>Cistus</i> spp.
Rosemary	<i>Rosmarinus officinalis</i>
Rupturewort	<i>Herniaria glabra</i>
Snow-in-Summer	<i>Cerastium tomentosum</i>
Speedwell	<i>Veronica</i> spp.
St. Johnswort	<i>Hypericum coris</i>
Stonecrop (Sedum)	<i>Sedum</i> spp.
Strawberry, beach	<i>Fragaria chiloensis</i>
Thrift	<i>Armeria maritima</i>
Verbena	<i>Verbena</i> spp.
Wirevine, creeping	<i>Muehlenbeckia axillaris</i>
Yarrow, woolly	<i>Achillea tomentosa</i>
Zoysiagrass	<i>Zoysia tenuifolia</i>

Roses and Other Established Flowers

African daisy	Marigold
Aster (perennial)	Marigold, cape
Balsam	Morningglory
Blackeyed Susan	Nasturtium
Calendula	Nicotiana
Carnation	Petunia
Centaurea, velvet	Phlox
Chrysanthemum	Pincushion flower
Coreopsis	Poppy, California
Cornflower	Portulaca
Cosmos	Rose
Dahlia	Salvia
Dianthus	Shasta daisy
Dusty Miller	Snapdragon
Floss flower	Snow-on-the-Mountain

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Forget-me-not	Stock
Four o'Clock	Sunflower
Gaillardia	Sweet alyssum
Gladiolus	Sweet pea
Golden glow	Sweet sultan
Impatiens	Sweet William
Ixora	Vinca
Lobelia	Yarrow
Lupine	Zinnia

Field Grown Roses

Treflan E.C. may be applied as an incorporated treatment at a rate of 2 quarts per acre to field grown roses to control annual weeds listed on this label. Apply to the soil surface in 5 to 40 gallons of finished spray and incorporate within 24 hours. Use a directed spray if application is made when roses are actively growing. Set incorporation equipment to avoid damage to root systems of established roses.

Do not apply more than 2 quarts (2 lb a.i.) per acre per year.

Under Paved Surfaces

Directions for Use and Site Preparation

Treflan E.C. should be used only where the area to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with a grader blade to a depth sufficient to insure their complete removal.

Applications should be made only when the final grade is established or after additions of base rock. Do not move soils following application of Treflan E.C. and do not apply Treflan E.C. to areas where asphalt is to be placed directly on top of soil.

Paving should occur as soon as possible after application of Treflan E.C.

Application Directions

Large Areas: Apply Treflan E.C. in sufficient water to insure thorough wetting of the soil surface or penetration of the spray solution through the base rock layer. A minimum of 150 gallons per acre is recommended. Apply with any sprayer that will apply the spray uniformly. Add the recommended amount of Treflan E.C. to clean water in the spray tank during the filling operation. Agitate before spraying.

Small Areas: For treating small areas, a tank type hand sprayer or sprinkling can may be used. Before application determine the amount of water and Treflan E.C. necessary to uniformly cover the area to be treated. Shake or stir the spray solution prior to application.

The Proper Amount of Treflan E.C. to Apply	
Small Areas	9 to 12 oz /1000 sq ft
Large Areas	3 to 4 gal/acre

Vegetable Gardens

Soil Preparation

Crop Residues or Existing Weeds: Crop residues or existing weeds can interfere with the mixing of Treflan E.C. into the soil. A manageable level of such residues would allow the Treflan E.C. to be

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uniformly mixed into the top 2 to 3 inches of soil. If the level of the crop residue is such that this cannot be done, you must till the soil prior to application.

Soil Texture Guide

The amount of Treflan E.C. you apply will vary with the soil texture to be treated. A fine textured soil will require more Treflan E.C. than a course soil. Choose the proper rate for each application based on the following soil texture group and specific crop recommendations. Do not exceed recommended rates.

Soil Texture	Soil Classification
Course Soils (Light)	Sands, loamy sands, sandy loams
Medium Soils	Silt or loam
Fine Soils (Heavy)	Clay loams, silty clay loams, clays, silty clays

Mixing Directions

Start with a clean spray tank. Fill sprayer 1/2 full with clean water. Add correct quantity of Treflan E.C. Close the sprayer and shake well to mix Treflan E.C. Finish filling sprayer and shake occasionally to keep Treflan E.C. mixed in the tank.

Ground Application

Apply Treflan E.C. in 1 to 5 gallons of water per 1000 square feet on a broadcast basis. Spray uniformly over the top of the soil surface to assure satisfactory weed control.

Incorporation Directions

Mix Treflan E.C. thoroughly into the soil with a tool or implement that breaks up large clods and distributes the chemical within the soil. The more thoroughly the Treflan E.C. is mixed within the soil, the more consistent the weed control.

Thoroughly mix Treflan E.C. in the top 2 to 3 inches of the final seedbed (when the garden is ready for planting) or erratic weed control and/or crop injury may result. Equipment such as a roto-tiller or rake should be used to mix Treflan E.C. to the desired 2 to 3 inch depth.

Incorporation Before Planting: Treflan E.C. must be mixed into the soil within 24 hours after application. You should mix the Treflan E.C. uniformly into the top 2 to 3 inches of the final seedbed.

Incorporation After Planting: Check specific crop incorporation directions after planting.

Cultivation After Planting

Soil treated with Treflan E.C. may be shallow cultivated without reducing the weed control activity of Treflan E.C. Do not cultivate deeper than the treated soil since this may bring untreated soil to the surface, and poor weed control may result.

Crop Recommendations

These recommendations are given as broadcast rates of Treflan E.C. per 1000 square feet. Apply any time after January 1 when the soil can be worked and is suitable for good incorporation. Do not use Treflan E.C. on soils containing more than 10% organic matter. **Treflan E.C. should not be used in areas to be planted with sweet corn or direct seed cucurbits.**

For the Following Crop Grouping, Use the Rate Listed Below: Apply and incorporate Treflan E.C. before planting, at planting or immediately after planting unless otherwise indicated.

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Broadcast Rates Per 1,000 Square Feet

Soil Texture	Treflan E.C. (teaspoons)
Coarse	2 1/4
Medium	3 1/3
Fine	4 1/2

1. Asparagus - Established

Follow recommended soil preparation, application and incorporation procedures for Treflan E.C. Treflan E.C. can be applied to established asparagus as a single application. Apply Treflan E.C. to asparagus after ferns are removed but before spear emergence.

2. Carrot**3. Celery - (Direct seeded and transplant)****4. Cole Crops - Transplant (Broccoli, Brussels Sprout, Cabbage and Cauliflower)**

Apply and incorporate prior to transplanting only. See next section for direct seeded.

5. Cucurbits - Postplant Emerged (Cantaloupe, Cucumber and Watermelon)

Apply Treflan E.C. as a direct spray to the soil between the rows and beneath the plants which are in the 3 to 4 true leaf stage.

After applying Treflan E.C. to the soil, incorporation is necessary to mix the chemical to the 2-3 inch desired depth. Optimum weed control will be achieved by moving a portion of the treated soil around the base of the established plants.

6. Okra**7. Pepper - Transplant**

Apply and incorporate prior to transplanting only.

8. Potato - (All states except Maine)

Apply and incorporate Treflan E.C. after planting, before emergence, or immediately following dragoff or after the potato plants have fully emerged.

Mix Treflan E.C. into the soil so a uniform layer of treated soil covers the bed. Concentrated areas of chemical in the bed may retard potato emergence and cause stem brittleness. If potato plants are already emerged when cultivating, do not totally cover foliage with treated soil. Do not damage potato seed pieces or elongating sprouts with incorporation equipment.

9. Southern Pea (Before planting only)**10. Tomato - Transplant**

Apply and incorporate prior to transplanting only.

For the Following Crop Grouping, Use the Rate Listed Below: Apply and incorporate Treflan E.C. before planting.

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Broadcast Rates Per 1,000 Square Feet

Soil Texture	Treflan E.C. (teaspoons)
Coarse	2-1/4
Medium	2-1/4
Fine	3-1/3

1. **Beans - (Lima Bean and Snap Bean)**
2. **Cole Crops - Direct Seeded (Broccoli, Brussels Sprout, Cabbage and Cauliflower)**
See above section for transplant.
3. **Greens - (Turnip Greens, Collard, Kale and Mustard Greens)**
4. **Green Pea**

Treflan E.C. Rate Conversion Chart

Rate Per 1,000 sq ft to Rate Per Acre	
Rate Per 1,000 sq ft: (Teaspoons)	Rate Per Acre: (Pints)
2-1/4	1
3-1/3	1-1/2
4-1/2	2

Small Sprayer Calibration Technique: Small sprayer calibration can be achieved by following these five simple steps.

1. Fill the sprayer full of clean water.
2. Spray as you would normally apply chemicals through the sprayer over the area to be treated.
3. When the sprayer is empty, measure the area treated to determine the number of square feet per sprayer load.
4. After you have calculated the number of square feet per sprayer load, calculate the amount of Treflan E.C. needed to treat that size area.
5. Refer to the mixing directions on the Treflan E.C. product label.

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1. Refund of purchase price paid by buyer or user for product bought, or
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