

PM 23

10163-181

9-29-99

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Registration Division (7505C)
401 "M" St., S.W.
Washington, D.C. 20460

EPA Reg. Number:

Date of Issuance:

10163-181

SEP 29 1999

NOTICE OF PESTICIDE:
Registration
X Reregistration

Term of Issuance:

Unconditional

(under FIFRA, as amended)

Name of Pesticide Product:

Gowan Trifluralin E.C.

Name and Address of Registrant (include ZIP Code):

Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

Based on your response to the Trifluralin Reregistration Eligibility Decision (RED) document, EPA has reregistered the product listed above. The following revision must be incorporated into the labeling before the product is released for shipment:

1. In the directions for use "Under Paved Surfaces", revise the second sentence of the "Large Areas" section to read: "A minimum spray volume of 150 gallons per acre is recommended."

Enclosed is a copy of your label stamped "Accepted with Comments". This action is taken under the authority of section 4(g)(2)(C) of the Federal Insecticide, Fungicide and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain registration of your product.

Joanne I. Miller
Product Manager (23)
Herbicide Branch
Registration Division (7505C)

Signature of Approving Official:

Date:

SEP 29 1999

RD : STANTON: PM Team 23: Rm. 239: CA-2: 305-5218: Disk #11: 10163-181. RRE

GOWAN TRIFLURALIN E.C.

2019

WEED AND GRASS PREVENTER

A selective, preemergence herbicide for use in ornamentals, vegetable gardens and under paved surfaces for control of annual grasses and broadleaf weeds.

ACTIVE INGREDIENT:	% BY WT.
Trifluralin (α , α , α -trifluoro-2, 6-dinitro-N, N-dipropyl-p-toluidine).....	44.5%
INERT INGREDIENTS	55.5%
	TOTAL 100.0%

Contains 4 pounds of active ingredient per gallon, Contains petroleum distillates

KEEP OUT OF REACH OF CHILDREN CAUTION

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).

FIRST AID

If swallowed:	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• Do not induce vomiting unless told to by a poison control center or doctor.
If in eyes:	<ul style="list-style-type: none">• 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.• Call a poison control center or doctor for treatment advice.
If on skin:	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
If inhaled:	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.• Call a poison control center or doctor for further treatment advice.

NOTE TO PHYSICIAN: THIS PRODUCT MAY POSE AN ASPIRATION PNEUMONIA HAZARD.

FOR EMERGENCY MEDICAL RESPONSE AND HAZARD COMMUNICATION ONLY, CALL HAZARD INFORMATION SERVICES AT 1-800-228-5635 EXT. 283.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Causes moderate eye irritation. May cause skin allergies to develop. Avoid contact with skin, eyes or clothing.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical resistant are listed below. If you want more options follow the instructions for category G on an EPA chemical resistance category selection chart.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or Viton — 14mils
- Shoes plus socks

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.

Engineering controls statement: When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection 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.

ENVIRONMENTAL HAZARDS

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

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

**ACCEPTED
with COMMENTS
In EPA Letter Dated**

SEP 29 1999

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

10163-181

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NET CONTENTS _____ GALLONS

EPA Reg. No. 10163-181
EPA Est. No. 67545-AZ-1



Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

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DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

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 barrier laminate or Viton — 14mils
- Shoes plus socks

WEEDS AND GRASSES CONTROLLED BY GOWAN TRIFLURALIN E.C.

GRASSES

Annual bluegrass	<i>Poa annua</i>	Sandbur	<i>Cenchrus incertus</i>
Barnyardgrass	<i>Echinochloa sp.</i>	(Burgess)	
(Watergrass)		Sprangletop	<i>Leptochloa filiformis</i>
Brachiaria	<i>Brachiaria sp.</i>	Stinkgrass	<i>Eragrostis ciliaris</i>
(Signalgrass)		(Lovegrass)	
Bromegrass	<i>Bromus tectorum</i>	Woolly cupgrass	<i>Eriochloa villosa</i>
(Cheatgrass)			
(Downy brome)		<u>BROADLEAF WEEDS</u>	
Cheat	<i>Bromus secalinus</i>	Carpet weed	<i>Mollugo verticillata</i>
(Chess)		Chickweed	<i>Stellaria media</i>
Crabgrass	<i>Digitaria spp.</i>	Florida pusley	<i>Richardia scabra</i>
(Large crabgrass)		(Florida purslane)	
(Smooth crabgrass)		(Mexican clover)	
Foxtail	<i>Setaria spp.</i>	(Pusley)	
(Bottlegrass)		Goosefoot	<i>Chenopodium hybridum</i>
(Bristlegrass)		Knotweed	<i>Polygonum aviculare</i>
(Giant foxtail)		Kochia	
(Green foxtail)		Lambsquarters	<i>Chenopodium album</i>
(Foxtail millet)		Pigweed	<i>Amaranthus spp.</i>
(Pigeongrass)		(Carelessweed)	
(Robust foxtail)		(Prostrate pigweed)	
(Yellow foxtail)		(Redroot pigweed)	
Goosegrass	<i>Eleusine indica</i>	(Rough pigweed)	
(Silver crabgrass)		(Spiny pigweed)	
(Silvergrass)		Puncturevine (Western U.S. only)	<i>Tribulus terrestris</i>
(Wiregrass)		(Caltrop)	
(Yardgrass)		(Goathead)	
Johnsongrass (from seed)	<i>Sorghum halepense</i>	Purslane	<i>Portulaca oleracea</i>
Junglerice	<i>Echinochloa colonum</i>	Russian thistle	
Panicum, Fall		Stinging nettle	<i>Urtica dioica</i>
Panicum, Texas		(Nettle)	

Note: Trifluralin will not control certain resistant weeds such as Cocklebur, Velvetleaf, Jimson weed, Ragweed, Venice Mallow and Nutgrass.

CHEMIGATION STATEMENT

Do not apply GOWAN TRIFLURALIN E.C. WEED AND GRASS PREVENTER through any type of irrigation system except as described for use on ornamentals.

GENERAL DIRECTIONS

Trifluralin is a preemergence herbicide which is incorporated (mixed) into the soil to provide long-lasting control of annual grasses and broadleaf weeds (see list above).

Trifluralin controls weeds by killing their seeds as they germinate. It does not control established weeds.

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

Trifluralin is recommended for use on a wide variety of vegetables, ornamental trees, ornamental groundcovers, shrubs, and flowers. The ornamental species on which Trifluralin can be used at recommended rates without damage include those listed in this label.

APPLICATION DIRECTIONS

Trifluralin E.C. is to be mixed with water and applied as a spray before, or in the same operation as soil incorporation. Apply in 5 to 40 gallons of water per acre (broadcast basis) using properly calibrated low pressure boom-type herbicide sprayer that will uniformly apply the spray. Pour the recommended amount of Trifluralin 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.

Do not apply by air.

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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 Trifluralin needed to treat that size area.

Small Sprayer - Mixing Directions

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

APPROVED USE DIRECTIONS

UNDER PAVED SURFACES

Directions for Use and Site Preparation

Trifluralin 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 final grade is established or after additions of base rock. Do not move soils following Trifluralin application and do not apply Trifluralin to areas where asphalt is to be laid directly on top of soil.

Paving should follow Trifluralin applications as soon as possible.

Application Directions

Large Areas - Apply Trifluralin 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 Trifluralin 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 Trifluralin necessary to uniformly cover the area to be treated. Shake or stir the spray solution prior to application.

The Proper Amount of Gowan Trifluralin EC to Apply

Ounces Per 1,000 Sq. Ft.	Gallons Per Acre
9 to 12 ounces	3 to 4 gallons

VEGETABLE GARDENS

Soil Preparation

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

Soil Texture Guide

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

	Coarse Soils (light)	Medium Soils	Fine Soils (heavy)
Soil Texture	Sands, loamy sands and sand loams	Silt or loam	Clay loams, silty clay loams, clays, silty clays

Ground Application

Apply Trifluralin in 1 to 5 gallons of water per 1,000 square feet on a broadcast basis. Spray uniformly over the top of the soil surface to assure satisfactory weed control.

Incorporation Directions

Mix Trifluralin 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 Trifluralin is mixed within the soil, the more consistent the weed control.

Thoroughly mix Trifluralin 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 rototiller or rake should be used to mix Trifluralin to the desired 2 to 3 inch depth.

Incorporation Before Planting

Trifluralin must be mixed into the soil within 24 hours after application. You should mix the Trifluralin 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 Trifluralin may be shallow cultivated without reducing the weed control activity of Trifluralin. 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 Trifluralin per 1,000 square feet. Apply any time after January 1 when soil can be worked and is suitable for good incorporation. Do not use Trifluralin on soils containing more than 10% organic matter. Trifluralin should not be used in areas to be planted with sweet corn or direct seeded cucurbits.

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FOR THE FOLLOWING CROP GROUPING, USE THE RATE LISTED BELOW
Apply and incorporate Trifluralin before planting, at planting or immediately after planting unless otherwise indicated.

Broadcast Rates Per 1,000 Square Feet
Trifluralin E.C.

Soil Texture	Teaspoons
Coarse	2 ¼
Medium	3 ½
Fine	4 ½

Asparagus-Established

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

Carrot

Celery - Direct seeded and Transplant

Cole Crops - Transplant (Broccoli, Brussels Sprout, Cabbage and Cauliflower)

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

Cucurbits - Postplant Emerged (Cantaloupe, Cucumber and Watermelon)

Apply Trifluralin as a direct spray to the soil between the rows and beneath plants which are in the 3 to 4 true leaf stage. After applying Trifluralin to the soil, incorporation is necessary to mix the chemical to the 2 to 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.

Okra

Pepper - Transplant

Apply and incorporate prior to transplanting only.

Potato - All states except Maine.

Apply and incorporate Trifluralin after planting, before emergence, or immediately following dragoff or after the potato plants have fully emerged. Mix Trifluralin 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.

Southern Pea - Before Planting Only

Tomato - Transplant

Apply and incorporate prior to transplanting only.

FOR THE FOLLOWING CROP GROUPING, USE THE RATE LISTED BELOW

Apply and incorporate Trifluralin before planting.

Broadcast Rate Per 1,000 Square Feet
Gowan Trifluralin E.C.

Soil Texture	Teaspoons
Coarse	2 ¼
Medium	2 ¼
Fine	3 ½

Beans - (Lima Bean and Snap Bean)

Cole Crops - Direct Seeded (Broccoli, Brussels Sprout, Cabbage and Cauliflower) See above section for transplant.

Greens - (Turnip Greens, Collard, Kale and Mustard Greens)

Green Pea

**ORNAMENTAL SPECIES
APPLICATION RATES**

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

WOODY SHRUBS:

Japanese Andromeda, American Arborvitae, Azalea, Japanese Barberry, Mento Barberry, Common Boxwood, Harlands Boxwood, Boxwood Littleleaf, Japanese Camelia, Sasanqua Camelia, American Cherrylauel, Cinquefoil, Japanese Cleyera, Cranberry Cotoneaster, Zabel Cotoneaster, Deutzia, Silverberry Elaeagnus, Spreading Euonymus, Winged Euonymus, Wintercreeper Euonymus, Firethorn, Forsythia, Pineapple Guava, Holly, Honeysuckle, Indianhawthorn, Juniper, Mountain Laurel, Common Lilac, Mockorange, Japanese Pittosporum, Privet, Eastern Redcedar, Rhododendron, Vanhoutte Spiraea, Viburnum, Weigela, Willow, Anglojap Yew, Japanese Yew, Yewpine

TREES:

Almond, Crabapple Apple, Apricot, White Ash, Baldcypress, European White Birch, Blackgum, Cherry, Chinese Chestnut, Cottonwood, Flowering Dogwood, Kousa Dogwood, Douglasfir, Balsam Fir, Canada Hemlock, Honeylocust, Japanese Larch, Black Locust, Norway Maple, Red Maple, Silver Maple, Sugar Maple, Pin Oak, Red Oak, Scarlet Oak, Peach, Austrian Pine, Eastern White Pine, Japanese Black Pine, Loblolly Pine, Red Pine, Scotch Pine, London Planetree, Plum, Eastern Redbud, Colorado Spruce, Norway Spruce, White Spruce, Sweetgum, Sycamore, Tuliptree, Black Walnut

GROUNDCOVER PLANTINGS:

Aaronsbeard, Adriatic Bellflower, Poscharsky Bellflower, Ceanothus, Coreopsis, Cotoneaster, Coyote Brush, Crown Vetch, Trailing African Daisy, Asparagus Fern, Gazania, Germander, Largeleaf Ice Plant, Algerian Ivy, English Ivy, Lily-of-the-Nile, Bigblue Liyturf, Marigold, Myoporium, Dwarf Plumbago, Rockrose, Rosemary, Rupturewort, Snow-in-Summer, Speedwell, St. Johnswort, Stonecrop (Sedum), Beach Strawberry, Thrift, Verbena, Creeping Wirevine, Woolly Yarrow, Zoysiagrass

- Surface Application and Water Incorporation to Ornamental Groundcover Plantings: Add Trifluralin 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.

ROSES AND OTHER ESTABLISHED FLOWERS:

African Daisy, Aster (perennial), Balsam, Blackeyed Susan, Calendula, Carnation, Velvet Centaurea, Chrysanthemum, Coreopsis, Cornflower, Cosmos, Dahlia, Dianthus, Dusty Miller, Floss Flower, Forget-me-not, Four O'Clock, Gaillardia, Gladiolus, Golden Glow, Impatiens, Ixora, Lobelia, Lupine, Marigold, Cape Marigold, Morningglory, Nasturtium, Nicotiana, Petunia, Phlox, Pincushion Flower, California Poppy, Portulaca, Rose, Salvia, Shasta Daisy, Snapdragon, Snow-on-the-Mountain, Stock, Sunflower, Sweet Alyssum, Sweet Pea, Sweet Sultan, Sweet William, Vinca, Yarrow, Zinnia

INCORPORATION DIRECTIONS

Trifluralin 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 4 hours after application. Variable weed control may result from delayed incorporation if Trifluralin 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 Trifluralin thoroughly with the soil. The more thoroughly the Trifluralin is mixed with the soil, the more consistent the weed control will be.

Apply and incorporate Trifluralin 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 Trifluralin). Trifluralin 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: *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; *double disc* (or double disc with spiketooth harrow in tandem) set to cut 3 to 4 inches deep and operated in two different directions (crossed disced) at 4 to 6 mph; *mulch treader* and other similar disc-type implements set to cut 3 to 4 inches deep and operated twice at 5 to 8 mph; *rolling cultivators* set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph; or a *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 *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; or *rolling cultivators* set to cut 2 to 4 inches deep and operated twice at 6 to 8 mph. When incorporating Trifluralin in transplants, new liners, or established plants, the implement should be adjusted so that treated soil is thrown toward and around the plants in the row.

Clean cultivate area to be treated before application since Trifluralin 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 spiketooth or springtooth harrows alone for incorporation

**CHEMIGATION USE INSTRUCTIONS
ORNAMENTALS**

GOWAN TRIFLURALIN E.C. may not be applied through irrigation system to any crop except the ornamental species listed on this label.

Apply this product only through one or more of the following types of systems: sprinkler (including micro) or drip (including surface or subsurface) irrigation systems. Do not apply this product through any other type of irrigation system.

Application of GOWAN TRIFLURALIN E.C. through irrigation systems should be used as a supplemental weed control practice, to suppress break-through weeds at irrigation points.

Crop injury, lack of effectiveness or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.

Do not allow contact with foliage.

Calibration and distribution will be more accurately achieved by injecting a larger volume of a more dilute solution over time. If desired, dilute GOWAN TRIFLURALIN E.C. with water prior to injection, and mix solution sufficiently to ensure uniform delivery into the injection system. Sprinkler systems should be calibrated to deliver a volume of 4-50 gallons per hour (gph) per emitter. Drip systems should be set at 0.01-3 gph per emitter.

If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

Do not apply when wind speed favors drift beyond the area intended for treatment, when systems connections leak, or when emitters do not provide uniform distribution.

Before use, remove scale, pesticide residues and other debris from the mix tank and pump system. Flush system with clean water.

The application interval should be such that at one period of time during the injection, the first and last emitters in the system contain GOWAN TRIFLURALIN E.C. treated water.

Do not connect an irrigation system, including greenhouse systems, used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

**CHEMIGATION SYSTEMS CONNECTED TO
PUBLIC WATER SYSTEMS**

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.

Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

Do not apply when wind speed favors drift beyond the area intended for treatment.

SPRINKLER AND DRIP IRRIGATION SYSTEMS

Mix in a clean supply tank the recommended amount of this product for acreage to be covered, and needed quantity of water. This product should not be tank-mixed with other pesticides, surfactants, or fertilizers unless prior use has shown the combination non-injurious under your conditions of use. Follow precautionary statements and directions for all tank-mix products. On all crops, use sufficient gallonage of water to obtain thorough and uniform coverage but not cause runoff or excessive leaching. Application of more or less than optimal quantity of water may result in decreased chemical performance, crop injury, or illegal pesticide residues. Meter this product into the irrigation water uniformly during the period of operation. Do not overlap application. Follow recommended label rates, application timing, and other directions and precautions for crop being treated. *Continuous mild agitation of pesticide mixture may be needed to assure a uniform application, particularly if the supply tank requires a number of hours to empty.*

The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.

The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

CALCULATION OF USE RATE FOR APPLICATION THROUGH CHEMIGATION

Calculation of use rate is based on wetted area around emitters, NOT on acres or 1000 square feet.

Apply GOWAN TRIFLURALIN E.C. according to dosages on this label.

To determine correct amount of TRIFLURALIN E.C., use one of the following formulas:

To calculate Amount of Product to Inject Into System Based on Rate Per Acre –

1. Treated area per each emitter = A
 $A = 3.14 \times (\text{radius} \times \text{radius})$
 Example: If the average distance from emitter to perimeter of wetted area = 13 inches, then $A = 3.14 \times (13" \times 13") = 530.7$ square inches
2. The area in square feet wet in each acre = B
 $B = A \times (\text{emitter/acre})$
 Example: If there are 300 emitters per acre, then $B = \frac{530.7 \times 300}{144} = 1105.6$ square feet wetted per acre
3. The total area (in square feet) wet by your system = C
 $C = B \times (\text{acres covered by system})$
 Example: If the system covers 20 acres, then $C = 1105.6 \times 20 = 22,112$ square feet wetted by system
4. The total area (in acres) wet by your system = D
 $D = \frac{22,112}{43,560} = 0.51$ total acreage wetted by system
5. Amount to be injected into system = D x (desired per acre rate)
 Example: If desired rate is 2 pints per acre, then $\frac{2 \text{ pints}}{\text{acre}} \times 0.51 \text{ acre} = 1.0$ pint TRIFLURALIN E.C. injected into irrigation system

To calculate Amount of Product to Inject Into System Based on Rate Per 1,000 Square Feet

1. Treated area per each emitter = A
 $A = 3.14 \times (\text{radius} \times \text{radius})$
 Example: If the average distance from emitter to perimeter of wetted area = 13 inches, then $A = 3.14 \times (13" \times 13") = 530.7$ square inches
2. The area in square feet wet in 1,000 square feet = B
 $B = A \times (\text{emitter}/1,000 \text{ square feet})$
 Example: If there are 7 emitters per 1,000 square feet, then $B = \frac{530.7 \times 7}{144} = 25.8$ square feet wetted per 1,000 square feet
3. The total area wet by your system = C
 $C = B \times (\text{total square feet covered by your system})$
 Example: If the system covers 20,000 square feet, then $C = \frac{25.8 \times 20,000}{1,000} = 516$ square feet wetted by system
4. Amount to be injected into system = D x (desired per 1,000 square foot rate)
 Example: If desired rate is 3 ounces per 1,000 square feet, then $\frac{3 \text{ ounces}}{1,000} \times 516 \text{ square feet} = 1.6$ ounces TRIFLURALIN E.C. injected into irrigation system

SPECIAL PRECAUTIONS

Applied according to directions and normal growing conditions, Trifluralin will not harm the treated crop. Overapplication may result in crop injury or a soil residue. Uneven application or improper soil incorporation of Trifluralin 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 Trifluralin. Under these conditions, delayed crop development or reduced yields may result.

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INHERENT RISKS OF USE

Failure to carefully follow the directions for use of Trifluralin as well as other factors such as seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought, may result in unsatisfactory weed control or crop injury. Reduced yields may result under these conditions.

STORAGE AND DISPOSAL

DO NOT contaminate water, food or feed by storage or disposal.

STORAGE: Avoid freezing. Store above 40° F. If frozen, poor weed control may result. Do not store near heat or flame. Store in original container only. In case of spill, use absorbent materials to contain liquids and dispose of as wastes.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by incineration or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK, OR FIRE), CALL CHEMTREC® (800) 424-9300.

For other product information, contact Gowan Company or see Material Safety Data Sheet.

NOTICE ON CONDITIONS OF SALE

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from its misuse as such, or in combination with other materials.

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