

(Container)

# Treflan Liquid EC

## Herbicide

GROUP	3	HERBICIDE
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A selective liquid herbicide for preplant soil incorporated weed control in many field crops, vegetables and ornamentals.

AGRICULTURAL

READ THE LABEL AND BOOKLET BEFORE USING  
KEEP OUT OF REACH OF CHILDREN

GUARANTEE: trifluralin                      480 g/L  
Emulsifiable concentrate

REGISTRATION NO. 23933 PEST CONTROL PRODUCTS ACT

**HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN**  
**POTENTIAL SKIN SENSITIZER**

**CAUTION: FAILURE TO FOLLOW LABEL INSTRUCTIONS MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING.**

NET CONTENTS: 9.45 L – 700 L

Gowan Company  
P.O. Box 5569  
Yuma, AZ 85366-5569  
Product Information: 1-800-883-1844

## **PRECAUTIONS**

**HARMFUL IF SWALLOWED OR ABSORBED THROUGH THE SKIN**

**POTENTIAL SKIN SENSITIZER**

**KEEP OUT OF REACH OF CHILDREN**

**DO NOT APPLY BY AIR**

Avoid contact with skin, eyes or clothing. Do not store near heat or flame. Avoid contamination of foodstuffs, feeds and fish ponds.

All handlers must wear a long-sleeved shirt and long pants. In addition, wear chemical-resistant gloves during mixing, loading, repair and clean-up activities.

DO NOT enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at [www.croplife.ca](http://www.croplife.ca).

## **FIRST AID**

**Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.**

**If swallowed:** Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

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

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

**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 centre or doctor for treatment advice.

## **TOXICOLOGICAL INFORMATION**

The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, endotracheal and/or oesophageal control is suggested. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. No specific antidote. Employ supportive care. Treatment should be based on judgment of the physician in response to reactions of the patient.

## **AGRICULTURAL CHEMICAL**

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

## **ENVIRONMENTAL HAZARDS**

Direct contamination of any body of water with this product may kill fish. Do not contaminate any body of water by direct application, cleaning of equipment or disposal of wastes. This product contains a petroleum distillate which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning equipment.

TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under DIRECTIONS FOR USE. To reduce runoff from treated areas into aquatic habitats, avoid application to areas with a moderate to steep slope, compacted soil or clay. Avoid application of the product when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

## **STORAGE**

**DO NOT FREEZE.** Store Treflan LIQUID EC Herbicide in heated storage. Active ingredient crystallization may

occur at temperatures below 5°C. If stored below 5°C, check for crystals in the bottom of each container. If crystals are present, place the container in a warm area (at least 15°C) for several hours. For smaller containers, agitate contents by inverting several times and return it to the upright position. For larger containers, circulate contents. After several hours, if any crystals remain, agitate or circulate container contents again.

**Ensure any crystals are dissolved before adding to spray tank.**

## **DISPOSAL**

### **Recyclable Containers:**

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
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### **Returnable Containers:**

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For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

(Booklet)

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CONTROL OR CROP DAMAGE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING.**

NET CONTENTS: 9.45 L - 700 L

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## **INSTRUCTIONS**

**FAILURE TO FOLLOW LABEL INSTRUCTION MAY RESULT IN ERRATIC WEED CONTROL OR CROP DAMAGE. USUAL OR STANDARD SEEDING PRACTICES MAY NOT SUFFICE. READ ALL DIRECTIONS CAREFULLY BEFORE APPLYING.**

## **WARNINGS**

### **Application**

- Do not apply Treflan LIQUID EC Herbicide to peat or muck soil, or soils which contain more than 15% organic matter.
- Do not apply to fields spread with manure within the last 12 months. After this period, ensure the manure has been thoroughly disintegrated and mixed into the soil to a depth of 10 to 15 cm.
- If the swath or stubble is removed by burning, cultivate once to remove the charcoal layer from the soil surface prior to Treflan LIQUID EC Herbicide application.
- Application to soils subject to prolonged periods of flooding may result in accelerated herbicide breakdown. Additionally, application to wet soils or soils in poor working condition could result in reduced weed control. See Land Preparation section of this label for further precautions.
- Do not apply to soils with less than 2% organic matter. Application to eroded knolls or grey-wooded soils with highly variable texture or organic matter may result in reduced crop stand, delayed development or reduced yields in either the treated crop or rotational crop.

- Apply uniformly at the recommended rates. Over-application caused by overlapping, improper calibration or uneven application may reduce crop stands in the treated crop or rotational crop.
- DO NOT APPLY BY AIR.
- To avoid potential injury to future wheat rotational crops, growers should avoid applying trifluralin and/or ethalfluralin on the same land at an oilseed/special crop/barley rate for two consecutive crops.

### Crop Year

- Applied and incorporated according to directions, Treflan LIQUID EC Herbicide will not harm the treated or rotational crop. However, seedling disease, deep planting, excessive moisture, high salt concentration, soil compaction or drought may weaken crop seedlings and increase the risk of injury, which may result in delayed crop development or reduced yields.
- To reduce the possibility of injury to the treated crop, use good quality certified seed. Seed shallow into a warm, moist firm seedbed using recommended agronomic practices which will promote rapid and even crop germination and emergence.
- Each crop has a specific seeding depth requirement, and seeding deeper than recommended can increase the potential risk of damage to the seedling. Refer to industry or government extension published documents which outline recommended seeding practices/depths for each crop.
- CAUTION: Do not graze the treated immature crops or cut for hay; there are not sufficient data available to support such use.

### Rotational Crop

- Applied and incorporated according to label directions, Treflan LIQUID EC Herbicide will not harm rotational crops. However, seedling disease, cold weather, deep planting, excessive moisture, high salt concentrations, soil compaction or drought may weaken seedlings and increase the risk of injury, which may result in delayed crop development or reduced yields.
- As a precaution, oats, sugar beets and small-seeded grasses such as timothy, canaryseed grass and creeping red fescue should not be grown in rotation following a crop treated with Treflan LIQUID EC Herbicide
- The persistence of Treflan LIQUID EC Herbicide is influenced by soil moisture and the majority of breakdown occurs during the growing season. If drought or extended dry periods were present in the previous year, higher levels of Treflan LIQUID EC Herbicide may be present in the soil. To reduce the possibility of injury to rotational crops, seed shallow into a warm moist seedbed using recommended agronomic practices and seeding depths. As an additional safety precaution seeding rate may be increased slightly (10%).
- **Western Canada Only** - Do not seed wheat as a rotational crop on land if trifluralin and/or ethalfluralin has been used at an oilseed/special crop/barley rate for two consecutive crops.
- **Western Canada Only** - Do not direct seed (zero till) a rotational crop into standing stubble on land that has been treated with trifluralin or ethalfluralin for the previous crop. A cultivation prior to seeding of the rotational crop is strongly recommended to help aerate the soil and promote seedbed conditions which will enhance seed germination.
- When seeding a rotational crop, use good quality certified seed. Seed shallow into a warm, moist firm seedbed using recommended agronomic practices which will promote rapid and even crop germination and emergence. **Avoid deep seeding, loose seedbeds and seeding into cold soils.**
- Each crop has a specific seeding depth requirement and seeding deeper than recommended can increase the potential risk of damage to the seedling. Refer to industry or government extension published documents which outline recommended seeding practices/depths for each crop.

### **Weed Resistance**

Populations of green foxtail tolerant to trifluralin have developed in a number of fields in Western Canada with a long history of repeated trifluralin use. Trifluralin or ethalfluralin containing products (i.e., Advance\* 10G, Treflan LIQUID EC, Heritage\*\*, Triflurex<sup>1</sup>, Rival<sup>2</sup>, Fortress<sup>3</sup> and Edge\* Herbicides) will not control trifluralin tolerant green foxtail. To delay selection or reduce the spread of trifluralin tolerant green foxtail, avoid the

use of these products repeatedly in the same field or use a separate herbicide application for control of trifluralin tolerant green foxtail. As a preventative measure, Gowan Company strongly recommends rotating the use of herbicides that have different modes of action. Consult provincial extension personnel for more information.

### **DIRECTIONS FOR USE**

Treflan LIQUID EC Herbicide is a preemergent herbicide which is mixed (incorporated) into the soil to provide long-lasting control of many annual grasses and broadleaved weeds. Treflan LIQUID EC Herbicide controls susceptible weeds by killing seedlings as they germinate. It does not control established weeds.

- 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.
- Discard clothing or other absorbent materials that have been heavily contaminated with this product. DO NOT reuse them.
- Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, ditches and wetlands), estuaries or marine habitats.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
- To minimize the release of trifluralin into the environment due to volatilization, trifluralin should only be applied on cool mornings and evenings when air temperatures are 15°C or lower. To further reduce volatilization to the atmosphere, incorporation into the soil should occur concurrently with application.

### **Field sprayer application**

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.

DO NOT apply by air.

### **Land Preparation**

Cultivate to destroy existing weeds and ensure that large clods are broken before Treflan LIQUID EC Herbicide application. When applying to stubble fields, chop and thoroughly mix crop residues into soil to a depth of 10 cm. Disc type implements provide the best results. Swath windrows should be evenly spread before cultivation to avoid strips of concentrated trash cover. Treflan LIQUID EC Herbicide should not be sprayed on a soil surface with more than 25% trash cover. To avoid concentrating wild oat seeds below the treated layer, do not plow (moldboard) land prior to Treflan LIQUID EC Herbicide application. If a swath has been removed by burning, cultivate once to remove the charcoal layer prior to application of Treflan LIQUID EC Herbicide.

## Application

- Add the recommended amount of Treflan LIQUID EC Herbicide to clean water in the spray tank during the filling operation and agitate thoroughly. Apply with at least 100 L of water per hectare (broadcast basis) using any properly calibrated low-pressure herbicide sprayer that will apply the spray uniformly. Check the sprayer daily to ensure proper calibration and uniform application over the field. Apply Treflan LIQUID EC Herbicide to soil surface and incorporate in the same operation if possible. Ensure that large clods are broken.
- Do not delay incorporation more than 24 hours after application. When applied as directed, Treflan LIQUID EC Herbicide will not harm the treated crop or crops that follow in rotation; however, an over-application caused by overlapping, letting the sprayer run in one spot, improper calibration, non-uniform application, etc., may reduce stands of treated crops or crops that follow in rotation.

## Incorporation

- To incorporate, work Treflan LIQUID EC Herbicide into the soil in two different directions. Use a tandem disc, discer or field (vibrashank type) cultivator set to work 8 to 10 cm deep for the first incorporation. A field cultivator (vibrashank type) is defined as an implement with 3 or 4 rows of sweeps spaced at intervals of 20 cm or less and staggered so that no soil is left unturned. The second incorporation should be a discing or cultivation in a cross direction at the same depth any time prior to planting.
- Operate disc implements 7 to 10 km/hr and cultivators at 10 to 13 km/hr. Failure to operate implements at recommended speeds may result in erratic weed control due to poor distribution of Treflan LIQUID EC Herbicide in the soil. **(Deep tillage cultivator not recommended).**
- Treflan LIQUID EC Herbicide should not be incorporated with a field cultivator when the soil is crusted, lumpy or too wet for good mixing action.
- Disc type implements are preferred on stubble to ensure a 10 cm depth of operation.
- Incorporation with implements set to cut less than 8 cm deep or more than 10 cm deep may result in erratic weed control, crop damage or rotational crop damage.
- Rod weeders, harrows, deep tillage cultivators, chisel plows or hoe drills will not properly incorporate Treflan LIQUID EC Herbicide

## TREFLAN LIQUID EC HERBICIDE FOR USE IN PRAIRIE PROVINCES GENERAL INFORMATION FOR OILSEED AND SPECIAL CROPS - PRAIRIE PROVINCES

### Crops Registered

canola	crambe
triazine tolerant canola	sainfoin
mustard	sweet clover (spring only)
flax (summer and fall application only)	vegetables (see special instructions)
dry common beans (white or kidney)	strawberries (spring application only)
black beans	asparagus - established 3 years
soybeans	transplanted shelterbelts
faba beans (horsebeans)	Saskatoon berries
peas (field and canning)	forage legumes
lentils (fall only)	•seedling alsike clover
sunflowers	•red clover
safflower	•cicer milkvetch
alfalfa establishment (flax and canola cover crops only)	•bird's-foot trefoil

### Weeds Controlled

#### Annual Grasses

wild millet (green\* and yellow foxtail)  
barnyard grass  
crab grass  
brome grass  
cheat  
stink grass  
goose grass  
annual blue grass  
Persian dandel

#### Annual Broadleaves

wild buckwheat  
cow cockle  
pigweed  
lamb's-quarters  
chickweed  
purslane  
knotweed  
carpetweed

\*Treflan LIQUID EC Herbicide will not control trifluralin tolerant green foxtail. See specific recommendations in

**WARNINGS** section of the label under the subheading **Weed Resistance**.

### Weeds Suppressed

wild oats

**NOTE:** When used as directed, Treflan LIQUID EC Herbicide will provide commercially acceptable control of the above weeds. Some wild buckwheat may escape the herbicide action of Treflan LIQUID EC Herbicide but will be retarded in growth and will provide little competition to the crop.

### Spring Application

Treflan LIQUID EC Herbicide can be applied immediately prior to planting or up to three weeks before planting.

### Summer Application

Treflan LIQUID EC Herbicide can be applied to summerfallow between June 1 and September 1 for weed control in canola or flax the following year. Apply the summer rate and incorporate as above. Not

recommended for sand and sandy loam soils.

Treflan LIQUID EC Herbicide must be incorporated at least twice with the implement operated in two different directions. The initial incorporation must be done within 24 hours after application. The second incorporation (and subsequent incorporations) may be done whenever necessary to destroy resistant weed growth during the remainder of the fallow season. Shallow tillage (5 to 8 cm) is necessary in the spring prior to planting (refer to Spring Tillage for Seedbed Preparation).

### **Fall Application**

Treflan LIQUID EC Herbicide can be applied in the fall between September 1 and prior to soil freeze-up for weed control the following year. Apply fall rates and incorporate as above. The initial incorporation must be done within 24 hours after application. It is preferred to do both incorporations in the fall followed by tillage (5 to 8 cm) in the spring prior to planting. However, one incorporation may be done in the fall and the second in the spring at the time of seedbed preparation, provided both operations are done at the recommended depth (refer to Spring Tillage for Seedbed Preparation).

### **Spring Tillage for Seedbed Preparation**

Spring tillage following summer or fall application of Treflan LIQUID EC Herbicide should be done prior to seeding when the soil is warm enough to promote germination. Use a disc or field cultivator (vibrashank) set to cut at 5 to 8 cm deep. For optimum weed control in soils with heavy wild oat populations prework early in the spring with a shallow cultivation to promote weed seed germination, followed by a 5 to 8 cm deep cultivation prior to seeding to destroy existing green growth. Avoid transplanting weed seedlings; seed into a weed-free seedbed using accepted cultural practices. Avoid excessive compaction of the soil layer treated with Treflan LIQUID EC Herbicide. Any operation that results in a more shallow or compacted treated layer may allow weeds to emerge. This compaction may result from tractor wheel tracks, implement wheels, drill press wheels or other field operations done after incorporation. Soils are more susceptible to compaction when they are moist.

### **SPECIAL INSTRUCTIONS FOR FLAX AND LENTILS**

1. Both incorporations of Treflan LIQUID EC Herbicide must be done in the season of application prior to seeding flax in the spring.
2. The seedbed should be shallowly tilled (5 to 8 cm) and packed just prior to seeding in the spring to ensure a firm seedbed and accurate depth of planting.
3. Seeding should be done with a press drill or hoe drill. Seed into a moist seedbed no more than 4 cm deep.
4. Do not seed flax early in May when soil conditions are cold. Seeding should generally not be prior to May 15.
5. Refer to Warning statement regarding stresses that can lead to crop injury or yield reduction.

**USE OF TREFLAN LIQUID EC HERBICIDE FOR OILSEED AND SPECIAL CROPS**  
**Recommended Rates of Treflan LIQUID EC Herbicide**

Crop	Soil Zones and Soil Organic Matter	Soil Texture	
		Light	Medium to Heavy
		sand sandy loam	loam silty clay loam silt loam clay loam silt silty clay sandy clay loam clay
<b>Spring</b> canola, T.T. canola, mustard, dry common beans (white and kidney), soybeans, faba beans, black beans, peas, sunflower, safflower, crambe, alfalfa est., sainfoin, sweet clover	brown, dark brown or black 2-6% O.M.	1.7 L/ha	2.3 L/ha
	black or deep black 6-15% O.M.	2.3 L/ha	2.3-3.0 L/ha (use 3.0 L/ha for heavy wild oat infestations)
<b>Summer</b> canola, T.T. canola, flax, safflower	brown, dark brown, black or deep black	Not recommended	3.4 L/ha
<b>Fall</b> canola, T.T. canola, mustard, dry common beans (white and kidney), flax, soybeans, faba beans, black beans, peas, lentils, sunflower, safflower, alfalfa est.	brown, dark brown or black 2-6% O.M.	2.3 L/ha	3.0 L/ha
	black or deep black 6-15% O.M.	3.0 L/ha	3.0-3.4 L/ha (use 3.4 L/ha for heavy wild oat infestations)

**NOTE:** Do not delay first incorporation more than 24 hours after application.

**APPLICATION OF TREFLAN LIQUID EC HERBICIDE WITH FLUID FERTILIZERS**

Treflan LIQUID EC Herbicide may be mixed with liquid nitrogen fertilizer (e.g., 28-0-0) for application either preplant soil incorporated or postplant incorporated. Treflan LIQUID EC Herbicide may also be mixed with Avadex BW<sup>4</sup> Herbicide and liquid fertilizer for postplant incorporated application in wheat or barley. All label recommendations of Treflan LIQUID EC Herbicide regarding rates per hectare, approved crops, incorporation, special instructions, cautions and special precautions must be followed.

Treflan LIQUID EC Herbicide should be poured directly into the liquid fertilizer, mixed thoroughly and applied as soon as possible. Constant agitation is needed until application is complete. Apply the Treflan LIQUID EC Herbicide/fertilizer mixture with properly calibrated equipment suitable for liquid fertilizer application. Ensure that the material is applied uniformly to the soil surface. Follow normal incorporation procedures for Treflan LIQUID EC Herbicide

Small quantities of liquid fertilizer and herbicide should be tested for compatibility prior to tank-mixing. Use the compatibility test as follows:

1. Put 500 mL of liquid fertilizer into a 1 L jar.
2. Add 10 mL of Treflan LIQUID EC Herbicide
3. Close jar and shake well.
4. The herbicide and fertilizer are compatible if the herbicide remains in suspension after five minutes. If the herbicide settles out quickly but goes into suspension easily upon shaking, the mixture may be used provided constant agitation is utilized.

5. A compatibility test is also recommended when there is a change in fertilizer supplies, fertilizer formulations and climatic temperatures.

#### **TREFLAN LIQUID EC HERBICIDE IMPREGNATED/COATED ONTO DRY GRANULAR FERTILIZER**

Dry bulk fertilizer may be impregnated or coated with Treflan LIQUID EC Herbicide. Application should be made as soon as possible after blending. All Treflan LIQUID EC Herbicide label recommendations regarding rates per hectare, approved crops, incorporation, special instructions, cautions and special precautions must be followed.

To obtain commercially acceptable weed control with Treflan LIQUID EC Herbicide impregnated on fertilizer, the following minimum rates of fertilizer must be used:

Spring Application	330 kg/ha
Fall Application	250 kg/ha

Mix and blend dry fertilizer and Treflan LIQUID EC Herbicide in any commonly used dry fertilizer blender. Ensure that uniform spray coverage is obtained. Sufficient blending/mixing time should be allowed to obtain uniform coverage of dry fertilizer with Treflan LIQUID EC Herbicide

Spread the fertilizer/Treflan LIQUID EC Herbicide mixture with a properly calibrated granular fertilizer applicator. Be certain the blended material is applied uniformly to the soil surface. The first incorporation should be completed as soon as possible (within 24 hours) after fertilizer application. It is recommended to **delay the second incorporation for a period of at least six days** to ensure optimum dissipation of Treflan LIQUID EC Herbicide within the soil.

**CAUTION:** Any commonly used dry fertilizer can be used for the impregnation of Treflan LIQUID EC Herbicide **except** ammonium nitrate. Use with nitrate fertilizers may cause explosion and fire.

**NOTE:** Compliance with the Fertilizer Act and Regulations (Agriculture and Agri-Food Canada) is the responsibility of the individual/company selling the Treflan LIQUID EC Herbicide/fertilizer mixture.

#### **USE OF TREFLAN LIQUID EC HERBICIDE FOR SOYBEANS**

For Treflan LIQUID EC Herbicide on soybeans refer to Use of Treflan LIQUID EC Herbicide for Oilseed and Special Crops. A tank-mix combination of Treflan LIQUID EC Herbicide plus Sencor Herbicide<sup>6</sup> may be used for weed control in soybeans.

**NOTE:** Do not plant soybean varieties Ace, Apache, Baron, DAC Eramosa, Maple Amber, Maple Ridge, Nottawa, OAC Eramosa or Portage on areas treated with Sencor Herbicide as unacceptable injury may result.

#### **TREFLAN LIQUID EC HERBICIDE PLUS SENCOR HERBICIDE (TANK-MIX): PREPLANT INCORPORATED**

Treflan LIQUID EC Herbicide may be applied in a tank-mix combination with Sencor Herbicide as a preplant incorporated broadcast application to soybeans for the control of many annual grasses and broadleaved weeds.

#### **Weeds Controlled by Treflan LIQUID EC Herbicide Plus Sencor Herbicide**

In addition to those weeds controlled by Treflan LIQUID EC Herbicide alone, the Treflan LIQUID EC Herbicide/Sencor Herbicide tank-mix will control the following:



wild mustard  
stinkweed  
green smartweed  
volunteer canola (non-triazine tolerant)

shepherd's-purse  
hemp-nettle  
lady's-thumb

### **Application**

Select the proper rates of Treflan LIQUID EC Herbicide and Sencor 500 F/75 DF Herbicide as shown based on soil type and percent organic matter. Follow all land preparation, mixing, spraying, incorporation directions and precautions on this label.

### **Mixing Sequence**

**It is important to follow the correct sequence when mixing Treflan LIQUID EC Herbicide and Sencor Herbicide in the spray tank.**

The following steps are essential when combining Treflan LIQUID EC Herbicide with Sencor Herbicide:

1. Fill the spray tank 1/4 to 1/3 full with clean water.
2. While continuing to fill the spray tank and with the agitation and recirculating system operating, slowly add the full amount of Sencor Herbicide for that tankload.
3. Fill the spray tank to the desired level with clean water, while maintaining constant agitation of the mixture.
4. After the full amount of Sencor Herbicide is thoroughly mixed, add the calculated amount of Treflan LIQUID EC Herbicide to the tank and agitate thoroughly.
5. To avoid any compatibility problems, spray immediately. Continuous agitation is required until the mixture is sprayed out. Do not allow the sprayer to stand without agitation or settling will occur and vigorous mixing with a paddle will be necessary to remix the chemical in the spray tank.

Use the Rinse, Drain and Disposal Procedure section instructions to ensure all contents are removed from containers prior to disposal.

### **Spray Application**

Apply the tank-mix of Treflan LIQUID EC Herbicide and Sencor Herbicide to the soil surface and incorporate in the same operation, if possible. Do not delay first incorporation more than 24 hours after application. Apply the tank-mix in at least 100 L of water per hectare (broadcast basis) using any properly calibrated

low-pressure herbicide sprayer that will apply the spray uniformly. Application may be made with any properly calibrated commercial tractor-drawn or self-propelled field sprayer equipped with the following:

1. Nozzle tips no finer than 6502, 8002 or TK2 with nozzle screens no finer than 0.3 mm (50 mesh).
2. A 0.3 mm or larger line strainer(s) or screen.
3. A pump of sufficient capacity to provide adequate volume through the by-pass and/or jet agitation system to provide a uniform spray mixture even while the booms are operating.

**NOTE:** Felt filters, small nozzle tips or smaller screens will become clogged.

### **Sprayer Clean-up**

Spray equipment must be thoroughly cleaned to remove remaining traces of herbicide that might injure other crops to be sprayed. Drain any remaining spray solution of Sencor Herbicide and Treflan LIQUID EC

Herbicide from the spray tank and discard in non-crop areas away from water supplies. Rinse the spray tank and refill with water, adding a heavy-duty detergent at the rate of 250 mL/100 L of water. Recycle this mixture through the equipment for 5 minutes and spray out. Repeat this procedure twice. Fill the spray tank with clean water, recycle for 5 minutes and spray out. Clean pump and nozzle screens thoroughly. Wash away any spray mixture from the outside of the spray tank, nozzles or spray rig.

### **Incorporation**

Refer to General Information for Oilseed and Special Crops.

**NOTE:** Treflan LIQUID EC Herbicide and Sencor Herbicide can be applied in the fall prior to soil freeze-up for weed control the following year. Apply fall rates and incorporate as above. The initial incorporation must be done within 24 hours after application. It is preferred to do both incorporations in the fall followed by tillage (5 to 8 cm) in the spring prior to planting. However, one incorporation may be done in the fall and the second in the spring at the time of seedbed preparation, provided both operations are done at the recommended depth (refer to Spring Tillage and Seedbed Preparation).

### **Spring Tillage and Seedbed Preparation**

Spring tillage following fall application of Treflan LIQUID EC Herbicide and Sencor Herbicide should be done when the soil is warm enough to promote germination. Use a disc or vibrashank cultivator operated at 5 to 8 cm deep. Avoid transplanting weed seedlings. Seed into a weed-free seedbed using accepted cultural practices.

**Spring Application  
Recommended Rates of Product per Hectare**

Treflan LIQUID EC Herbicide	Soil Texture		
	Light	Medium	or Heavy
Soil Zones and Soil Organic Matter	sand sandy loam	loam silt loam sandy clay loam	silty clay loam silt clay loam silty clay clay
2-6% O.M. 6-15% O.M.	1.7 L/ha 2.3 L/ha	2.3 L/ha 2.3-3.0 L/ha*	
<b>Sencor Herbicide</b>			
<b>O.M.</b>	<b>75 DF</b>	<b>500F</b>	
2-3%	275 g/ha	425 mL/ha	
3-6%	375 g/ha	500 mL/ha	
6-10%	375-550 g/ha	550-650 mL/ha	
10%+	550+ g/ha	850+ mL/ha	

\*Use the 3.0 L/ha rate of Treflan LIQUID EC Herbicide for heavy wild oat infestation.

**Fall Application  
Recommended Rates of Product per Hectare**

Treflan LIQUID EC Herbicide	Soil Texture		
	Light	Medium	or Heavy
Soil Zones and Soil Organic Matter	sand sandy loam	loam silt loam sandy clay loam	silty clay loam silt clay loam silty clay clay
2-6% O.M. 6-15% O.M.	2.3 L/ha 3.0 L/ha	3.0 L/ha 3.0-3.4 L/ha*	
<b>Sencor Herbicide</b>			
<b>O.M.</b>	<b>75 DF</b>	<b>500F</b>	
2-3%	375 g/ha	550 mL/ha	
3-6%	475 g/ha	700 mL/ha	
6-10%	475-550 g/ha	700-850 mL/ha	
10%+	550+ g/ha	850+ mL/ha	

\*Use the 3.4 L/ha rate of Treflan LIQUID EC Herbicide for heavy wild oat infestation.

**NOTE:**

1. On variable soils with light sandy areas, some injury may occur on the sandy areas if the rate used is for the heavier soil type in the field.
2. Do not use on soils with less than 2% organic matter.
3. On soils with 10% organic matter and higher, broadleaved weed control may not be adequate.
4. Uneven application or improper soil incorporation of Treflan LIQUID EC Herbicide and Sencor Herbicide may result in erratic weed control or crop injury depending on rate used.

5. Stress conditions such as seedling disease, cold weather, deep planting, excessive moisture, high salt concentration or drought may weaken soybean seedlings and increase the possibility of damage from Treflan LIQUID EC Herbicide and Sencor Herbicide. Temporary lightening in colour may occur on the margins of cotyledons and a slight delay in crop development may be observed. This is quickly outgrown and usually has no lasting effect.

**IMPORTANT:** Rotation crops such as onions, celery, peppers, cole crops, lettuce and spinach, sugar beets, table beets and turnips, pumpkin and squash, cucumbers and melons, tobacco and canola (non-triazine tolerant) are sensitive to Sencor Herbicide and may be injured if planted in soil treated with Sencor Herbicide during the year of application and following crop year. After harvest, tillage practices that provide thorough mixing of the soil may be helpful in reducing the chance of injury to succeeding crops.

As a precaution, oats, sugar beets and small-seeded annual grasses such as timothy, canaryseed grass and creeping red fescue should not be grown in rotation following a crop treated with Treflan LIQUID EC Herbicide

### USE OF TREFLAN LIQUID EC HERBICIDE ON WHEAT AND BARLEY: POSTPLANT INCORPORATED (HARROWED IN AFTER SEEDING)

#### Crops Registered

hard red spring wheat	durum wheat
soft white spring wheat	barley

#### Weeds Controlled

wild millet (green\* and yellow foxtail)

\*Treflan LIQUID EC Herbicide will not control trifluralin tolerant green foxtail. See specific recommendations in

**WARNINGS** section of the label under the subheading **Weed Resistance**.

#### Mode of Action

Treflan LIQUID EC Herbicide is applied and incorporated in the soil in the spring after planting and prior to the emergence of the wheat and barley for the control of wild millet (green and yellow foxtail). Weed control is achieved by establishing a shallow (2 cm), treated layer of Treflan LIQUID EC Herbicide near the soil surface.

Within this layer, Treflan LIQUID EC Herbicide controls weed seeds by killing them as they germinate. Generally, the majority of wild millet seeds germinate from this depth. However, in some years due to climatic conditions, wild millet may germinate from a deeper depth. Consequently, deep-seeded wild millet seeds germinating below the Treflan LIQUID EC Herbicide layer may not be controlled. Crop safety is maintained since the wheat and barley seeds are located in the untreated soil beneath the layer of Treflan LIQUID EC Herbicide

#### Land Preparation

Plant your wheat and barley as you normally do. Wheat and barley should be seeded to a depth of 5 to 8 cm in a well-tilled seedbed.

#### Application and Incorporation

**Treflan LIQUID EC Herbicide (Harrowed in After Seeding) Rate per Hectare**

	Soil Texture	
	Light to Medium	Heavy
Treflan LIQUID EC	1.2 L/ha	1.7 L/ha

1. Add the recommended amount of Treflan LIQUID EC Herbicide to clean water in the spray tank during the filling operation and agitate thoroughly. Apply at least 100 L/ha of water (broadcast basis) using any properly calibrated low-pressure herbicide sprayer. Check the sprayer daily to ensure proper calibration and uniform application.

2. Apply Treflan LIQUID EC Herbicide as soon as possible after seeding and before crop emerges.
3. Apply Treflan LIQUID EC Herbicide to soil surface which is free of trash or was fallowed the previous year. Treflan LIQUID EC Herbicide should not be sprayed or incorporated when the soil is crusted, lumpy or too wet for good mixing action.
4. Application and the first incorporation should be done in the same operation if possible. Incorporate to a shallow depth with diamond harrows or tyne harrows in two different directions at speeds of 8 to 11 km/hr. Both incorporations must be done within 24 hours of application of Treflan LIQUID EC Herbicide. Uneven incorporation may result in some wild millet escapes in the bottom of furrows left by the last row of the harrows if the depth of the Treflan Herbicide treated layer in these troughs is not sufficient to prevent emergence of wild millet. To obtain a more uniform layer of treated soil, operate tyne harrows inclined at least 45 degrees backwards and harrow at a speed which minimizes the amount of soil ridging by the harrows.

**CAUTION:** Wheat or barley may be injured if seeded through a treated layer or into a deeply-incorporated layer of Treflan LIQUID EC Herbicide. Applied according to directions and under normal growing conditions, Treflan LIQUID EC Herbicide will not adversely affect wheat or barley. Seedling disease, cold weather, improper seeding depth, excessive moisture, high salt concentration or drought may weaken crop seedlings and increase the possibility of damage from Treflan LIQUID EC Herbicide. Under these conditions, delayed crop development or reduced yields may result. This treatment of Treflan LIQUID EC Herbicide may not provide adequate control of weeds other than wild millet (green foxtail and yellow foxtail).

**TREFLAN LIQUID EC HERBICIDE PLUS AVADEx BW HERBICIDE (TANK-MIX):  
POSTPLANT INCORPORATED (HARROWED IN AFTER SEEDING)**

**Crops Registered**

wheat  
barley

**Weeds Controlled**

wild millet (green\* and yellow foxtail)

**Weeds Suppressed**

Wild oats

\*Treflan LIQUID EC Herbicide will not control trifluralin tolerant green foxtail. See specific recommendations in

**WARNINGS** section of the label under the subheading **Weed Resistance**.

**Land Preparation**

Seed crop before application. Seed wheat/barley to depth of 5 to 8 cm using conventional seeding implement.

**Application and Incorporation**

**Treflan LIQUID EC Herbicide Plus Avadex BW Herbicide  
(Tank-Mix) Rate per Hectare**

Crop	Product	Soil Texture	
		Light to Medium	Heavy
Barley	Treflan LIQUID EC Herbicide	1.2 L/ha	1.7 L/ha
		4.25 L/ha	
Wheat	Treflan LIQUID EC Herbicide	1.2 L/ha	1.7 L/ha
		3.5 L/ha	

1. Apply and soil incorporate Treflan LIQUID EC Herbicide plus Avadex BW Herbicide in a tank-mixed combination in the spring after planting and prior to emergence of wheat or barley.
2. Soil incorporate the mixture to a shallow depth (above the seed). Shallow incorporation may be accomplished with diamond harrows, tyne harrows or other similar implements operated twice over the treated area.
3. Application should be confined to fields which are trash-free or were fallowed during the previous year.

### **USE OF TREFLAN LIQUID EC HERBICIDE FOR STRAWBERRIES, SASKATOON BERRIES AND ESTABLISHED ASPARAGUS**

#### **Strawberries**

Apply Treflan LIQUID EC Herbicide prior to planting transplanted strawberries. Follow recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide. Apply only in the spring.

Do not exceed the maximum application rate of 2.3 L/ha. Over-application may delay establishment of runner plants.

#### **Saskatoon Berries**

Apply Treflan LIQUID EC Herbicide prior to planting transplanted Saskatoon berries. Follow recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide. Apply only in the spring.

Do not exceed maximum application rate of 2.3 L/ha.

#### **Asparagus (Established Three Years)**

Follow recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide. Apply to established asparagus in the early spring after ferns are removed but before spear emergence. Or apply after harvest in the late spring or early summer before ferning begins.

**CAUTION:** Set implements so asparagus crowns are not injured during soil preparation and incorporation.

### **USE OF TREFLAN LIQUID EC HERBICIDE FOR SHELTERBELTS**

Apply Treflan LIQUID EC Herbicide prior to transplanting seedlings. The higher rate of application will result in better weed control and longer persistence in the soil.

Refer to General Information for Oilseed and Special Crops for details on application and incorporation.

**Recommended Rates of Treflan LIQUID EC Herbicide (Litres per Hectare)**

Crop	Soil Zones and Soil Organic Matter	Soil Texture		
		Light	Medium to Heavy	
		sand sandy loam	loam silt loam silt sandy clay loam	silty clay loam clay loam silty clay clay
strawberries Saskatoon berries	brown, dark brown or black 2-6% O.M.	1.7 L/ha	2.3 L/ha	
	black or deep black 6-15% O.M.	2.3 L/ha	2.3 L/ha	
uSpring Application Only asparagus - established three years		2.0 L/ha	3.1-4.2 L/ha*	
American elm caragana green ash Scotch pine Siberian elm		4.7 L/ha (2-6% O.M.)	9.3 L/ha (6-15% O.M.)	

\*Use the higher rate for season long weed control.

**NOTE:** Treflan LIQUID EC Herbicide at 2.3 L/ha may be applied preplant incorporated one week prior to sowing Siberian elm seed for annual grass and broadleaved weed control.

**NOTE TO USER:** READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS: The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than Gowan Company and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Gowan Company itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below.

Accordingly, the User assumes all risks related to performance and crop tolerance arising, and agree to hold Gowan Company harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this label.

**TREFLAN LIQUID EC HERBICIDE PLUS SENCOR 75 DF HERBICIDE (TANK-MIX) IN SHELTERBELTS**

**Crops Registered**

caragana  
villosa lilac  
Saskatoon berry  
green ash  
chokecherry  
poplar  
sea-buckthorn

**Weeds Controlled**

witchgrass  
lamb's-quarters  
purslane  
shepherds purse  
green foxtail  
Russian thistle  
wild buckwheat  
stinkweed  
prostrate pigweed

**Weeds Suppressed**

Wild oats

**DIRECTIONS FOR USE**

Make one application, pre-plant incorporated. Apply as a ground treatment. Apply at a rate of 5.2 L/ha Treflan LIQUID EC Herbicide plus 400 g/ha Sencor 75 DF Herbicide in 100-225 L water/ha.

**IMPORTANT:** Refer to the Treflan LIQUID EC Herbicide label for correct sequence when mixing Treflan LIQUID EC Herbicide and Sencor Herbicide in the spray tank.

Refer to the Sencor Herbicide label for directions for use and special precautions.

**USE OF TREFLAN LIQUID EC HERBICIDE FOR VEGETABLES**

Apply Treflan LIQUID EC Herbicide prior to planting. Follow all recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide. Apply only in spring.

**USE OF TREFLAN LIQUID EC HERBICIDE FOR VEGETABLE CROPS (SPRING APPLICATION ONLY)****Recommended Rates of Treflan LIQUID EC Herbicide (Litres per Hectare)**

Crop	Soil Zones and Soil Organic Matter	Soil Texture	
		Light	Medium to Heavy
		sand sandy loam	loam silty clay loam silt loam clay loam silt silty clay sandy clay loam clay
carrots snap beans, common rutabaga tomatoes	brown, dark brown or black 2-6% OM	1.7 L/ha	2.3 L/ha
broccoli <sup>7</sup> Brussels sprouts <sup>7</sup> cauliflower <sup>*</sup> cabbage <sup>*</sup>	black or deep black 6-15% OM	2.3 L/ha	2.3-3.0 L/ha <sup>†</sup>

<sup>\*</sup>Direct seeded or transplanted.

<sup>7</sup>Transplants only.

<sup>†</sup>Use the 3.0 L/ha rate for heavy wild oat infestations (cole crops only).

**USE OF TREFLAN LIQUID EC HERBICIDE FOR FORAGE LEGUMES (SEED PRODUCTION/FORAGE)**

Apply Treflan LIQUID EC Herbicide prior to seeding. Follow recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide. Apply only in the spring. Do not exceed the maximum application rate of 2.3 L/ha.

**Recommended Rates of Treflan LIQUID EC Herbicide (Litres per Hectare)**

Crop	Soil Zones and Soil Organic Matter	Soil Texture	
		Light	Medium to Heavy
		sand sandy loam	loam silty clay loam silt loam clay loam silt silty clay sandy clay loam clay
seedling alsike clover red clover cicer milkvetch	brown, dark brown or black 2-6% OM	1.7 L/ha	2.3 L/ha
bird's-foot trefoil	black or deep black 6-15% OM	2.3 L/ha	2.3 L/ha



**TREFLAN LIQUID EC HERBICIDE FOR USE IN EASTERN CANADA AND BRITISH COLUMBIA**

**GENERAL INFORMATION**

**Crops Registered**

soybeans  
 dry common beans (white or kidney)  
 faba beans  
 snap beans, common  
 Lima beans  
 black beans  
 canola  
 triazine tolerant canola (Pedigreed seed only)  
 forage rape  
 forage kale  
 transplants of tomatoes, peppers, Brussels sprouts, broccoli, cabbage, cauliflower and strawberries (spring application only)  
 crambe  
 carrots

direct-seeded cabbage and cauliflower  
 ornamentals (woody nursery stock), perennials  
 sunflowers  
 stubble turnips (white) - for feed only  
 peas (field and canning)  
 mustard  
 alfalfa establishment (direct seeded)  
 winter wheat, fall rye and fall triticale (loose silky bentgrass control only)  
 transplanted shelterbelts  
 rutabaga  
 asparagus - established 3 years  
 first year apple, apricot, cherry, peach, plum and pear trees

**Weeds Controlled**

**Annual Grasses**

green and yellow foxtail

barnyard grass  
 crab grass  
 brome grass  
 cheat  
 stink grass  
 goose grass  
 annual bluegrass  
 fall panicum  
 loose silky bentgrass

♦ Triazine tolerant varieties as well.

**Annual Broadleaved Weeds**

pigweed♦

lamb's-quarters♦  
 chickweed  
 purslane  
 knotweed  
 carpetweed

**Weeds Suppressed**

Wild oats

**NOTE:** When used as directed, Treflan LIQUID EC Herbicide will provide commercially acceptable control of the above weeds.

Recommended Rates Per Hectare of Treflan LIQUID EC Herbicide - Eastern Canada and British Columbia

Crop	Soil Texture		
	Light	Medium	Heavy
	sand sandy loam	loam silt loam silt sandy clay loam	silty clay loam clay loam silty clay clay
All crops registered (except for asparagus, winter cereals, peas and Lima beans)	1.2 L	1.7 L	2.4 L

The rates outlined in the previous table are general recommended rates of Treflan LIQUID EC Herbicide. There are specific remarks which refer to individual crops that are noted as follows:

- In Lima beans and peas do not exceed 1.2 L/ha in medium textured soils and 1.7 L/ha in heavy textured soils.
- Treflan LIQUID EC Herbicide should not be applied to turnips and mustard on sandy and sandy loam soils.
- Direct-seeded cole crops have exhibited marginal tolerance to recommended rates of Treflan LIQUID EC Herbicide. Stunting or reduced stand may occur.
- For strawberries, Treflan LIQUID EC Herbicide should be applied prior to planting transplants.
- With ornamentals and established woody nursery stock, spray the soil and incorporate as closely as possible to plants without causing damage to roots.
- Treflan LIQUID EC Herbicide should not be applied on ornamental ground covers such as Ajuga, Myrtle and Pachysandra, as injury may result.
- Unless otherwise directed, use the general rates of Treflan LIQUID EC Herbicide. Apply and incorporate immediately prior to or up to 3 weeks before planting.

#### **TREFLAN LIQUID EC HERBICIDE APPLICATION WITH FLUID FERTILIZERS**

Treflan LIQUID EC Herbicide may be mixed with liquid nitrogen fertilizer (e.g., 28-0-0) for application preplant soil incorporated. All Treflan LIQUID EC Herbicide label recommendations regarding rates per hectare, approved crops, incorporation, special instructions, cautions and special precautions must be followed.

Treflan LIQUID EC Herbicide should be poured directly into the liquid fertilizer, mixed thoroughly and applied as soon as possible. Constant agitation is needed until application is complete. Apply the Treflan LIQUID EC Herbicide/fertilizer mixture with a properly calibrated sprayer. Ensure that the material is applied uniformly to the soil surface. Follow normal Treflan LIQUID EC Herbicide incorporation procedures.

#### **Compatibility Test**

Small quantities of liquid fertilizer and herbicide should be tested for compatibility prior to tank-mixing.

1. Put 500 mL of liquid fertilizer into a 1 L jar.
2. Add 10 mL of Treflan LIQUID EC Herbicide
3. Close jar and shake well.
4. The herbicide and fertilizer are compatible if the herbicide remains in suspension after five minutes. If the herbicide settles out quickly but goes into suspension easily upon shaking, the mixture may be used provided constant agitation is utilized.
5. A compatibility test is also recommended when there is a change in fertilizer supplies, fertilizer formulations and climatic temperatures.

#### **TREFLAN LIQUID EC HERBICIDE IMPREGNATED/COATED ONTO DRY GRANULAR FERTILIZER**

Dry bulk fertilizer may be impregnated or coated with Treflan LIQUID EC Herbicide. Application should be made as soon as possible after blending. All Treflan LIQUID EC Herbicide label recommendations regarding rates per hectare, approved crops, incorporation, special instructions, cautions and special precautions must be followed.

A minimum of 300 kg/ha of dry bulk fertilizer impregnated/coated with Treflan LIQUID EC Herbicide at the recommended rate must be applied. Mix and blend dry fertilizer and Treflan LIQUID EC Herbicide in any commonly used dry fertilizer blender, providing uniform spray coverage is obtained. Sufficient blending/mixing time should be allowed to ensure uniform coverage of dry fertilizer with Treflan LIQUID EC Herbicide.

Spread the fertilizer/Treflan LIQUID EC Herbicide mixture with a properly calibrated granular fertilizer applicator. Be certain the blended material is applied uniformly to the soil surface. The first incorporation should be completed as soon as possible (within 24 hours) after fertilizer application. It is recommended to **delay the second incorporation for a period of at least three days** to ensure optimum Treflan LIQUID EC Herbicide dissipation within the soil.

**CAUTION:** Ammonium nitrate must not be impregnated with Treflan LIQUID EC Herbicide. All other commonly used dry fertilizers may be used for Treflan LIQUID EC Herbicide impregnation.

**NOTE:** Compliance with the Fertilizer Act and Regulations (Agriculture and Agri-Food Canada) is the responsibility of the individual/company selling the Treflan LIQUID EC Herbicide/fertilizer mixture.

### TREFLAN LIQUID EC HERBICIDE FOR USE IN SOYBEANS

Treflan LIQUID EC Herbicide incorporated before planting soybeans will control most annual grasses and many broadleaved weeds. To control more weeds, use Treflan LIQUID EC Herbicide in combination with the following:

### TREFLAN LIQUID EC HERBICIDE PLUS SENCOR HERBICIDE LEXONE<sup>7</sup> HERBICIDE (TANK-MIX)

#### Rate per Hectare

Product	Soil Texture		
	Light	Medium	Heavy
Treflan LIQUID EC Herbicide	1.2 L	1.7 L	2.4 L
Sencor 500 F Herbicide	850 mL	1.1 L	1.1 L
Sencor 75 DF Herbicide	550 g	750 g	750 g
Lexone DF Herbicide	-	550 g	700 g

- Tank-mix combinations control all the weeds listed on the Treflan LIQUID EC Herbicide label plus many additional broadleaved weeds including smartweed, velvetleaf, wild mustard and common ragweed.
- Control of cocklebur may be erratic ranging from fair to excellent depending on soil temperature, time of weed germination, depth of weed seed in the soil and the amount and timing of soil moisture. Cultivation may improve control.
- Tank-mixes of Treflan LIQUID EC Herbicide and Sencor Herbicide/Lexone Herbicide may be applied up to 10 days before planting.
- Do not use on light soils with less than 2% organic matter.
- Applied according to directions and under normal growing conditions, tank-mixed Treflan Herbicide and Sencor Herbicide/Lexone Herbicide will not reduce soybean yields.
- However, Sencor Herbicide/Lexone Herbicide alone has limited crop tolerance and initial crop injury may occur under certain conditions.
- Over-application may result in stunting, crop injury or soil residue.
- Uneven application or improper soil incorporation of the tank-mix can result in erratic weed control or crop injury depending on rate used.

- Seedling disease, cold weather, deep planting, excessive moisture, high soil pH (above 7.5), high salt concentration or drought may weaken soybean seedlings and increase the possibility of damage from Treflan LIQUID EC Herbicide and Sencor Herbicide/Lexone Herbicide. Under these conditions, delayed crop development or reduced yields may result.
- On variable soils with light sandy areas, some injury may occur on sandy areas if the rate used is for the heavier soil type in the field. Sandy loam and silty clay loam soils are transitional soils and may be classified as medium textured soils in some regions.
- Do not plant metribuzin-sensitive soybean varieties Ace, Apache, Baron, Maple Amber, Maple Ridge, OAC Eramosa, IA 1003, S-240 or Nottawa on areas treated with Sencor Herbicide/Lexone Herbicide as unacceptable injury may result.
- Refer to the Sencor Herbicide and Lexone Herbicide labels for directions on use and special precautions. Do not use foliage from soybeans treated with the combination for forage.

IT IS IMPORTANT TO FOLLOW THE CORRECT SEQUENCE WHEN MIXING TREFLAN LIQUID EC HERBICIDE AND SENCOR HERBICIDE /LEXONE HERBICIDE IN THE SPRAY TANK. THE FOLLOWING STEPS ARE ESSENTIAL:

1. Fill the spray tank 1/4 to 1/3 full with clean water.
2. While continuing to fill the spray tank and with the agitation and recirculating system operating, slowly add the full amount of Sencor Herbicide/Lexone Herbicide for that tankload.
3. Fill the spray tank to the desired level with clean water, while maintaining constant agitation of the mixture.
4. After the full amount of Sencor Herbicide/Lexone Herbicide is thoroughly mixed, add the calculated amount of Treflan LIQUID EC Herbicide to the tank and agitate thoroughly.
5. Continuous agitation is required until the mixture is sprayed out. Do not allow the sprayer to stand without agitation or settling will occur and vigorous mixing with a paddle will be necessary to remix the chemical in the spray tank.

Variations in this mixing sequence may lead to incompatibilities.

#### **TREFLAN LIQUID EC HERBICIDE FOLLOWED BY LOROX L<sup>8</sup> HERBICIDE OR AFOLAN F<sup>9</sup> HERBICIDE (SPLIT APPLICATION)**

##### **Rate per Hectare**

Application / Product	Soil Texture		
	Light	Medium	Heavy
Preplant Incorporated / Treflan LIQUID EC	1.2 L	1.7 L	2.4 L
Preemergence / Afolan F Herbicide	-	2.0 L	2.7 L
Preemergence / Lorox L Herbicide	-	1.75 L	2.25 L

- Do not use Afolan F Herbicide on sand low in organic matter (less than 3%). Make a single application of Afolan F Herbicide.
- Use Afolan F Herbicide as a band or broadcast spray after planting soybeans (at least 5 cm deep) but before soybeans emerge. Refer to the Afolan F Herbicide label for specific recommendations and precautions.

- Use the 1.75 L rate of Lorox L Herbicide on light coloured soils with moderate organic matter (2 to 5%). Do not use Lorox L Herbicide on coarse textured soils low in organic matter, as crop injury may result. Refer to the Lorox L Herbicide label for specific recommendations.

### TREFLAN LIQUID EC HERBICIDE FOLLOWED BY BASAGRAN<sup>10</sup> HERBICIDE PLUS ASSIST<sup>11</sup> HERBICIDE (SPLIT APPLICATION)

#### Rate per Hectare

Application / Product	Soil Texture		
	Light	Medium	Heavy
Preplant Incorporated / Treflan LIQUID EC	1.2 L	1.7 L	2.4 L
Postemergence / Basagran Herbicide plus Assist Herbicide (1/2-1% of the spray volume)	1.75-2.25 L		

- Use Basagran Herbicide as a postemergence treatment at the 1.75 to 2.25 L/ha rate (depending upon weeds present) plus Assist Herbicide at 1/2 to 1% of the spray volume. Refer to the Basagran Herbicide label for stage of crop for optimum weed control and specific recommendations.

### TREFLAN LIQUID EC HERBICIDE FOR USE IN DRY COMMON BEANS (WHITE OR KIDNEY)

Treflan LIQUID EC Herbicide incorporated before planting dry common beans (white and kidney) will control most annual grasses and many broadleaved weeds. To control more weeds, use Treflan LIQUID EC Herbicide in combination with one of the following:

### TREFLAN LIQUID EC HERBICIDE PLUS EPTAM<sup>12</sup> HERBICIDE (TANK-MIX)

#### Rate per Hectare

Application / Product	Soil Texture		
	Light	Medium	Heavy
Preplant Incorporated / Treflan LIQUID EC Herbicide	1.2 L	1.2 L	2.0 L
Eptam Herbicide	2.5-3.75 L		

- Do not use Eptam Herbicide plus Treflan LIQUID EC Herbicide tank mixture on Adzuki beans, cow peas (blackeye peas, blackeye beans), soybeans, Lima beans or other flat podded beans except Romano. Under abnormal weather conditions stunting may occur on Gratiot, Michilite, Sanilac, Seafarer and Seaway varieties. Do not use on muck or charcoal soils. Read and observe all directions and cautions on the label for Eptam Herbicide.

### TREFLAN LIQUID EC HERBICIDE FOLLOWED BY PATORAN FL<sup>13</sup> HERBICIDE (SPLIT APPLICATION)

#### Rate per Hectare

Application / Product	Soil Texture		
	Light	Medium	Heavy
Preplant Incorporated / Treflan LIQUID EC Herbicide	1.2 L	1.7 L	2.4 L
Preemergence / Patoran FL Herbicide (400 g/L)	2.9-3.4 L		
Preemergence / Patoran FL Herbicide (670 g/L)	1.75-2.0 L		

Use these rates of Patoran FL Herbicide (400 g/L and 670 g/L) only if preceded by a preplant incorporated herbicide. A higher rate of each is required if used alone in dry common beans (white and kidney). Refer to individual labels for specific recommendations.

### **TREFLAN LIQUID EC HERBICIDE FOLLOWED BY BASAGRAN HERBICIDE PLUS ASSIST HERBICIDE**

Refer to soybean section for Treflan LIQUID EC Herbicide followed by a postemergent treatment of Basagran Herbicide plus Assist Herbicide.

**NOTE TO USER:** READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS: The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than Gowan Company and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Dow AgroSciences Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below.

Accordingly, the User assumes all risks related to performance and crop tolerance arising, and agree to hold Gowan Company harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this label.

### **DIRECTIONS FOR USE**

#### **TREFLAN LIQUID EC HERBICIDE PLUS PURSUIT<sup>15</sup> HERBICIDE (TANK-MIX) PREPLANT INCORPORATED FOR USE IN WHITE BEANS**

A Treflan LIQUID EC Herbicide/Pursuit Herbicide tank-mix provides broadleaf weed and grass control in white beans. Refer to the product labels for a complete list of weeds controlled. Only one application may be made per season. Apply by pre-plant incorporation, ground application.

#### **Application rates:**

Treflan LIQUID EC Herbicide: 1.25 - 2.4  
L/ha Pursuit Herbicide: 313 mL/ha

Refer to the main Treflan LIQUID EC Herbicide and Pursuit Herbicide labels for specific instructions, recommendations and precautions.

READ THE ROTATIONAL CROPPING RESTRICTIONS ON THE FULL LABEL BEFORE USING.

### **TREFLAN LIQUID EC HERBICIDE FOR STANDARD SPRING AND TRIAZINE TOLERANT CANOLA Standard Canola**

Treflan LIQUID EC Herbicide incorporated alone before planting canola will control most annual grasses and many broadleaved weeds. Refer to General Information for rates and recommendations.

#### **Triazine Tolerant Canola**

Treflan LIQUID EC Herbicide incorporated before planting canola will control most annual grasses and many broadleaved weeds. To control more weeds, use Treflan LIQUID EC Herbicide in combination with the following:

### **TREFLAN LIQUID EC HERBICIDE PLUS A REGISTERED POSTEMERGENCE TRIAZINE HERBICIDE FOR TRIAZINE TOLERANT CANOLA**

**NOTE:** THIS TREATMENT FOR USE ONLY ON TRIAZINE TOLERANT CANOLA. NON-TRIAZINE TOLERANT CANOLA WILL BE KILLED BY THIS COMBINATION.

Treflan LIQUID EC Herbicide may be applied in the spring for triazine tolerant canola. A postemergence triazine herbicide registered for this use may then be applied after crop emergence to control several additional weeds. Refer to individual labels of the postemergence herbicides for specific recommendations and follow warnings and precautions as stated.

**TREFLAN LIQUID EC HERBICIDE FOR USE IN TOMATOES**

Treflan LIQUID EC Herbicide, incorporated before planting tomatoes, will control most annual grasses and many broadleaved weeds. To control more weeds, use Treflan LIQUID EC Herbicide in combination with Sencor

Herbicide for the following:

**TREFLAN LIQUID EC HERBICIDE PLUS SENCOR HERBICIDE IN TRANSPLANTED TOMATOES (GROWN FOR PROCESSING ONLY)****Rate per Hectare**

Application / Product	Soil Texture		
	Light	Medium	Heavy
Preplant Incorporated / Treflan LIQUID EC Herbicide	1.2 L	1.7 L	2.4 L
Preplant Incorporated* / Sencor 500F Herbicide	0.5-0.6 L	0.75-1.1 L	1.2-1.4 L
Followed by Postemergence Sencor 500F Herbicide	0.85 L	1.1 L	1.2-1.4 L

\*Tank-mix with Treflan LIQUID EC Herbicide

- A postemergence directed application of Sencor 500F Herbicide is used to control any weed escapes before they exceed 2.5 cm in height and 3 weeks or more after transplanting tomatoes. This should also leave a residual amount of Sencor 500F Herbicide to maintain season-long control.
- This follow-up Sencor Herbicide application is usually timed for early July, but should not be applied earlier than 21 days after transplanting tomatoes or no later than 60 days before harvesting.
- Refer to the Sencor 500F Herbicide label for additional instructions and precautions.
- Treflan LIQUID EC Herbicide may damage transplants weakened by any cause which may result in reduced crop yield. To prevent damage, plant only healthy transplants; do not plant when cool, wet or unfavourable growing conditions exist. Follow all application and incorporation directions exactly.

**TREFLAN LIQUID EC HERBICIDE USE FOR ASPARAGUS - ESTABLISHED THREE YEARS**

Follow recommended soil preparation, application and incorporation procedures for Treflan LIQUID EC Herbicide Apply to established asparagus in the early spring after ferns are removed but before spear extension from the crowns. Or apply after harvest in the late spring or early summer before ferning begins.

**CAUTION:** Set implements so asparagus crowns are not injured during soil preparation and incorporation.

**Rate per Hectare**

	Soil Texture		
	Light	Medium	Heavy
Treflan LIQUID EC Herbicide	2.0 L	3.1 L	4.2 L

**TREFLAN LIQUID EC HERBICIDE FOR USE ON FALL CEREALS GROWN IN ROTATION WITH FLUE-CURED TOBACCO TO CONTROL LOOSE SILKY BENTGRASS****POSTPLANT INCORPORATED (HARROWED IN AFTER SEEDING)****Crops Registered**

winter wheat  
fall rye  
fall triticale

Treflan LIQUID EC Herbicide is applied and incorporated in the soil in the fall as soon as possible **after planting** and prior to the emergence of the fall cereal for the control of loose silky bentgrass. Weed control is achieved by establishing a shallow (2 cm) layer of Treflan LIQUID EC Herbicide near the soil surface. Within this layer, Treflan LIQUID EC Herbicide controls loose silky bentgrass by stopping growth as the seeds germinate. Crop safety is maintained since the fall cereal seeds are located in the untreated soil beneath the Treflan LIQUID EC Herbicide layer.

#### Application and Incorporation

Fall cereals should be seeded to a depth of 5 to 8 cm in a well-tilled seedbed. Apply Treflan LIQUID EC Herbicide at a rate of 0.8 to 1.2 L/ha product in a minimum of 100 L/ha water with a properly calibrated herbicide sprayer. Use the 1.2 L/ha rate for heavy infestations of loose silky bentgrass. Apply Treflan LIQUID EC Herbicide as soon as possible after seeding and before crop emerges, to soil surface which is free of

trash. Incorporate to a shallow depth with diamond harrows or tyne harrows in two different directions at speeds of at least 8 km/hr. Both incorporations must be done within 24 hours of application.

#### TREFLAN LIQUID EC HERBICIDE USE FOR FIRST YEAR APPLE, APRICOT, CHERRY, PEACH, PLUM AND PEAR TREES

Treflan LIQUID EC Herbicide applied and incorporated before transplanting fruit trees will control most annual grasses and many broadleaved weeds. For the control of additional weeds, Treflan LIQUID EC Herbicide may be tank-mixed with Sencor Herbicide. Do not apply more than one application per year.

#### Recommended Rates per Hectare

Product	Soil Texture		
	Light	Medium	Heavy
	sand sandy loam	loam silt loam silt sandy clay loam	silty clay loam clay loam silty clay clay
Treflan LIQUID EC	1.2 L	1.7 L	2.4 L
Sencor 500F Herbicide	850 mL	1.1 L	1.1 L
Sencor 75 DF Herbicide	550 g	750 g	750 g

Refer to the Sencor Herbicide label for directions on use and special precautions.

**NOTE TO USER:** READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS: The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than Gowan Company and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Dow AgroSciences Canada Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below.

Accordingly, the User assumes all risks related to performance and crop tolerance arising, and agree to hold Gowan Company harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described on this label.

**TREFLAN LIQUID EC HERBICIDE PLUS DUAL MAGNUM HERBICIDE OR DUAL II MAGNUM HERBICIDE PLUS SENCOR HERBICIDE (TANK-MIX) PREPLANT INCORPORATED FOR USE IN TRANSPLANTED TOMATOES**



**DIRECTIONS FOR USE**

A Treflan LIQUID EC Herbicide/ Dual Magnum or Dual II Magnum Herbicide/ Sencor Herbicide tank-mix provides control of broadleaved weeds (including triazine tolerant biotypes), annual grasses and Eastern black nightshade. Only one application may be made per year. **DO NOT USE ON DIRECT-SEEDED TOMATOES.** Under cold, wet conditions or conditions that may adversely affect good transplant establishment: apply the spray solution and shallow incorporate (5-7.5 cm deep), then plant transplants 5-10 cm deep. Do not harvest crop within 60 days after application. Follow the rates listed in Table 1.

**Table 1: Recommended Rates Of Treflan LIQUID EC Herbicide/ Dual Magnum Herbicide or Dual II Magnum Herbicide/ Sencor Herbicide Tank-Mix for Use in Transplanted Tomatoes**

Tank-Mix Component	Rates per Hectare for Specific Soil Textures	
	Light	Medium to Heavy
Treflan E.C. Herbicide	1.1 L	2.1 L
Dual Magnum Herbicide or Dual II Magnum Herbicide	1.0 L	1.25 L *
Sencor 500 F Herbicide	0.5 L	1.0 L
<b>OR</b>		
Sencor 75 DF Herbicide	330 g	670 g

\*use the higher rate of Dual Magnum Herbicide or Dual II Magnum Herbicide for Eastern black nightshade control.

Refer to the Dual Magnum Herbicide, Dual II Magnum Herbicide, and Sencor Herbicide labels for specific recommendations and precautions.

**Mixing Sequence**

**It is important to follow the correct sequence when mixing Treflan LIQUID EC Herbicide, Sencor Herbicide and Dual Magnum Herbicide or Dual II Magnum Herbicide in the spray tank.**

The following steps are essential when combining Treflan LIQUID EC Herbicide with Sencor Herbicide and Dual Magnum Herbicide or Dual II Magnum Herbicide:

1. Fill the spray tank 1/4 to 1/3 full with clean water.
2. While continuing to fill the spray tank and with the agitation and recirculating system operating, slowly add the full amount of Sencor Herbicide for that tankload.
3. Fill the spray tank to the desired level with clean water, while maintaining constant agitation of the mixture.
4. After the full amount of Sencor Herbicide is thoroughly mixed, add the calculated amount of Treflan LIQUID EC Herbicide to the tank and agitate thoroughly.
5. Add the calculated amount of Dual Magnum Herbicide or Dual II Magnum Herbicide to the tank and agitate thoroughly.
6. To avoid any compatibility problems, spray immediately. Continuous agitation is required until the mixture is sprayed out. Do not allow the sprayer to stand without agitation or settling will occur and vigorous mixing with a paddle will be necessary to remix the chemical in the spray tank.

**BUFFER ZONES TO PROTECT SENSITIVE HABITATS**

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

**Buffer Zone Table**

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of:				
		Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:		Terrestrial Habitat
		Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m	
Field sprayer*	Fall-seeded wheat, rye and triticale grown in rotation with tobacco	35	4	3	1	0
	Rutabaga, forage legumes, Saskatoon berries, carrots, peppers, strawberries, tomatoes, summer fallow followed by spring or durum wheat, white turnips, forage kale, forage rape, and first year apple, apricot, cherry, peach, plum and pear trees	55	5	4	2	1
	Brussels sprouts, cauliflower and crambe, sainfoin and sweet clover	70	10	5	2	1
	Alfalfa, beans (common, dry, kidney, black, Lima), fababeans, snapbeans, peas, soybeans, sunflowers, lentils, barley and wheat, canola/rapeseed, triazine tolerant canola/rapeseed, flax, mustard and safflower	80	10	5	3	1
	Asparagus, broccoli and cabbage	90	10	5	3	1
	Woody and perennial ornamental planting and nursery stock (field and container grown), shelterbelts (American elm, caragana, green ash, Scotch pine, Siberian elm)	120	20	15	5	1

\*For field sprayer application, buffer zones can be reduced with the use of drift reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labelled buffer zone can be reduced by 30%.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

## RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, Treflan LIQUID EC Herbicide is a Group 3 herbicide. Any weed population may contain or develop plants naturally resistant to Treflan LIQUID EC Herbicide and other Group 3 herbicides. The

resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay herbicide resistance:

- Where possible, rotate the use of Treflan LIQUID EC Herbicide or other Group 3 herbicides with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Gowan Company at 1-800-883-1844

**NOTICE TO USER:** This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

<sup>1</sup> Triflurex is a trademark of Makhteshim - Agan of North America Inc.

<sup>2</sup> Rival is a trademark of Nufarm Agriculture Inc.

<sup>3</sup> Fortress is a trademark of Gowan Company LLC.

<sup>4</sup> Avadex BW is a trademark of Gowan Company LLC.

<sup>6</sup> Sencor is a trademark of Bayer Cropscience Inc.

<sup>7</sup> Lexone is a trademark of E.I. Dupont Canada Company

<sup>8</sup> Lorox L is a trademark of E.I. Dupont Canada Company

<sup>9</sup> Afolan F is a trademark of Makhteshim-Agan of North America Inc.

<sup>10</sup> Basagran Herbicide is a trademark of BASF Canada Inc.

<sup>11</sup> Assist is a trademark of BASF Canada Inc.

<sup>12</sup> Eptam is a trademark of Gowan Company LLC.

<sup>13</sup> Patoran FL is a trademark of a Syngenta Group company

<sup>15</sup> Pursuit is a trademark of BASF Canada Inc.

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