



(Base label):

Treflan® HFP

HERBICIDE

A herbicide for the preemergence control of annual grasses and broadleaf weeds in Alfalfa, Almond, Apricot, Asparagus, Barley, Beans – All Dry and Fresh Beans/Peas, Borage, Broccoli, Brussels Sprouts, Cabbage, Calendula, Carrot, Castor Oil Plant, Cauliflower, Celery, Chicory, Chinese tallowtree, Collard Greens, Corn, Cotton, Cottonwood Trees Grown for Pulp, Crambe, Cucurbits, Cuphea, Dry Peas, Durum, Echium, Eggplant, English Peas, Euphorbia, Evening primrose, Flax, Flaxseed, Gold of Pleasure, Grain Sorghum, Grapes, Grapefruit, Guar, Hare's ear mustard, Hops, Jojoba, Kale, Kenaf, Lemon, Lentil, Lesquerella, Lima Bean, Lunaria, Meadowfoam, Milkweed, Mungbean, Mustard Greens, Mustard Seed, Nectarine, Niger seed, Oil radish, Okra, Onions, Orange, Ornamentals (Trees, Woody Shrubs, Groundcover, Roses, and Established Flowers), Peach, Peanuts, Pecan, Pepper, Peppermint, Plum, Poppy seed, Potatoes, Prune, Radish, Rapeseed, Rose hip, Safflower, Sesame, Snap Bean, Spearmint, Southern Peas, Soybeans, Stokes aster, Sugar Beets, Sugarcane, Sunflowers, Sweet rocket, Tallowwood, Tangelo, Tangerine, Tea oil plant, Tomatoes, Turnip Greens, Under Paved Surfaces, Vegetable Gardens, Vernonia, Walnut, and Wheat

Group	3	HERBICIDE
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Active Ingredient:

trifluralin: α, α, α -trifluoro-2,6-dinitro-N, N-dipropyl-p-toluidine.....	43%
Other Ingredients	57%
Total	100%

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

Keep Out of Reach of Children

CAUTION

Precautionary Statements

Hazards to Humans and Domestic Animals

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

Avoid contact with eyes, skin, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants

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

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

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft 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/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

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

If swallowed: Call a Poison Control Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

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

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment.

Note: Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

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

Environmental Hazards

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

Agricultural Use Requirements

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

(Storage and Disposal for rigid containers 5 gal or less)**Storage and Disposal**

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

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

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

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

(Storage and Disposal for refillable rigid containers larger than 5 gal)**Storage and Disposal**

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

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

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

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**Storage and Disposal**

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

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Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least

one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refer to label booklet for Directions for Use.

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

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

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

Avoid Freezing -- Store Above 40°F

EPA Reg. No. 62719-250

EPA Est. _____

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**Produced for
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, IN 46268**

NET CONTENTS __

(cover / shipping container):

Treflan® HFP**HERBICIDE**

A herbicide for the preemergence control of annual grasses and broadleaf weeds in Alfalfa, Almond, Apricot, Asparagus, Barley, Beans – All Dry and Fresh Beans/Peas, Borage, Broccoli, Brussels Sprouts, Cabbage, Calendula, Carrot, Castor Oil Plant, Cauliflower, Celery, Chicory, Chinese tallowtree, Collard Greens, Corn, Cotton, Cottonwood Trees Grown for Pulp, Crambe, Cucurbits, Cuphea, Dry Peas, Durum, Echium, Eggplant, English Peas, Euphorbia, Evening primrose, Flax, Flaxseed, Gold of Pleasure, Grain Sorghum, Grapes, Grapefruit, Guar, Hare's ear mustard, Hops, Jojoba, Kale, Kenaf, Lemon, Lentil, Lesquerella, Lima Bean, Lunaria, Meadowfoam, Milkweed, Mungbean, Mustard Greens, Mustard Seed, Nectarine, Niger seed, Oil radish, Okra, Onions, Orange, Ornamentals (Trees, Woody Shrubs, Groundcover, Roses, and Established Flowers), Peach, Peanuts, Pecan, Pepper, Peppermint, Plum, Poppy seed, Potatoes, Prune, Radish, Rapeseed, Rose hip, Safflower, Sesame, Snap Bean, Spearmint, Southern Peas, Soybeans, Stokes aster, Sugar Beets, Sugarcane, Sunflowers, Sweet rocket, Tallowwood, Tangelo, Tangerine, Tea oil plant, Tomatoes, Turnip Greens, Under Paved Surfaces, Vegetable Gardens, Vernonia, Walnut, and Wheat

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Active Ingredient:

trifluralin: α, α, α -trifluoro-2,6-dinitro- <i>N</i> , <i>N</i> -dipropyl- <i>p</i> -toluidine	43%
Other Ingredients	57%
Total	100%

Contains petroleum distillates.

Contains 4 lb active ingredient per gallon.

Keep Out of Reach of Children**CAUTION****Agricultural Use Requirements**

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

Refer to inside of label booklet for additional precautionary information including Directions for Use.

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

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

Avoid Freezing -- Store Above 40°F

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(Page 1 through end):

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION

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

Avoid contact with eyes, skin, or clothing.

Personal Protective Equipment (PPE)

Some materials that are chemical-resistant to this product are listed below.

Applicators and other handlers must wear:

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

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

Engineering Controls

When handlers use closed systems, enclosed cabs, or aircraft 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/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

First Aid

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

If swallowed: Call a Poison Control Center or doctor immediately for treatment advice. Have a person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.

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

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment.

Note: Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

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

Environmental Hazards

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

Directions for Use

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

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

Agricultural Use Requirements

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

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. **Exception:** If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

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

Storage and Disposal

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

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

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

Nonrefillable containers 5 gallons or less:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Refillable containers 5 gallons or larger:

Container Handling: Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Nonrefillable containers 5 gallons or larger:

Container Handling: Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Product Information

Treflan® HFP herbicide is a herbicide for the preemergence control of annual grasses and broadleaf weeds in alfalfa, almond, apricot, asparagus, barley, beans – all dry and fresh beans/peas, borage, broccoli, brussels sprouts, cabbage, calendula, carrot, castor oil plant, cauliflower, celery, chicory, chinese tallowtree, collard greens, corn, cotton, cottonwood trees grown for pulp, crambe, cucurbits, cuphea, dry peas, durum, echium, eggplant, english peas, euphorbia, evening primrose, flax, flaxseed, gold of pleasure, grain sorghum, grapes, grapefruit, guar, hare's ear mustard, hops, jojoba, kale, kenaf, lemon, lentil, lesquerella, lima bean, lunaria, meadowfoam, milkweed, mungbean, mustard greens, mustard seed, nectarine, niger seed, oil radish, okra, onions, orange, ornamentals (trees, woody shrubs, groundcover, roses, and establish flowers), peach, peanuts, pecan, pepper, peppermint, plum, poppy seed, potatoes, prune, radish, rapeseed, rose hip, safflower, sesame, snap bean, spearmint, southern peas, soybeans, stokes aster, sugar beets, sugarcane, sunflowers, sweet rocket, tallowwood, tangelo, tangerine, tea oil plant, tomatoes, turnip greens, underpaved surfaces, vegetable gardens, vernonia, walnut, and wheat

Treflan HFP may be applied in liquid sprays of water or liquid fertilizer, or impregnated on dry bulk fertilizer. To reduce loss of herbicidal activity, Treflan HFP should be soil incorporated within 24 hours after application unless otherwise specified in specific use directions or supplemental labeling. Treflan HFP may be tank mixed or followed by overlay or postemergence treatments with other herbicides to

improve the spectrum of weeds controlled. Treflan HFP controls weeds by disrupting growth processes during germination. Treflan HFP does not control established weeds.

Use Precautions

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

Do not apply Treflan HFP to soils that are wet or are subject to prolonged periods of flooding as poor weed control may result.

Do not use Treflan HFP on any crop grown in Pecos county or Reeves county, Texas.

Chemigation: Treflan HFP may be applied by chemigation on certain crops. See instructions for chemigation in the Application Methods section of this label. Also, see specific instructions for certain crops in the Crops section of this label.

Rotation Crop Restrictions

Sugar Beets, Red Beets, and Spinach

In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming: Do not plant sugar beets, red beets, or spinach for 12 months after a spring application or 14 months after a fall application of Treflan HFP. Moldboard plowing to a depth of 12 inches prior to planting these crops will reduce the possibility of crop injury. If land has not been irrigated, do not plant these crops for 18 months after a spring application or 20 months after a fall application of Treflan HFP.

In all other areas: Do not plant sugar beets, red beets, or spinach for 12 months after a spring application or 14 months after a fall application of Treflan HFP. Before planting sugar beets, moldboard plow to a depth of 12 inches to reduce the possibility of crop injury.

Proso Millet, Corn, Sorghum (Milo), Oats, and Annual or Perennial Grass Crops or Grass Mixtures

In Arizona, Colorado, California, Idaho, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming: Delay planting proso millet, corn, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures 12 months after a spring application or 14 months after a fall application of Treflan HFP to avoid the possibility of crop injury. If land has not been irrigated, delay planting these crops 18 months after a spring application or 20 months after a fall application. Moldboard plowing to a depth of 12 inches before planting these crops will reduce the possibility of crop injury.

In Minnesota, North Dakota, and South Dakota: Delay planting proso millet, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures 18 months after a spring application or 21 months after a fall application of Treflan HFP.

In those portions of Kansas, Nebraska, Oklahoma, and Texas that receive less than 20 inches of rainfall and irrigation to produce a crop: Delay planting proso millet, sorghum (milo), oats and annual or perennial grass crops or grass mixtures for 18 months after an application of Treflan HFP. In sorghum, cool, wet weather conditions during early growth stages may increase the possibility of crop injury.

All other areas receiving more than 20 inches of rainfall and irrigation: Delay planting proso millet, sorghum (milo), oats, and annual or perennial grass crops or grass mixtures for 12 months after a spring application or 14 months after a fall application of Treflan HFP.

Rotation Crops Other Than Those Specifically Addressed Above

For all other crops, with the exception of those to which Treflan HFP may be applied as a preplant soil incorporated treatment, delay planting for 5 months after an application of Treflan HFP.

Weed Resistance Management

Trifluralin, the active ingredient in this product, is a group 3 herbicide (inhibition of microtubule assembly). Some naturally occurring weed biotypes that are tolerant (resistant) to trifluralin may exist due to genetic variability in a weed population. Where resistant biotypes exist, repeated use of herbicides with the same mode of action can lead to the selection for resistant weeds. Certain agronomic practices reduce the likelihood that resistant weed populations will develop, and can be utilized to manage weed resistance once it occurs.

Populations of green foxtail (pigeongrass) resistant to the dinitroaniline (DNA) class of herbicides have been identified in the state of North Dakota in fields which have a long history of dinitroaniline herbicide use. Treflan HFP herbicide will not control green foxtail which has developed DNA resistance.

Therefore, the grower assumes the risk of nonperformance due to DNA resistance if Treflan HFP is used to control green foxtail in the state of North Dakota. Alternative green foxtail control practices should be utilized in these fields.

Dow AgroSciences strongly recommends use of the following management practices to prevent or delay the development or spread of DNA-resistant green foxtail in spring cereal production areas:

1. Rotate herbicides so that the same product or same class of herbicide is not used repeatedly year after year. Treflan HFP and/or other dinitroaniline herbicides should not be applied in consecutive years and preferably should be used only once in a three year period. Consult your local extension service or Dow AgroSciences representative for information regarding herbicides with alternative modes of action.
2. Rotate crops and use alternative weed control methods, including tillage, fallow periods and/or other herbicides with different modes of action.
3. Thoroughly clean small grains harvested from fields with confirmed resistance before using as seed, or avoid using grain from DNA-resistant fields for seed.
4. Thoroughly clean all crop residues from tillage and harvesting equipment before moving out of fields with confirmed resistance.

Soil Texture Guide for Application Rates

Rates listed for incorporated treatments of Treflan HFP are based on Soil Texture Class (coarse, medium, or fine) and soil organic matter content. A fine textured soil (e.g., clay loam) will require a higher application rate than a coarse textured soil (e.g., loamy sand). In the table below, find the Soil Texture Class (coarse, medium, or fine) corresponding to the Soil Texture to be Treated. Choose the proper rate for each application based on the Soil Texture Class and specific crop Direction for Use. Do not exceed the listed maximum use rates.

Soil Texture Class	Soil Texture to be Treated
Coarse (Light) Soils	Sand, loamy sand, sandy loam
Medium Soils	Loam, silty clay loam ¹ , silt loam, silt, sandy clay loam ¹
Fine (Heavy) Soils	Clay, clay loam, silty clay loam ¹ , silty clay, sandy clay, sandy clay loam ¹

¹Silty clay loam and sandy clay loam soils are transitional soils and may be classified as either medium or fine textured soils. If silty clay loam or sandy clay loam soils are predominantly sand or silt, they are usually classified as medium textured soils. If they are predominantly clay, they are usually classified as fine textured soils.

Mixing Directions

Treflan HFP - Alone

Treflan HFP may be mixed with water or most liquid fertilizer materials. Prior to mixing Treflan HFP in liquid fertilizer, refer to the label section entitled Testing for Compatibility in Liquid Fertilizers for testing procedures to determine compatibility with the liquid fertilizer product to be used. The combination of Treflan HFP with solution and suspension-type fertilizers provides weed and grass control equal to water sprays.

Fill spray tank 1/3 to 1/2 full with clean water or liquid fertilizer. Start agitation. Add correct amount of Treflan HFP and continue agitation while filling tank to required spray volume.

Restriction: Do not allow water or spray mixture to back-siphon into a water source.

Treflan HFP in Tank Mix

For broader spectrum weed control, Treflan HFP may be applied in tank mix combination with other products registered for use on crops listed in this label unless tank mixing with Treflan (trifluralin) is prohibited by the manufacturer's label. When tank mixing, use the listed rate of Treflan HFP. Follow the label Directions for Use of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use.

Treflan HFP may be tank mixed with other products and applied with water or most liquid fertilizer materials. Prior to mixing Treflan HFP with other pesticides or liquid fertilizers, refer to the Compatibility Testing for Tank Mix Partners Including Liquid Fertilizers section below.

Vigorous, continuous agitation during mixing, filling, and throughout application is required for all tank mixes. Sparger pipe agitators generally provide the most effective agitation in spray tanks. To prevent foaming in the spray tank, avoid stirring or splashing air into the spray mixture. To prevent foaming during filling, keep end of fill pipe below the surface of the liquid in the spray tank.

Mixing Order: Fill the spray tank to 1/4 to 1/3 of the total spray volume required. Start agitation. Add different formulation types in the order indicated below, allowing time for complete mixing and dispersion after addition of each product. Allow extra mixing and dispersion time for dry flowable products.

Add different formulation types in the following order: Dry flowables (DF); wettable powders (WP); aqueous suspensions (AS), flowables (F) and liquids (L).

Maintain agitation and fill spray tank to 3/4 of total spray volume. Add Treflan HFP and other emulsifiable concentrates (EC) and any solutions (S).

Finish filling the spray tank. Maintain continuous agitation during mixing, final filling, and throughout application. If spraying/agitation must be stopped before the spray tank is empty, the materials may settle to the bottom. Settled materials must be resuspended before spraying is resumed. A sparger agitator is particularly useful for this purpose. Settled material may be more difficult to resuspend than when originally mixed.

Precautions:

Read and carefully follow all label instructions for each material added to the spray tank.

Restriction:

Do not allow water or spray mixture to back-siphon into a water source.

Premixing: Dry and flowable formulations may be premixed with water (slurried) and added to the spray tank through a 20 to 35 mesh screen. This procedure assures good initial dispersion of these products in liquid fertilizer or water. Line screens in the spray tank should be no finer than 50 mesh (100 mesh is finer than 50 mesh).

Compatibility Testing for Tank Mix Partners Including Liquid Fertilizers:

A jar test is recommended prior to tank mixing this product with other pesticides or liquid fertilizer to ensure compatibility. Use a clear glass quart jar with lid and mix the tank mix ingredients in their relative proportions and in the order indicated in the tank mixing section above. Invert the jar containing the mixture several times and observe the mixture for approximately 1/2 hour. If components of the mixture separate readily, a compatibility agent may be helpful in maintaining the stability of the spray mixture. If the mixture balls-up, forms flakes, sludges, jels, oily films or layers, or other precipitates, the components of the mixture are not compatible and full-scale tank mixing should not be attempted.

Note: Compliance with state regulations for liquid fertilizer mixing, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

Application Methods

As spray volume decreases, the importance of accurate calibration and uniform application increases. Check calibration and uniformity of spray application daily. To avoid spray drift, do not apply when winds are gusting or when wind speed is greater than 15 mph. Drift potential is lowest between wind speeds of 2 to 10 mph.

Ground Broadcast Application

Apply Treflan HFP in 5 to 40 gallons of liquid carrier per acre (broadcast basis) using any properly calibrated, low-pressure herbicide sprayer that will apply the spray uniformly. The carrier may be water or liquid fertilizer as specified for the crop to be treated in the Crops section of this label. For band application, adjust herbicide rate and spray volume in proportion to the band width and row width treated.

Aerial Broadcast Application

Apply Treflan HFP in 5 to 10 gallons of water per acre. Adjust pump pressure, nozzle arrangements, speed, and application height to provide uniform application to the soil surface. Use swath markers or flaggers to assure proper swath width interval.

Avoiding Spray Drift: Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment-and-weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

The following spray drift management practices are necessary to avoid off-target movement of sprays:

- The distance from the outer most nozzles on the spray boom must not exceed 3/4 the length of the wingspan or rotor.
- Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Information On Droplet Size: The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- **Pressure** - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- **Number of Nozzles** - Use the minimum number of nozzles that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is released parallel to the air stream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.

- **Nozzle Type** - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Boom Length: For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

Application Height: Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

Swath Adjustment: When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

Wind: Drift potential is lowest between wind speeds of 2 to 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. **Note:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

Temperature and Humidity: When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

Temperature Inversions: Applications should not occur during a local, low-level temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small-suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of the smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive Areas: The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g., when wind is blowing away from the sensitive areas).

Application with Dry Bulk Fertilizer

Dry bulk fertilizers impregnated or coated with Treflan HFP may be applied as a preplant incorporated treatment on crops. All label instructions for Treflan HFP regarding application rates, incorporation directions, special instructions, and precautions must be followed. Read and follow all label instructions below concerning use of Treflan HFP with dry bulk fertilizer. Properly applied dry bulk fertilizers impregnated with Treflan HFP provides weed and grass control equal to water sprays.

Use the following formula to calculate the amount of Treflan HFP required to impregnate a ton of dry bulk fertilizer.

$$\begin{array}{rcl} \text{Pints Treflan HFP} & & \text{Quarts Treflan HFP} \\ \text{Per Acre} \quad X & \frac{1000}{\text{Pounds Fertilizer}} = & \text{Per Ton of} \\ & \text{Per Acre} & \text{Fertilizer} \end{array}$$

Limitations: Apply a minimum of 200 lb per acre of dry fertilizer impregnated with Treflan HFP at the specified broadcast rate per acre. Any commonly used dry fertilizer can be used for impregnation with Treflan HFP except coated ammonium nitrate and pure limestone. These materials will not absorb the herbicide. Blends containing mixtures of these materials can be impregnated.

Impregnation: Use any closed drum, belt, ribbon, or other commonly used dry bulk fertilizer blender. Nozzles used to apply Treflan HFP to dry bulk fertilizer should be placed to provide uniform spray coverage.

Application and Incorporation: Spread the fertilizer/chemical mixture with properly calibrated application equipment. Be certain the material is applied uniformly to the soil surface. Dry bulk fertilizer impregnated with Treflan HFP must be incorporated two times. The first incorporation should occur within 24 hours after application. The second incorporation should be delayed a minimum of 5 days after the first and be completed prior to planting.

Compliance with State Regulations: Compliance with state regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company offering the fertilizer or chemical mixture for sale.

Application by Chemigation

Treflan HFP may be applied through properly equipped chemigation systems for weed control in certain crops as specified in the Crops section of this label. Read and follow all label instructions outlined below concerning chemigation before applying Treflan HFP by this method.

Chemigation Directions:

Apply this product only through continuously moving center pivot, lateral move end tow, solid set, or hand move irrigation systems, or certain other systems described in EPA-accepted supplemental labeling.

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

If you have questions about calibration you should contact state extension specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.

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.

Sprinkler Chemigation Directions:

The following directions must be followed for all listed sprinkler irrigation systems (center pivot, lateral move, or end tow):

1. 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 back-flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. 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.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

5. 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 that pesticide distribution is adversely affected.
6. 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.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.
8. Inject Treflan HFP continuously throughout the chemigation period. Check the chemigation-metering pump periodically during application to insure proper operation.
9. The injection-metering pump must be calibrated as specified by the manufacturer.
10. Pesticide injection hoses which connect chemigation-metering equipment to the sprinkler irrigation system should be of braided reinforced construction with an internal tube made of nylon, cross-linked polyethylene, or high-density polyethylene.
11. Treflan HFP may cause staining of plastic hoses and tanks.
12. Apply Treflan HFP in sprinkler irrigation equal to 1/2 to 1 inch of water.
13. During chemigation, maintain agitation in supply tank at all times.

Chemigation System Calibration:

Sample calculation for use of Treflan HFP in a chemigation system:

- Assume, in this example, 133 acres are to be covered by a chemigation treatment.
- Product required, assuming 1.5 pints per acre, is 199.5 pints
(133 acres X 1.5 pt/acre = 199.5 pt = 25 gallons)
- Add 25 gallons of product directly to the injection supply tank.
- Adjust the injection system to deliver 25 gallons during the time required to apply 1 inch of water to 133 acres.

If the irrigation system requires 20 hours to apply 1 inch of water to 133 acres, the injection rate is 1.25 gal/hr and is calculated as follows:

- $25 \text{ gal} \div 20 \text{ hr} = 1.25 \text{ gal/hr}$
- $1.25 \text{ gal/hr} = 160 \text{ fl oz/hr}$

Proper calibration requires the injection pump to be adjusted to deliver 2.7 fl oz/min and is calculated as follows:

- $160 \text{ fl oz/hr} \div 60 \text{ min./hr} = 2.7 \text{ fl oz per min.}$

Chemigation Mixing Directions:

Undiluted Treflan HFP: When used alone, the injection of undiluted Treflan HFP is recommended in chemigation systems. For undiluted use, the metering pump, supply tank, and any associated equipment must be thoroughly clean and dry before Treflan HFP is added to the system for injection. When injecting undiluted Treflan HFP, maintain continuous agitation in the supply tank.

Diluted Treflan HFP: Treflan HFP may be diluted if required to achieve accurate calibration for existing equipment. Partially fill the injection supply tank with a volume of water equal to the amount of Treflan HFP required (do not add water to Treflan HFP). Start agitation. Add the required amount of Treflan HFP to water in the supply tank and continue mixing while filling the tank to the final volume required by the injection pump calibration. When injecting diluted Treflan HFP, maintain continuous agitation in supply tank.

Application Timing

Preplant Incorporated Application

Treflan HFP may be applied and incorporated prior to planting when soil can be worked and is in a condition that allows thorough mixing to insure uniform incorporation. See Crops section for application timing information for specific crops.

Preemergence Application Immediately After Planting

Apply and incorporate Treflan HFP immediately after planting and prior to crop germination. Adjust incorporation equipment so as to avoid disturbance of planted seed. Refer to the Crops section of this label for crop specific instructions.

Postemergence and Layby Application

Apply and incorporate Treflan HFP at the listed rate to the established crop at or before the last cultivation. Required preharvest intervals for treatments with Treflan HFP for certain crops are specified in the Crops section of this label. Crop cover may prevent uniform soil coverage from over-the-top sprays. To avoid this problem, use drop nozzles or directed sprays to achieve uniform soil coverage.

Fall Application

Treflan HFP may be applied in the fall for weed control in the crop of the following growing season in all crops for which Treflan HFP is listed as a preplant incorporated treatment. Refer to the Crops section for any crop specific fall application instructions. In the states of California, North Dakota, South Dakota and Minnesota, apply and incorporate Treflan HFP any time between September 1 and December 31. In all other states, fall apply Treflan HFP between October 15 and December 31.

Do not make Fall applications of Treflan HFP on fields which remain wet or are subject to periods of flooding. Ground may be bedded up over winter. On bedded ground, reduce beds to desired height before planting, by moving some treated soil from beds into furrows. Where soil is left flat over winter, care should be taken not to turn up untreated soil during spring bedding operations. Destroy established weeds during seedbed preparation. Weeds established in furrows as a result of exposing untreated soil should be destroyed before planting.

Incorporation Directions**Soil Preparation and Incorporation**

Ground cover or existing weeds can interfere with uniform soil incorporation of Treflan HFP. A manageable level of ground cover will allow uniform incorporation into the top 2 to 3 inches of the final seedbed. If ground cover and crop residues are, excessive, reduce by appropriate soil tillage prior to application.

Treflan HFP must be incorporated within 24 hours after application unless otherwise specified on supplemental labeling. Non-uniform application may result in erratic weed control or crop injury. With most equipment and methods of application, a second incorporation is required and may occur any time before planting. Make the second incorporation in a different direction. To avoid bringing untreated soil to the surface, the second incorporation must not be deeper than the first. **Note: Two-pass incorporation is required for all special use programs unless otherwise specified.**

Soil Conditions: Ensure the soil surface is smooth enough to allow for uniform application and efficient incorporation of Treflan HFP. Break up clods using tillage equipment prior to application of Treflan HFP. Apply when soil moisture is sufficient to allow the breakup of large clods and uniform mixing during the incorporation process. Soil compaction and/or non-uniform incorporation may occur if soil is excessively moist.

Incorporation in Bedded Culture: In bedded culture, incorporate Treflan HFP to a depth of 2 to 3 inches in the final seedbed.

Application Prior to Bedding: Apply Treflan HFP and incorporate one time with recommended equipment. The bedding operation serves as the second incorporation. Do not expose untreated soil during post-bedding operations such as planting since removal of treated soil during planting can allow weed germination and establishment in the drill row.

Application After Bedding: Knock off beds to planting height before applying Treflan HFP. Apply and incorporate Treflan HFP with recommended equipment that will conform to the shape of the bed. Do not expose untreated soil.

Cultivation After Planting: Treated crops may be shallowly cultivated without reducing the weed control activity of Treflan HFP. Limit depth of cultivation to the zone of treated soil to avoid moving untreated soil to the surface. Exposure of untreated soil may cause loss of weed control.

Incorporation Equipment

Use incorporation equipment capable of mixing Treflan HFP uniformly into the top 2 to 3 inches of the final seedbed. Use of inappropriate equipment or improper use of recommended equipment may result in erratic weed control and/or crop injury. Incorporation equipment such as a tandem disc will mix Treflan HFP approximately half as deep as the equipment is set to operate. For example, a disc set to cut 4 inches deep will mix most of the Treflan HFP within the top 2 inches of soil. Any recommended incorporation implement may be used alone or in combination with any other recommended implement. Two incorporation passes are required when using the following incorporation implements (for single pass incorporation, refer to soil conditions and equipment listed under Single Pass Incorporation Option below):

Tandem Disc: Set equipment to cut 4 to 6 inches deep and operate at 4 to 6 mph.

Rolling Cultivator: Set equipment to cut 2 to 4 inches deep and operate at 6 to 8 mph.

Bed Conditioner (Do-All): Set equipment to cut 2 to 4 inches deep and operate at 4 to 6 mph. One incorporation pass is adequate in bedded culture, while 2 incorporation passes are required in flat planted culture. Use the Do-All only on coarse and medium textured soils.

Mulch Treader and Other Similar Disc-Type Implements: Set equipment to cut 3 to 4 inches deep and operate at 5 to 8 mph.

Other Equipment: Other implements including the flexible tine-tooth harrow (Flextine or Melroe) are recommended, but only for certain uses defined in the Crops section of this label.

Conservation Tillage Practices: In reduced or minimum tillage situations, fall or spring application and incorporation of Treflan HFP may be combined with tillage operations. The first incorporation may utilize equipment such as a tandem disc, combination implement or bedding equipment that provides good soil mixing but leaves a maximum amount of crop residue on the soil surface. The second incorporation may be accomplished with tillage equipment that provides uniform soil mixing used in conjunction with no-till planters (see specific recommendations for reduced or conservation tillage situations for cotton and soybeans in the Crops section).

Springtooth Harrow on Coarse Textured Soils to be Bedded up Prior to Planting (Texas only):

A springtooth harrow is defined as an implement with 3 to 4 rows of shanks equipped with chisel points spaced at intervals of 7 inches or less and staggered so that no soil is left unturned. The springtooth harrow may be used to effectively incorporate (mix) this product into coarse textured (sandy) soils to be bedded up prior to planting. Destroy existing weeds before an application of this product. Chop and thoroughly mix crop residues into the soil to a depth of at least 4 to 6 inches by deep plowing or discing prior to an application of this product. Use machinery that breaks up large clods before application of Treflan HFP. The first incorporation must occur within 24 hours after application. Set the springtooth harrow to cut 3 to 4 inches deep and operate at a speed of 5 mph or greater. Two passes over the field are required with the second pass in a different direction than the first. The springtooth harrow also may be used as the first or second incorporation tool in combination with other recommended equipment for the other incorporation. Do not incorporate with springtooth harrow if soil is too wet for good mixing. When this product is applied and incorporated before bedding, do not furrow out deeper than the depth to

which this product was incorporated. Furrowing too deep will expose untreated soil and allow weeds to germinate in the bottom of the furrow.

Single Pass Incorporation Option

Treflan HFP may be incorporated in a single pass if incorporation conditions allow for thorough and uniform mixing into the top 2 to 3 inches of the final seedbed. Thorough and uniform incorporation may be achieved if the soil at the time of incorporation is of good tilth with moderate moisture, and is relatively free of clods and crop residue. **The following types of equipment can be used to obtain thorough and uniform soil mixing from a single incorporation pass:**

Finishing Disc with disc blades no greater than 22 inches in diameter, spaced no more than 7 1/2 inches apart. Operate at 4 to 6 mph. Best results are obtained when the disc is equipped with harrow, reel, or basket attachments.

Field Cultivator: Set equipment to cut 3 to 4 inches deep and operate at a minimum of 5 mph. A field cultivator is defined as an implement with 3 to 4 rows of sweeps, spaced at intervals of 7 inches or less with sweeps on successive rows staggered so that no soil is left unturned. Chisel points must not be used. Best results are obtained when the field cultivator is equipped with harrow, reel, or basket attachments.

Combination Implements: These implements are defined as two or more tillage devices combined to operate as a single tillage unit. For example, two to three rows of field cultivator C- or S-shaped shanks with successive rows of sweeps staggered so that no soil is left unturned, followed by a spike-tooth or flexline harrow, followed by ground driven reel, basket or incorporator wheels. Set combination implements to cut 3 to 4 inches deep and operated at a minimum of 6 mph. Two incorporations are recommended under conditions which prevent optimum soil mixing such as excessive surface residue, roughness, high clay content or soil is too wet or too dry. Combination tools can also be composed of two rows of wide crown sweeps that overlap so that the roots of all weeds and plants are severed. Follow this by 2 gangs of rotating spoked wheels that thoroughly mix Treflan HFP into the top 2 to 3 inches of the final seedbed.

P.T.O.-Driven Equipment (Tillers, Cultivators, Hoes): Adjust equipment to incorporate Treflan HFP into the top 2 to 3 inches of the final seedbed with rotors spaced to provide a clean sweep of the soil. Operate P.T.O. equipment at no more than 4 mph.

Weeds Controlled

Common Name	Scientific Name
Grass Weeds	
annual bluegrass	<i>Poa annua</i>
barnyardgrass (watergrass)	<i>Echi nochloa crus-galli</i>
brachiaria (signalgrass)	<i>Brachiaria</i> spp.
bromegrass (cheatgrass)	<i>Bromus tectorum</i>
(downy brome)-	
cheat (chess)	<i>Bromus secalinus</i>
crabgrass (large crabgrass)	<i>Digitaria</i> spp.
(smooth crabgrass)	
foxtail (bottlegrass)	<i>Setaria</i> spp.
(bristlegrass)	
(giant foxtail)	
(green foxtail) ⁸	
(foxtail millet)	
(pigeongrass)	
(robust foxtail)	
(yellow foxtail)	

guineagrass ¹	<i>Panicum maximum</i>
itchgrass (raoulgrass) ¹	<i>Rottboellia exaltata</i>
johnsongrass (from seed) ²	<i>Sorghum halepense</i>
jungerice	<i>Echinochloa colonum</i>
panicum (fall panicum) ³	<i>Panicum dichotomiflorum</i>
ryegrass, Italian (annual ryegrass)	<i>Lolium multiflorum</i>
Texas panicum (buffalograss) (Coloradograss)	<i>Panicum texanum</i>
red rice ⁴	<i>Oryza sativa</i>
sandbur (burgrass)	<i>Cenchrus incertus</i>
sprangletop	<i>Leptochloa filiformis</i>
stinkgrass (lovegrass)	<i>Eragrostis cilianensis</i>
shattercane (wild cane) ⁵	<i>Sorghum bicolor</i>
woolly cupgrass	<i>Eriochloa villosa</i>

Broadleaf Weeds

carpetweed	<i>Mollugo verticillata</i>
chickweed	<i>Stellaria media</i>
field bindweed ⁶	<i>Convolvulus arvensis</i>
goosefoot	<i>Chenopodium hybridum</i>
henbit	<i>Lamium amplexicaule</i>
knotweed	<i>Polygonum aviculare</i>
kochia (fireweed) (Mexican fireweed)	<i>Kochia scoparia</i>
lambquarters, common	<i>Chenopodium album</i>
pigweed (carelessweed) (palmer amaranth) ⁷ (prostrate pigweed) (redroot) (rough pigweed) (spiny pigweed) ⁵	<i>Amaranthus</i> spp.
puncturevine (western U.S. only) (caltrop) (goatweed)	<i>Tribulus terrestris</i>
purslane, common	<i>Portulaca oleracea</i>
pusley, Florida (Florida purslane) (Mexican clover) (pusley)	<i>Richardia scabra</i>
Russian thistle (tumbleweed)	<i>Salsola iberica</i>
stinging nettle (nettle)	<i>Urtica dioica</i>

¹See special instructions for control in sugarcane in the Crops section.

²Rhizome - see special instructions for control in cotton, soybeans, fruit and nut crops and vineyards in the Crops section.

³Spreading panicgrass - see special instructions for control in cotton and soybeans in the Crops section.

⁴See special instructions for suppression or partial control in soybeans in the Crops section.

⁵See special instructions for control in soybeans in the Crops section.

⁶See special instructions for control in fruit and nut crops and vineyards in the Crops section.

⁷Suppression only in areas of the southwest U.S. where tolerance to trifluralin has been observed. Consult your local extension service or Dow AgroSciences representative for information regarding alternative weed control practices.

⁸Will not control dinitroaniline (DNA) herbicide weed biotypes. See Weed Resistance Management section

Special Use Programs

Treflan HFP is approved for the following special use programs. Refer to the Crops section of this label for details on soil preparation, use rates, application, soil incorporation, and precautions for each type or program.

Cotton

- Fall Application Prior to Planting in the Spring (Arkansas, Louisiana and Mississippi)
- Chemigation
- Postemergence Soil Incorporated (Kansas, Texas, Oklahoma, and New Mexico)
- Weed Control in Conservation Tillage
- Fall Panicum Control
- Pigweed and Seedling Johnsongrass Control
- Additional Weed and Grass Control (Gulf Coast Counties of Texas)
- Rhizome Johnsongrass Control

Soybeans

- Fall Application Prior to Planting in the Spring (Arkansas, Louisiana and Mississippi)
- Chemigation
- Weed Control Under Reduced or Conservation Tillage
- Fall Panicum Control
- Pigweed and Seedling Johnsongrass Control
- Additional Weed and Grass Control (Gulf Coast Counties of Texas)
- Itchgrass (Raouigrass) Suppression
- Charcoal Soils in Arkansas, Louisiana, and Mississippi
- Red Rice Control in Arkansas, Louisiana, Mississippi, and Texas
- Rhizome Johnsongrass Control in Eastern United States and the State of Texas
- Wild Cane (Shattercane) Control
- Enhanced Control of Broadleaf Signalgrass in Soybeans with Treflan HFP Plus Dual Tank Mix
- Control of DNA-Resistant Goosegrass in Soybeans with Treflan HFP Plus Dual Tank Mix

Citrus, Stone Fruit and Nut Crops and Vineyards

- Rhizome Johnsongrass Control
- Field Bindweed Control

Crops

Alfalfa - Established

Mechanically Incorporated

Apply Treflan HFP with ground or aerial equipment and mechanically incorporate prior to weed emergence to control weeds listed in the Product Information section of this label. Use mechanical incorporation equipment that will insure thorough soil mixing with minimal damage to crop stand.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.5
medium	2.0
fine	2.0

Surface Applications (Chemigation or Water Incorporated)

Treflan HFP may be surface applied for annual grass control in established alfalfa by chemigation, or ground or aerial broadcast application equipment.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
all soil textures	4.0

Chemigation: Refer to Application by Chemigation section in the Product Information section of this label for use directions for chemigation.

Surface Applications Activated by Rainfall or Irrigation

Broadcast surface applications of Treflan HFP to established alfalfa may be activated by rainfall, sprinkler, flood, or furrow irrigation. Rainfall or a single overhead sprinkler irrigation of 0.5 acre inch or more is required to activate Treflan HFP. If activated by furrow irrigation, care should be taken to thoroughly wet beds between furrows. If rainfall or irrigation has not occurred within three days after application, Treflan HFP may be mechanically incorporated. If mechanically incorporated, use equipment that will insure thorough soil mixing with minimum damage to the established alfalfa.

Application Timing and Weeds Controlled

Applications to established alfalfa for annual grass control can be made during dormancy or semi-dormancy, or during the growing season immediately after a cutting. Because Treflan HFP does not control established weeds, application must be made prior to the expected time of weed germination. Bromegrass and cheat begin to germinate in the fall with the onset of cooler weather. To control these weeds, apply Treflan HFP immediately after a cutting between August 1 and October 1, but prior to weed germination. When fall applied, Treflan HFP controls bromegrass and cheat in addition to other labeled weeds that germinate after application.

The following weeds are controlled when Treflan HFP is applied by chemigation or surface applied and incorporated by rainfall or irrigation:

barnyardgrass	crabgrass
bromegrass	cupgrass
(cheatgrass)	foxtail
(downy brome)	junglerice
(cheat)	sandbur
(chess)	wild barley
canarygrass	

Restrictions:

- Apply no more than 4 pints of Treflan HFP during any growing season. In the growing season following application of 4 pints of Treflan HFP to alfalfa, plant only those crops for which Treflan HFP is registered as a preplant treatment or crop injury may occur.
- Do not cut or graze alfalfa within 21 days after application of Treflan HFP.

Tank Mixing

Other products registered for use on established alfalfa may be applied in tank mix combination with Treflan HFP or applied as sequential treatments following application of Treflan HFP. Tank mixes containing Treflan HFP must be applied by ground broadcast when alfalfa is dormant or semi-dormant, or immediately after a cutting.

Precautions: Follow the label Directions for Use of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the Product Information section of this label.

Alfalfa - New Seeding Establishment

This product may be applied as a preplant incorporated treatment for preemergence control of labeled weeds in direct seeded alfalfa. Apply and incorporate prior to planting.

Broadcast Application Rates:

Soil Texture	Treflan HFP (pt/acre)
Coarse	1.0
Medium	1.0 - 1.5†
Fine	1.5

†Use lower rate in rate range in areas receiving less than 20 inches of rainfall and irrigation.

Precautions: Some crop stand reduction and stunting may occur with this use of this product, however, reduced weed competition will allow establishment of a quality stand.

Asparagus - Established

Apply Treflan HFP to established asparagus as a single or split application. Treflan HFP will suppress volunteer seedling asparagus and field bindweed when applied as directed. Follow the soil preparation, application, and incorporation procedures for Treflan HFP.

Application Timing

Make applications to dormant asparagus in winter or early spring after mature ferns have been removed. Do not apply after new spears begin to emerge. Apply post-harvest applications immediately after harvest in late spring or early summer just before ferns are allowed to develop.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)	
	Split Application	Single Application
	Before and After Harvest	Before or After Harvest
coarse	1.0 + 1.0	2.0
medium	1.5 + 1.5	3.0
fine	2.0 + 2.0	4.0

- Do not apply more than 2 pints per acre on coarse soils, 3 pints per acre on medium soils or 4 pints per acre on fine soils during any calendar year.

Beans - All Dry and Fresh Beans/Peas from Crop Group 6 (Except Guar, Mungbean, Lima Bean, Snap Bean, Soybean, English Pea and Southern Pea)**Treflan HFP - Alone**

Apply and incorporate Treflan HFP in the spring before planting or in the fall in advance of spring planting. See instructions for fall application of Treflan HFP under the heading Application Timing in the Product Information section of this label.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.0 - 1.5
fine	1.5 - 2.0

- Coarse and medium soils with 2 to 5% organic matter - 1.5 pints
- Fine soils with 2 to 5% organic matter - 2 pints
- Soils with 5 to-10% organic matter - 2 pints
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Tank Mixing or Sequential Treatments

For broader spectrum weed control, other products registered for use in dry and fresh beans/peas may be applied in tank mix combination with Treflan HFP or as a sequential treatment following application of Treflan HFP. When tank mixing, use the listed rate of Treflan HFP. Follow the label Directions for Use of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the Product Information section of this label.

Beans - Guar and Mungbean

Apply Treflan HFP as a preplant soil incorporated treatment.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.5
fine	1.5

- All soils with 2 to 5% organic matter - 1.5 pints

Beans - Lima Bean and Snap Bean

Apply Treflan HFP as a preplant soil incorporated treatment.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.0
fine	1.5

- All soils with 2 to 5% organic matter - 1.5 pints

Carrot

Apply Treflan HFP as a preplant soil incorporated treatment.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.25 - 1.5
fine	1.5 - 2.0

- Coarse and medium soils with 2 to 5% organic matter - 1.5 pints
- Fine soils with 2 to 5% organic matter - 2 pints
- Soils with 5 to 10% organic matter - 2 pints
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Chemigation: Treflan HFP may be applied through properly equipped chemigation systems for weed control in carrot. Refer to Application by Chemigation section under the Application Methods section of this label for chemigation use directions. Do not apply Treflan HFP through any type of irrigation system unless these directions are carefully followed.

Celery

Apply Treflan HFP as a soil incorporated treatment. Treflan HFP may be applied to direct seeded or transplant celery before planting, at planting, or immediately after planting.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.25 - 1.5
fine	1.5 - 2.0

- Coarse and medium soils with 2 to 5% organic matter - 1.5 pints
- Fine soils with 2 to 5% organic matter - 2 pints
- Soils with 5 to 10% organic matter - 2 pints
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Chicory (*Cichorium intybus* or *Cichorium endiva*)

Treflan HFP may be applied as a preplant incorporated treatment to chicory grown either as a root crop or leafy vegetable as indicated below:

Cichorium intybus, considered to be a root crop, may yield the following:

- Chicory - the dried and processed root used as a coffee substitute.
- Radicchio - green leaves harvested from field grown plantings.
- Belgian Endive - white leaves grown in the dark; growth from field grown rootstalks.

Cichorium endiva, considered to be a leafy vegetable, may yield the following:

- Escarole - curly green leaves from field grown plantings.
- Endive - very curly green leaves from field grown plantings.

Apply Treflan HFP as a soil incorporated treatment in spring or early summer prior to planting.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.5
fine	2.0

- Coarse and medium soils with 2 to 5% organic matter - 1.5 pints
- Fine soils with 2 to 5% organic matter - 2 pints
- Soils with 5 to 10% organic matter - 2 pints

Cole Crops - Broccoli, Brussels Sprouts, Cabbage, and Cauliflower

Direct Seeded Cole Crops

Apply Treflan HFP as a preplant soil incorporated treatment.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.0
fine	1.5

- Soils with 2 to 5% organic matter - 1.5 pints

Transplanted Cole Crops

Apply and incorporate Treflan HFP prior to transplanting.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.25 - 1.5
fine	1.5 - 2.0

- Coarse and medium soils with 2 to 5% organic matter - 1.5 pints
- Fine soils with 2 to 5% organic matter- 2 pints
- Soils with 5 to 10% organic matter - 2 pints
- Use lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Direct Seeded Chinese Cabbage or Kohlrabi

Apply this product as a preplant soil incorporated treatment.

Broadcast Application Rates/Acre:

Soil Texture	Treflan HFP (pints)
Coarse	1.0
Medium	1.0
Fine	1.5

- All soils with 2-5% organic matter - 1.5 pints of Treflan HFP

Precautions:

Chinese cabbage and kohlrabi may be sensitive to this product under certain conditions.

The combined effect of certain cultural practices and unfavorable soil or environmental conditions may cause excessive crop seedling stress resulting in retarded crop growth, stand reduction, and reduced yield.

For best results, observe the following cultural practices or precautions when applying Treflan HFP.

- Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, or drought may weaken crop seedlings and increase the possibility of crop stress and damage.
- Do not exceed specified application rates. This is particularly important on coarse textured or low organic matter soils.
- Carefully follow incorporation directions.
- Use only high quality seed and plant at maximum seeding rates.

Corn - Field Corn Only**Postemergence Incorporated Treatment**

Apply Treflan HFP as a postemergence treatment following cultivation and/or use of a preemergence herbicide. Treflan HFP does not control established weeds. Apply when crop is well established (2 true leaf stage or taller). Apply as an over-the-top spray or as a directed spray using drop nozzles if foliage prevents uniform coverage of the soil surface.

Incorporation Directions

Applications of Treflan HFP must be mechanically incorporated within 24 hours. Mechanical incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. Make 3 to 5 sweeps per row with the sweep-type cultivator and operate at a speed that will

provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

Water In Option for Coarse and Medium Textured Soils: On coarse and medium textured soils, Treflan HFP may be incorporated by continuous rainfall or sprinkler irrigation amounting to at least 1/2 to 1 inch of water. Best results are obtained if application is made immediately after a cultivation when the soil surface is open and porous. Rainfall or sprinkler irrigation prior to application will tend to consolidate and seal the soil surface and prevent the downward movement of Treflan HFP that is expected under porous, open, recently tilled conditions. Supplemental irrigation can be applied through a center pivot, solid set, or hand moved sprinkler system. Do not use furrow irrigation. Mechanically incorporate as described above if the required amount of rainfall or sprinkler irrigation does not occur within 24 hours after application.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	0.75 - 1.0 ¹
medium	1.25 - 1.5
fine	1.5 - 2.0

¹Apply 1 to 1.5 pints per acre on coarse soils in Alabama, Florida, Georgia, North Carolina, South Carolina, and Virginia to control fall panicum and Texas panicum.

- Apply lower rate in rate range in areas receiving less than 20 inches total annual rainfall and irrigation.

Precautions:

- Where corn is planted in a furrow, Treflan HFP must be applied only after a cultivation to move soil into the row.

Restrictions:

- Do not apply to sweet corn, popcorn, or corn grown for seed.
- Do not apply Treflan HFP to corn as a preplant or preemergence treatment or crop injury may occur.
- Do not apply Treflan HFP within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.

Chemigation

Treflan HFP may be applied through properly equipped chemigation systems for weed control in field corn. Refer to Application by Chemigation section in the Product Information section of this label for chemigation use directions. Do not apply Treflan HFP through any type of irrigation system unless these directions are carefully followed.

Application Timing

Apply Treflan HFP in 1/2 to 1 acre inch of sprinkler irrigation when field corn is at the 2 true leaf stage of growth or taller. Apply Treflan HFP prior to weed emergence or after existing weeds have been controlled with herbicides or cultivation. Treflan HFP does not control established weeds.

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.5 - 2.0
medium	1.5 - 2.0
fine	Do not apply by chemigation to fine textured soils.

Precautions:

- Where corn is planted in a furrow, Treflan HFP should be applied only after a cultivation to move soil into the row.

Restriction:

- Do not apply Treflan HFP within 6 weeks prior to harvesting forage, fodder, or silage, or after corn is 30 inches tall.
- Do not apply Treflan HFP by chemigation to sweet corn, popcorn, or corn grown for seed.
- Do not apply Treflan HFP to corn as a preplant or preemergence treatment as crop injury may occur.

Treflan HFP + Atrazine (Alabama, Florida, Georgia, and Texas)

Treflan HFP may be applied for weed control in field corn in tank mix combination with atrazine herbicide plus an emulsifiable oil or oil concentrate when corn is from the 2-leaf stage of growth up to 12 inches tall and weeds are no more than 1 1/2 inches in height. A period of 24 to 48 hours is required to obtain atrazine postemergence activity after which the preemergence activity of the this product plus atrazine combination may be activated by 0.5 inch or more of rainfall or overhead sprinkler irrigation or mechanical incorporation.

Note: In Texas, the tank mix of this product plus atrazine may be applied only to coarse textured soils.

Incorporation Directions: Mechanical incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per row middle and be operated at a speed that will provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

Broadcast Application Rates/Acre:

Soil Texture	Treflan HFP (pints)
Coarse [†]	1.0 ^{††}
Medium	1.0 - 1.5
Fine	1.5 - 2.0

[†]In Texas, the tank mix of this product plus atrazine may be applied only to coarse textured soils.

^{††}Apply 1.5 pints/acre of this product on coarse soils to control fall panicum, pigweed and Texas panicum.

Precautions:

- Where corn is planted in a furrow, apply this product only after a cultivation to move soil into the row.
- Refer to the atrazine product label for application rates, additional use directions, precautions and limitations before use.

Restriction:

- Do not apply to sweet corn or corn grown for seed.
- Do not apply this product to corn as a preplant or preemergence treatment or crop injury may occur.

Cotton and Cottonseed**Application Timing**

Treflan HFP may be applied for weed control in cotton in the fall, in the spring before planting, after planting, but prior to crop emergence, or to established cotton up to and including layby, but no later than 90 days before harvest.

Application Directions

Treflan HFP may be applied and soil incorporated or it may be applied through chemigation (see directions for chemigation in Chemigation section below).

Follow the soil preparation, application, and incorporation procedures in the Product Information section of this label. For fall application, in addition to the directions below, refer to instructions in the Application Timing section under Product Information. For layby application, refer to instructions in the Layby Application section below.

If incorporating after planting, incorporate Treflan HFP soon after planting and set equipment so as to avoid disturbing planted cottonseed.

For band applications, reduce the application rate in proportion to the row spacing and bandwidth treated. For example, treating a 12-inch band where the row spacing is 36 inches would require 1/3 of the listed broadcast rate per acre (12 inches divided by 36 inches = 1/3).

Tank Mixing or Sequential Treatments: For broader spectrum weed control, other products registered for use in cotton may be applied in tank mix combination with Treflan HFP or as a sequential treatment following application of Treflan HFP. When tank mixing, use the listed rate of Treflan HFP. Follow the label Directions for Use of each tank mix partner for applicable use instructions including application rate, application timing, weeds controlled, and specific precautions and restrictions of product use. See detailed information for tank mixing in the Product Information section of this label.

Conventional Tillage Cotton

Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)		
	Spring Application ¹	Fall Application	
		Eastern U.S. ²	Western U.S. ³
coarse	1.0	2.0	1.5
medium	1.25 – 1.5	2.0	2.0
fine	1.5 – 2.0	2.5	2.5

¹ Spring Application:

- On coarse and medium soils with 2 to 5% organic matter use 1.5 pints per acre.
- On fine soils with 2 to 5% organic matter use 2 pints per acre.
- On all soils with 5 to 10% organic matter use 2 to 2.5 pints per acre.
- Use lower rate in rate range for areas receiving less than 20 inches of total annual rainfall and irrigation.

² Fall Application: For eastern U.S. including Alabama, Arkansas, northern Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, New Mexico, Oklahoma, South Carolina, Tennessee, and Texas.

³ Fall Application: For western U.S. including Arizona and California.

For fall application in all other states and areas not listed in the above footnotes: Apply Treflan HFP at the spring application rate, using the high rate where a range is given.

Minimum Tillage Cotton (Conservation Tillage Cotton)

Fall Application Prior to Establishing a Cover Crop

Apply Treflan HFP to flat ground at a broadcast rate of 2 to 3 pints per acre. Use the 3 pint per acre rate where crop residues are present or where dense weed populations are anticipated. Incorporate once within 24 hours using incorporation implements, such as a springtooth harrow, set to cut no more than 2 to 3 inches deep. **Do not incorporate with a tandem disc.** Form beds with disc bedders or other bedding implements that will mix and move most of the treated soil from the furrow area to the beds. Fertilizer may be applied as appropriate during incorporation operations. Plant 2 to 4 rows of a small grain cover crop, such as barley, rye or wheat, 2 inches deep in the furrow area between the beds. To avoid injury to small grain seedlings, place seed below the treated layer of soil. Barley is more tolerant to injury than wheat or rye. Existing soil moisture must be present to establish and maintain the cover crop. In late winter (February), apply 2,4-D if necessary for broadleaf weed control.

Spring Application Before or After Planting

Apply Treflan HFP as a broadcast treatment or as a band to bare ground or standing dead cover following burn-down with a postemergence herbicide. Treflan HFP may be applied and incorporated either before planting or after planting. If applied after planting, incorporate immediately and set incorporation equipment to operate at a depth that will not disturb the planted seed. If Treflan HFP is applied as a band, adapt incorporation equipment to the width of the treated band and use equipment that will uniformly mix Treflan HFP into the top 1 inch of soil. Be aware that compared to double-pass incorporation, weed control may be reduced when using single pass incorporation; or, if using equipment that does not provide thorough soil mixing.

Broadcast Application Rates per Acre for Minimum Tillage

Soil Texture	Treflan HFP (pints)
coarse	1.0 – 2.0
medium	1.5 – 2.0
fine	2.0 – 4.0

Use the lower rate in the rate range when additional sequential applications of Treflan HFP are anticipated. Use the higher rate in the rate range where crop residues are present, and where dense weed populations are anticipated.

Fall Application Prior to Planting Cotton in the Spring (Arkansas, Louisiana and Mississippi)

Apply Treflan HFP at higher specified rates as a preplant soil incorporated treatment in the fall prior to planting cotton in the spring only in Arkansas, Louisiana, and Mississippi.

Broadcast application rates for fall application prior to spring planted cotton:

Soil Texture	Treflan HFP (pints)
Coarse	2.0
Medium	2.0 - 3.0
Fine	2.5 - 4.0

Note: Use the higher rate in the rate range under conditions of abundant rainfall and mild winter temperatures.

Restriction: In the season following this treatment, plant only those crops for which this product can be applied as a preplant incorporated treatment.

Chemigation

Apply Treflan HFP in overhead sprinkler irrigation equal to 1/2 to 1 inch of water in either conventional or minimum tillage cotton. Treflan HFP must be applied within two days after planting and prior to crop emergence. Because Treflan HFP does not control established weeds, planting and application should occur as soon as possible after the last tillage operation. Soil incorporation is not required when Treflan HFP is applied through chemigation systems.

Cultivation: Soil treated by chemigation with Treflan HFP may be shallow cultivated without reducing weed control activity.

Refer to Application by Chemigation in the Product Information section of this label for use directions for chemigation. Apply Treflan HFP only through the kinds of sprinkler irrigation systems specified in that section of the label.

Broadcast Application Rates per /Acre for Chemigation

Soil Texture	Treflan HFP (pints)	
	Conventional Tillage	Minimum Tillage ¹

coarse	1.0	1.0 – 3.0
medium	1.5	1.5 – 4.0
fine	2.0	2.0 – 4.0

In minimum tillage situations, use the lower rate in the rate range when additional sequential applications of Treflan HFP are anticipated. Use the higher rate in the rate range when a large amount of crop residue is present, where dense weed populations are anticipated, or when additional sequential applications will not be made.

Rotational Crop Restrictions after Chemigation:

- **Conventional Tillage:** Refer to the rotational crop restrictions in the Use Precautions section of this label.
- **Minimum Tillage:** In addition to the rotational crop restrictions listed in the Use Precautions section of this label, do not plant grain sorghum in the year following the application of Treflan HFP.

Postemergence Soil Incorporated (Kansas, Texas, Oklahoma, and New Mexico)

Treflan HFP may be applied to cotton as a postemergence incorporated treatment from the 4-true leaf stage up to layby. Apply as a broadcast spray using ground or aerial equipment. A ground applied directed spray is recommended if cotton foliage prevents uniform coverage of the soil surface.

Incorporation Directions: This product must be mechanically incorporated within 24 hours. Mechanical incorporation may be accomplished with one pass of a sweep-type cultivator or properly adjusted rolling cultivator. The sweep-type cultivator should have 3 to 5 sweeps per row middle and be operated at a speed that will provide vigorous soil mixing. Set middle sweeps so as to avoid exposing untreated soil. Adjust incorporation equipment so as to avoid mechanical injury to the crop.

Broadcast Application Rates/Acre

Soil Texture	Treflan HFP (pints)
Coarse	0.75 - 1.0
Medium	1.0 - 1.5
Fine	1.5 - 2.0

- Coarse and medium soils with 2-5% organic matter - 1.5 pints of this product
- Fine soils with 2-5% organic matter - 2.0 pints of this product

Restrictions:

- Do not apply within 90 days of harvest.
- Treated soil may be shallow cultivated or rotary hoed without loss of herbicidal activity. To avoid bringing untreated soil to the surface and loss of weed control, do not cultivate deeper than the depth of incorporation.

Layby Application

Make layby application in established cotton after the 4 true leaf growth stage, but no later than 90 days before harvest. Apply Treflan HFP uniformly to the soil surface using drop nozzles if necessary. Incorporate into soil using one pass of a sweep-type cultivator or properly adjusted rolling cultivator. Operate cultivation equipment at speeds sufficient to provide vigorous soil mixing, and exercise care to avoid mechanical injury to the crop. Compared to conventional double pass incorporation, weed control may be reduced when using single pass incorporation, or if using equipment that does not provide thorough soil mixing. The layby application rate must not exceed the rate given in the layby table below for each soil texture.

Layby Broadcast Application Rates per Acre

Soil Texture	Treflan HFP (pints)
coarse	1.0
medium	1.5

fine	2.0
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Application Over Standing or Shredded Cotton Stalks After September 1 (California Only)

Treflan HFP may be broadcast applied, after September 1, over the top of standing cotton stalks or after shredding using ground or aerial equipment. First incorporation must occur within 24 hours after application using a disc operated at 4 to 6 mph. The second incorporation may be delayed until spring prior to bedding. To avoid dilution of the herbicide or bringing untreated soil to the surface, the treatment should not be chiseled, ripped or deep plowed following incorporation.

Special Use Programs

1. Cotton – Fall Panicum Control

Apply as a preplant incorporated treatment at a broadcast rate of 2 pints per acre on both coarse and medium soils.

2. Cotton – Pigweed and Seedling Johnsongrass Control

Apply Treflan HFP as a preplant incorporated treatment in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southeastern Missouri (Bootheel), North Carolina, South Carolina, Tennessee, and southern Virginia.

Broadcast Application Rates per Acre for Pigweed and Seedling Johnsongrass Control

Soil Texture	Treflan HFP (pints)
coarse	1.0 – 1.5
medium	1.5 – 2.0
fine	2.0

Exception: Louisiana, where 3 pints per acre can be applied to fine soils.

- Use higher rates in the rate range where high weed populations are anticipated.

3. Cotton – Additional Weed and Grass Control in Gulf Coast Counties of Texas

Apply Treflan HFP as a preplant incorporated treatment up to 2 weeks before planting in Brazoria, Calhoun, Chambers, Fort Bend, Galveston, Harris, Jackson, Jefferson, Liberty, Matagorda, Orange, Victoria, Waller, and Wharton counties of the Texas Gulf Coast.

Broadcast Application Rates per Acre in Gulf Coast Counties of Texas

Soil Texture	Treflan HFP (pints)
coarse	1.5
medium	2.0
fine	3.0

4. Cotton – Rhizome Johnsongrass Control (For use in all cotton producing states except Arizona and California)

Rhizome johnsongrass control with Treflan HFP requires maximum application rates for two consecutive years (see Broadcast Application Rates per Acre for Rhizome Johnsongrass Control below). Commercially acceptable control cannot be obtained with only one year of applying the maximum use rate of Treflan HFP. Carefully follow all special use directions.

Soil Preparation: Satisfactory results are dependent upon proper preparation of soil prior to application. Chisel plow to bring rhizomes to the soil surface. Disc twice before application to chop rhizomes into small (2 to 3 inch) pieces and destroy any recently emerged johnsongrass plants.