

264-1063

11/15/2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

NOV 15 2010

Mike See Ph.D.  
Bayer CropScience LP  
P.O. Box 12014, 2 T.W. Alexander Drive  
Research Triangle Park, NC 27709

Dear Dr. See:

Subject: Change Crop Rotation Interval and Label Revisions  
Capreno Herbicide  
EPA Registration No. 264-1063  
Submission Dated February 2, 2010

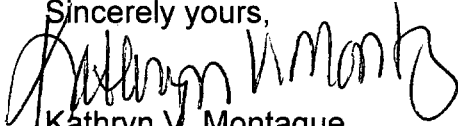
The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended is acceptable provided that you:

1. Make the labeling changes listed below before you release the product for shipment bearing the amended labeling:
  - a. In the rotation crop restrictions section of the label state that the rotation to alfalfa and oats must be delayed to 18 months when the total thien carbazonemethyl application rate from all sources exceeds 0.013 lb ai/A per season or when the soil pH is 7.5 or above.
  - b. Delete the term "General" in heading on page 3 of the labeling. This term implies that the directions and restrictions do not all have to be followed as specified on the label. We have no objection to the phrase "Product Information".
2. Submit one (1) copy of your final printed labeling before you release the product for shipment.

A stamped copy of the labeling is enclosed for your records.

If you have any questions concerning this letter, please contact Mr. James Stone at 703-305-7391. For your information enclosed are copies of the scientific reviews.

Sincerely yours,



Kathryn V. Montague  
Product Manager (23)  
Herbicide Branch  
Registration Division (7505C)

Enclosure

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GROUP 27 HERBICIDE

# CAPRENO™ Herbicide

An Herbicide for control of annual broadleaf and grass weeds in corn.

**ACTIVE INGREDIENTS:**

**Thiencarbazone-methyl:** (Methyl 4-[[[(4,5-dihydro-3-methoxy-4-methyl-5-oxo-1H-1,2,4-triazol-1-yl)carbonyl]amino]sulfonyl]-5-methyl-3-thiophenecarboxylate) \*.....5.6%

**Tembotrione:** 1,3-cyclohexanedione, 2-[2-chloro-4-(methylsulfonyl)-3-[(2,2,2-trifluoroethoxy)methyl]benzoyl] \*\*.....28.3%

**OTHER INGREDIENTS:** .....66.1%

**TOTAL:** .....100.0%

Contains the following active ingredient per gallon: 0.57 pounds Thiencarbazone-methyl and 2.88 pounds Tembotrione.

\*(CAS Number 317815-83-1) Protected by U.S. Patent No 6,486,096

\*\* (CAS Number 335104-84-2) Protected by U.S. Patent No 6,376,429

EPA Reg. No 264-1063

## KEEP OUT OF REACH OF CHILDREN CAUTION

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

For **MEDICAL** And **TRANSPORTATION** Emergencies **ONLY** Call 24 Hours A Day 1-800-334-7577  
For **PRODUCT USE** Information Call 1-800-331-2367

### FIRST AID

<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>	<p><b>ACCEPTED with COMMENTS</b> In EPA Letter Dated: NOV 15 2010</p> <p>Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No.</p> <p><u>264-1063</u></p>
<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Immediately call a poison control center or doctor for treatment advice.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>• Call a physician if irritation persists.</li> </ul>	

**NOTE TO PHYSICIAN:** No specific antidote is available. All treatments should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

Have the product container or label with you when calling a poison control center or doctor or going for treatment.

# E-SUBMISSION



M-362956-01-1

## PRECAUTIONARY STATEMENTS

### CAUTION

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Harmful if absorbed through the skin. Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants, chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride, shoes plus socks and protective eye wear. When mixing/loading or cleaning equipment, wear a chemical resistant apron in addition to the other required PPE. 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 control statement:

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

### USER SAFETY RECOMMENDATIONS

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

#### ENVIRONMENTAL HAZARDS

This product is toxic to non-target plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

This product has a high potential for runoff after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams and springs will reduce the potential for contamination of water from runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

Do not apply when conditions favor drift from treated areas.

#### Ground Water Advisory

The active ingredients in this product have properties and characteristics associated with chemicals detected in ground water. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

Capreno Herbicide contains Tembotrione, which is known to leach through soil into ground water under certain conditions as a result of labeled use.

**ENDANGERED SPECIES PROTECTION REQUIREMENTS:**

This product may have effects on federally listed threatened or endangered species or their critical habitat in some locations. When using this product, you must follow the measures contained in the Endangered Species Protection Bulletin for the county or parish in which you are applying the pesticide. To determine whether your county or parish has a Bulletin, and to obtain that Bulletin, consult <http://www.epa.gov/espp/>, or call 1-800-447-3813 no more than 6 months before using this product. Applicators must use Bulletins that are in effect in the month in which the pesticide will be applied. New Bulletins will generally be available from the above sources 6 months prior to their effective dates.

**PHYSICAL AND CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

**It is a violation of Federal law to use this product in a manner inconsistent with its labeling.  
Read entire label before using this product**

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 same area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticides. Do not drain or rinse equipment near desirable vegetation.

Avoid spray drift from treated areas. Refer to the Spray Drift Management section of this label for additional information.

Non-target plants may be adversely affected if the pesticide is allowed to drift from areas of application. To prevent damage to crops and other desirable plants, read and follow all directions and precautions on this label before using.

**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 intervals. 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.

PPE that is 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 over long-sleeved shirt and long pants, socks and shoes and chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride and protective eyewear.

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE**

**Store unused product in original container only, out of reach of children and animals. NEVER TRANSFER THIS PRODUCT TO ANOTHER CONTAINER FOR STORAGE.**

**PESTICIDE DISPOSAL**

Dispose wastes resulting from the use of this product on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL**

Non-refillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple 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. Then puncture and dispose of in a sanitary landfill.

**General Information**

This product is intended for a post emergence application in corn.

Weed growth ceases within hours after application of CAPRENO™ Herbicide. Symptoms on susceptible weed species progress from stunted growth to yellowing and bleaching to necrosis resulting in eventual plant death generally within 7 to 14 days after application.

CAPRENO™ Herbicide also contains a safener, which greatly reduces or prevents the temporary yellowing or stunting crop response associated with the contained herbicide chemistries. If symptoms appear, corn quickly outgrows the effect and develops normally.

**APPLICATION METHODS**

**Ground Application:**

1. Apply with **ground equipment only**. **DO NOT APPLY BY AIR**.
2. **DO NOT OVERLAP SPRAY PATTERNS BEYOND EQUIPMENT MANUFACTURERS RECOMMENDATIONS AS EXCESSIVE RATES MAY RESULT IN ADVERSE CROP RESPONSES.**
3. Apply CAPRENO™ Herbicide alone or in tank mixtures in a minimum of 10 gallons of spray mixture per acre. Uniform, thorough spray coverage is important to achieve consistent weed control.
4. **Keep the spray boom at the lowest possible spray height above the target surface.** Refer to the nozzle manufacturer's recommendations for proper nozzle, pressure setting and sprayer speed for optimum product performance and minimal spray drift.
5. Uneven application, sprayers not properly calibrated, or improper incorporation may decrease the level of weed control and/or increase the level of adverse crop response. Over application or boom overlapping may result in stand loss. Maintain a constant ground speed while applying this product to ensure proper distribution. **MAINTAIN ADEQUATE AGITATION AT ALL TIMES, INCLUDING MOMENTARY STOPS.**
6. **SPRAY DRIFT MANAGEMENT**
  - a. To reduce the potential of spray drift to non-target areas, apply this product using nozzles which deliver medium to **coarse spray droplets** as defined by ASAE standard S-572 and as shown in nozzle manufacturer's catalogs. Flat fan nozzles of 80° or 110° are recommended for optimum post emergence broadcast coverage. Nozzles that deliver **COARSE** spray droplets may be used to reduce spray drift provided spray volume per acre (GPA) is increased to maintain coverage of weeds. **DO NOT** use nozzles that produce **FINE** (e.g. - Cone) or **EXTRA COARSE** (e.g., Flood jet) spray droplets.
  - b. Only apply this product when the potential for drift to adjacent non-target areas is minimal (e.g., when the wind is **10 MPH or less** and is blowing away from sensitive areas). **Do not** apply during periods of temperature inversions.
  - c. To avoid potential adverse effects to non-target areas, maintain a 25 foot buffer between the point of direct application and the **closest downwind edge** of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrub lands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

**Broadcast Applications:**

Apply CAPRENO™ Herbicide broadcast in a minimum of 10 gallons of water per acre. For weed control in dense weed populations or under adverse growing conditions, apply this product in 15 to 20 gallons of water per acre. Good coverage is essential to achieve optimum weed control. **Do not** apply broadcast to corn that is more mature than the V6 stage of growth.

Typically, flat-fan nozzles operated at 30-60 PSI will deliver **MEDIUM** spray droplets, providing optimum spray coverage and canopy penetration. Lower pressure operation and/or higher volume flat fan nozzles typically deliver **COARSE** sprays. Refer to nozzle manufacturer catalogs.

- Boom height should be based on the height of the crop – at least 15 inches above the crop canopy.
- Air induction nozzles should be used at or near 80 psi to produce a medium droplet size.
- Proper agitation should be maintained within the tank to keep the product dispersed.
- See the **Spray Drift Management** section of this label for additional information on proper application of CAPRENO™ Herbicide.

**Directed Postemergence Applications:**

Directed postemergence applications of CAPRENO™ Herbicide can be made to corn through the 7-leaf collar stage of growth (V7, the first leaf has a rounded tip). Drop Nozzles must be used for applications of CAPRENO™ Herbicide after the V6 stage of growth. Do not apply to corn that is more mature than V7 stage of growth (i.e. more than 7 visible leaf collars). Applications of CAPRENO™ Herbicide on corn that is V6 up through V7 increases the potential for an adverse crop response. The risk may be greatly reduced, but not eliminated, by using drop nozzles properly placed between corn rows to optimize coverage on the weeds and minimize spray contact in the whorl and the leaf axles of the corn stalks. Use drop nozzles and appropriate spacing to direct spray below the corn whorl and upper leaves. The top of the target weed canopy must be sufficiently below the whorl and upper leaves of the crop to permit this application and provide adequate spray coverage. The height differential required between the crop and weed canopy will depend on the specific equipment used.

**Mixing Instruction**

CAPRENO™ Herbicide must be applied with clean and properly calibrated equipment. Prior to adding CAPRENO™ Herbicide, ensure that the spray tank, filters and nozzles have been thoroughly cleaned and that agitation system is properly working.

1. Fill spray tank with 50% of the required volume of water, and begin agitation.
2. Agitate the CAPRENO™ Herbicide product container by shaking, circulating, or stirring prior to adding the herbicide into the spray tank.
3. Add the appropriate amount of CAPRENO™ Herbicide slowly to the spray tank or mixing system and ensure complete dispersion. Maintain and ensure thorough dispersion and sufficient agitation during both mixing and spraying.
4. If tank mixing with another pesticide, add the tank mix product next.
5. Add nitrogen fertilizer.
6. Add the adjuvant.
7. Fill the spray tank with balance of water needed.

If ammonium sulfate (AMS) is the nitrogen fertilizer source, it is preferred that the AMS go into the tank after the CAPRENO™ Herbicide and before other tankmix partners or adjuvants.

**Compatibility**

If CAPRENO™ Herbicide is to be tank mixed with other pesticides, compatibility must be tested prior to mixing. To test for compatibility, use a small container and mix a small amount (0.5 to 1qt) of spray solution, combining all ingredients in the same ratio as the anticipated use. If any indications of physical incompatibility develop, do not use this mixture for spraying. Indications of incompatibility usually occur within 5-15 minutes after mixing. If the mixture balls-up, or forms flakes, sludges, gels, oily films or layers, or other precipitates, it is not compatible and the tank mix combination should not be used.

**TANK CLEANUP PROCEDURE**

**Cleaning Equipment After CAPRENO™ Herbicide Application**

Special attention must be given to cleaning equipment before spraying a crop other than corn. Mix only as much cleaning solution as needed.

1. Flush tank, hoses, boom and nozzles with clean water.
2. Rinse tank, hoses, boom and nozzles with a solution of 1 gallon of household ammonia per 25 gallons of water, or many commercial spray tank cleaners can be used.
3. Use a pressure washer with a high quality commercial spray tank cleaner in water to clean the inside of the spray tank. Take care to wash all parts of the tank, including the inside top surface. If a pressure washer is not available, completely fill the sprayer with the cleaning solution to ensure contact of the cleaning solution with all internal surfaces of the tank and plumbing. Start agitation in the sprayer and thoroughly recirculate the cleaning solution for at least 15 minutes. All visible deposits must be removed from the spraying system.
4. Flush hoses, spray lines, and nozzles for at least 1 minute with the commercial cleaning solution.
5. Dispose of rinsate from steps 1-3 in an appropriate manner.
6. Repeat steps 2-4.
7. Remove nozzles, screens and strainers and clean separately in the cleaning solution after completing the above procedures.
8. Rinse the complete spraying system with clean water.
9. Cleanup should be conducted on an approved rinse pad or the field site where an approved crop is to be grown.

**CROP USE DIRECTIONS**

- This product can be used as a postemergence application in field corn and field corn grown for silage for the control of annual broadleaf and grass weeds.
- Apply CAPRENO™ Herbicide at 3 fl oz of product/A per application. Always add the appropriate adjuvants to the spray tank (see Spray Additives Section of this label).
- Applications of CAPRENO™ Herbicide at rates less than 3 fl oz of product/A post emergence may result in incomplete weed control and reduction in residual activity.
- Follow all precautions and warnings for using ALS-inhibiting or Sulfonyl urea (SU) herbicides on a particular hybrid/variety.
- Corn hybrids and certain male pollenators within blended corn varieties vary in their response to CAPRENO™ Herbicide. Not all hybrids or male pollenators within blended corn varieties have been tested for sensitivity to CAPRENO™ Herbicide. You should consult with your seed provider, your local Bayer CropScience representative and/or other knowledgeable agricultural professionals for advice on tolerance of hybrids or varieties containing male pollinator lines before applying CAPRENO™ Herbicide. If the tolerance of a hybrid or variety containing male pollinator lines is not known, you should apply CAPRENO™ Herbicide to a small area to first determine if the hybrid is tolerant prior to spraying large acreages of that hybrid.
- CAPRENO™ Herbicide is for postemergence use. Best results are obtained when it is applied to young actively growing weeds. CAPRENO™ Herbicide will affect weeds that are larger than the recommended height, however it may result in incomplete weed control.
- Broadcast applications of CAPRENO™ Herbicide must be made to corn from the 1 leaf collar stage (V1, the first leaf has a rounded tip) through the 6-leaf collar stage (V6) of growth. Do not apply broadcast to corn that is more mature than the V6 stage of growth.
- Do not exceed a total of 6 fl oz of product/A of CAPRENO™ Herbicide per 365 days.
- Do not exceed a total of the following components per acre per 365 days from all sources: 0.04 pounds Thien carbazonemethyl, 0.164 pounds Tembotrione with the exception as listed below for a planned crop rotation to spring seeded alfalfa/spring oats following corn.
- For a planned crop rotation to spring seeded alfalfa/spring oats following corn, **make only one application** of CAPRENO™ Herbicide to the corn crop and **do not exceed a total of 3 fl oz of product/A per 365 day period**. The interval between application of CAPRENO™ Herbicide to corn and spring planting of the alfalfa/spring oats rotational crop must be equal to or longer than **10 months**. Refer to the "ROTATIONAL CROP RESTRICTIONS" section of this label for additional information. For this specific crop rotation, **do not exceed a total of the following components per acre per 365 days from all sources:** 0.013 pounds Thien carbazonemethyl, 0.164 pounds Tembotrione

### Field Corn/White Corn, Sweet Corn, Seed Corn and Popcorn

This product can be used as a postemergence application in field corn/white corn, seed corn, sweet corn, and popcorn for the control of annual broadleaf and grass weeds.

For sweet corn, do not exceed 3 fl oz per acre per crop of CAPRENO™ Herbicide and apply before corn exceeds the V6 growth stage.

Herbicide sensitivity in field corn/white corn, seed corn, sweet corn and popcorn in all hybrids/inbreds has not been tested. You should consult with your seed provider, your local Bayer CropScience representative, university extension specialist and/or other knowledgeable agricultural professionals about hybrid/inbred recommendations prior to making applications of CAPRENO™ Herbicide. If the tolerance of a hybrid/inbred is not known, you should apply CAPRENO™ Herbicide to a small area to first determine the hybrid/inbred's tolerance prior to spraying large acreages of that hybrid/inbred.

### SPRAY ADDITIVES

CAPRENO™ Herbicide is a suspension concentrate that requires the use of an external adjuvant and a nitrogen fertilizer source to achieve optimum weed control. For specific adjuvant recommendations with tank mixes, see the Tank Mix section of this label.

#### Crop Oil Concentrate

Use Crop Oil concentrate (COC) at 1 gallon per 100 gallons of water (1% v/v), with a minimum of 1.25 pt/A unless alternative adjuvants are specified on this label. COC should contain at least 80% crop oil and 10% emulsifier or greater. The use of adjuvants such as non-ionic surfactants or refined vegetable oils will result in unacceptable or erratic weed control. With CAPRENO™ Herbicide, the addition of high surfactant oil concentrate (HSOC) at recommended rates may substitute for the addition of COC.

#### Ammonium Nitrogen Fertilizer

Use 1.5 qt/A of a high-quality urea ammonium nitrate (UAN) or 1.5 lb/A or 8.5 lb per 100 gallons with a minimum of 1.5 lb/A of a spray-grade ammonium sulfate (AMS). Use UAN under conditions of low relative humidity for greater weed control.

### TANK MIX RECOMMENDATIONS

Certain tank mixes may aid in the performance of CAPRENO™ Herbicide. See Spray Additives section of this label for recommendations for adjuvant partners used in conjunction with CAPRENO™ Herbicide. When using CAPRENO™ Herbicide in tank mix combinations, read and follow all parts of tank mix partner labels. Follow the directions of the most restrictive tank mix partner label.

#### Atrazine

An application of CAPRENO™ Herbicide at 3 fl oz/A in combination with atrazine at 0.5 lb ai/A will increase the speed of control, weed spectrum and consistency of control for most labeled species. Do not use atrazine if corn is greater than 12 inches tall. Include adjuvants as described under the Spray Additives section of this label.

#### IGNITE® 280 SL

CAPRENO™ Herbicide at 2 fl oz/A can be tank mixed with IGNITE® 280 SL Herbicide at 22 fl oz/A. IGNITE® 280 SL Herbicide can only be used on corn seed designated as LibertyLink®. Do not use MSO/ESO or COC adjuvants in this mixture, only add AMS at 8.5 lbs/100 gallons, or a minimum of (1.5 lb/A).

#### Glyphosate (including Roundup and Touchdown branded products)

CAPRENO™ Herbicide at 3 fl oz/A can be tank mixed with Glyphosate for use on Glyphosate-tolerant corn. CAPRENO™ Herbicide will enhance control of broadleaf and glyphosate-resistant weeds, and will reduce glyphosate induced weed shifts. CAPRENO™ Herbicide should be added to the water in the tank and dispensed first prior to adding ammonium sulfate, glyphosate or any other pesticide or adjuvant. Follow all other directions on the glyphosate label regarding adjuvants and mixing instructions with loaded (adjuvant-containing) formulations of glyphosate. When tankmixing CAPRENO™ Herbicide with full use rates of a loaded glyphosate formulation, the addition of a glyphosate-compatible surfactant is recommended. When tank mixing CAPRENO™ Herbicide with full use rates of a low loaded or unloaded Glyphosate formulation, the addition of a glyphosate-compatible surfactant is required. Glyphosate-compatible oil-based surfactants such as HSOC's will optimize the performance of CAPRENO™ Herbicide in the combinations. Only glyphosate-compatible oil-based surfactant (such as HSOC) may be used when tank mixing CAPRENO™ Herbicide plus reduced rates of glyphosate (loaded or unloaded formulations) or when applying tank mixtures of CAPRENO™ Herbicide plus glyphosate (loaded or unloaded formulations) under arid climatic conditions.

#### Buctril® and equivalent bromoxynil products

To aid in the control of certain broadleaf weeds (e.g. ragweeds), CAPRENO™ Herbicide at a rate of 3.0 fl oz/A can be tank mixed with Buctril at a rate up to 6 fl oz/A. Buctril can be used in place of atrazine in corn that is greater than 12 inches tall, which is the corn height limit for the use of atrazine. The use of crop oil concentration (COC) plus an ammonium nitrogen fertilizer as described in the Spray Additives section of this label is recommended with tank mixture of CAPRENO™ Herbicide and Buctril.

### USE RESTRICTIONS AND PRECAUTIONS

1. DO NOT apply CAPRENO™ Herbicide with liquid fertilizers as the primary spray carrier. Only apply with water as the primary spray carrier plus recommended adjuvants. See spray adjuvants section.
2. DO NOT apply this product by air or through any type of irrigation system.
3. Apply CAPRENO™ Herbicide spray mixtures within 24 hours of mixing to avoid product degradation.
4. CAPRENO™ Herbicide is rainfast 1 hour after application to most weed species.
5. DO NOT apply more than two applications of CAPRENO™ Herbicide to field corn in one growing season.
6. Allow at least 14 days between applications of CAPRENO™ Herbicide.
7. Do not apply CAPRENO™ Herbicide to corn that exhibits injury from previous herbicides applications.



- 8. When weeds are stressed due to drought, heat, lack of fertility, flooding, or prolonged cool temperatures control can be reduced or delayed because weeds are not actively growing. To obtain optimum weed control apply of CAPRENO™ Herbicide when weeds are actively growing and follow all other label directions for use.
- 9. Weed control may be reduced if the application is made when weeds are dust covered or in the presence of heavy dew, fog, and mist/rain or when weeds are under stress due to drought.
- 10. Avoid spray drift from treated areas. Refer to the Spray Drift Management section of this label for additional information.
- 11. Tank contamination can cause severe damage to other crops. Careful management of tank clean out is required. See Tank Cleanout section for complete instructions.
- 12. DO NOT apply CAPRENO™ Herbicide within 45 days of grazing livestock or harvesting corn forage.
- 13. Field corn (yellow dent) can be planted immediately after an application of CAPRENO™ Herbicide. Other rotational crops can be planted as instructed in the rotational crop restrictions portion of this label.

### INSECTICIDE INTERACTION INFORMATION

#### Soil applied insecticide interaction information

When CAPRENO™ Herbicide and organophosphate (OP) insecticides are applied to corn, the degradation of CAPRENO™ Herbicide is slower and corn injury can result. DO NOT USE CAPRENO™ Herbicide in the same season as Lorsban®15G, Counter® 15G, Counter® 20G, Dyfonate®, and Thimet®.

For all corn hybrids, the following table describes the uses of soil applied insecticides prior to an application of CAPRENO™ Herbicide:

Soil Applied Insecticide	Use Pattern	Use of CAPRENO™ Herbicide in the Same Season
Aztec®, Regent®, Tefluthrin ( e.g. Force®)	All	No use precautions
Chlorpyrifos ( e.g. Lorsban® 15G), Terbufos ( e.g. Counter® 15G, Counter® 20CR), Phorate ( e.g. Thimet®), Fonophos ( e.g. Dyfonate®)	All	Do Not Use

#### Foliar Insecticide Interaction Information

Foliar applications of an organophosphate or carbamate insecticide should not be made within 7 days of an application of CAPRENO™ Herbicide or crop injury may result.

#### Tank Mixtures for Insect Control

To provide weed and insect control in corn, CAPRENO™ Herbicide may be mixed with Baythroid® XL or Oberon® insecticides. Other insecticides that are not organophosphates or carbamates may be effective when mixed with CAPRENO™ Herbicide but have not been evaluated for compatibility in the spray tank or on the crop and should be tested in small quantities and on small areas before large scale use.

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## WEEDS CONTROLLED BY CAPRENO™ HERBICIDE

CAPRENO™ Herbicide effectively controls the following broadleaf weeds including biotypes resistant to glyphosate, triazines and growth regulant herbicides when applied at 3 fl oz of product/A along with the recommended adjuvant system. Best control of broadleaf weeds is achieved when weeds are less than 6" in height and actively growing. The addition of atrazine at a minimum of 0.5 lb ai/A will enhance the speed of control, weed spectrum, and consistency of control of many broadleaf weeds, and improve control of weeds larger than 6" in height.

### Broadleaf Weeds Controlled

Broadleaf Weeds	CAPRENO™ Herbicide 3 fl oz/A	CAPRENO™ Herbicide 3 fl oz/A + atrazine min. 0.5 lb ai/A
	Control of weeds <6 " tall	
Amaranth, Palmer	C	C
Amaranth, Powell	C	C
Amaranth, spiny	C	C
Amaranth, tumbleweed	C	C
Buckwheat, wild	PC	C
Buffalobur	PC	C
Burcucumber	PC	PC
Canada thistle	S	C
Carpetweed	C	C
Chickweed, common	C	C
Cocklebur, common	C	C
Dandelion	PC	PC
Deadnettle, purple	C	C
Dock, curly	PC	PC
Galinsoga	C	C
Hemp	C	C
Henbit	C	C
Jimsonweed	C	C
Knotweed, prostrate	PC	PC
Kochia	C	C
Ladysthumb	C	C
Lambsquarter, common	C	C
Mallow, Venice	C	C
Marestail/Horseweed	PC	C
Morningglory, cotton	PC	C
Morningglory, ivyleaf	PC	C
Morningglory, pitted	PC	C
Mustard, wild	C	C
Nightshade, black	C	C
Nightshade, Eastern black	C	C
Nightshade, hairy	C	C
Pigweed, redroot	C	C
Pigweed, smooth	C	C
Pokeweed, common	PC	PC
Potato, volunteer	C	C
Purslane, common	PC	C
Pusley, Florida	C <sup>1</sup>	C <sup>1</sup>

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Broadleaf Weeds	CAPRENO™ Herbicide 3 fl oz/A	CAPRENO™ Herbicide 3 fl oz/A + atrazine min. 0.5 lb ai/A
	Control of weeds <6 " tall	
Ragweed, common	C	C
Ragweed, giant	C	C
Sesbania, hemp	C	C
Shepherd's purse	C	C
Sicklepod	PC	C
Sida, prickly (teaweed)	PC	C
Smartweed, pale	C	C
Smartweed, Pennsylvania	C	C
Sunflower, common	C	C
Thistle, Russian	C	C
Velvetleaf	C	C
Waterhemp, common	C	C
Waterhemp, tall	C	C

C=Control

PC=Partial Control<sup>2</sup>

NC= Not controlled

<sup>1</sup>Apply before weed exceeds 2 inches in height.

<sup>2</sup>Partially controlled weeds will be stunted in growth and/or be reduced in number as compared to non-treated areas; performance may not be commercially acceptable. The degree of weed control will vary with weed size, density, spray coverage, and/or growing conditions.

**Grass Weeds Controlled**

CAPRENO™ Herbicide effectively controls the following grass weeds when applied at 3 fl oz/A. The best control of grass weeds is achieved prior to tillering and actively growing.

**Grass Weeds Controlled**

Grass Weeds	CAPRENO™ Herbicide 3 fl oz/A		CAPRENO™ Herbicide 3 fl oz/A + atrazine min. 0.5 lb ai/A	
	Maximum Weed Height (inches)	Performance	Maximum Weed Height (inches)	Performance
Barnyardgrass	5	C	6	C
Crabgrass, large	3	C	3	C
Crabgrass, smooth	2	PC	2	PC
Cupgrass, woolly	3	C	4	C
Foxtail, giant	3	C	3	C
Foxtail, green	2	C	2	C
Foxtail, yellow	3	C	3	C
Goosegrass	3	C	4	C
Johnsongrass, seeding	5	C	6	C
Junglerice	4	C	5	C
Millet, wild proso	6	C	6	C
Panicum, fall	5	C	5	C
Panicum, Texas	3	C	4	C
Sandbur, field	2	C	2	C
Shattercane / volunteer sorghum	12	C	12	C
Signalgrass, broadleaf	5	C	5	C
Wild Oat	6	C	6	C

C = Control

PC = Partial control

**Cultivation**

Cultivation can help remove partially controlled weeds or multiple flushing weeds. Cultivation can be made at least 7 days before, or after, an application of CAPRENO™ Herbicide.

**Late or Rescue Applications**

Applications of CAPRENO™ Herbicide at 3 fl oz/A may be applied to escaped weeds beyond labeled weed heights. In these situations, partial control and reduced weed competition can be expected. Do not apply CAPRENO™ Herbicide broadcast to corn beyond the V6 stage of growth.

Yield loss due to competition: Research indicates competition from foxtail (*Setaria* spp.) exceeding 4 inches in height may reduce corn yields. Delayed applications to foxtail and other weeds that exceed 4 inches in height or the sizes stated on this label increases the risk of yield loss due to prolonged competition with the crop even though control may be acceptable.

### ROTATIONAL CROP RESTRICTIONS

Rotational crops vary in their response to low concentrations of CAPRENO™ Herbicide remaining in the soil. The amount of CAPRENO™ Herbicide that may be present in the soil depends on soil moisture, soil temperature, application rate, elapsed time since application and other environmental factors. When CAPRENO™ Herbicide is used in combination with other products, always follow the most restrictive rotational crop requirements.

The following rotational crops may be planted after applying CAPRENO™ Herbicide in Corn:

Minimum plant back intervals for various crops following CAPRENO™ Herbicide

Rotational Interval (elapsed time)	Crop	Minimum precipitation requirement <sup>1</sup>
0 Months <sup>2</sup>	Field corn (yellow dent)	None
4 Months <sup>2</sup>	Wheat	None
10 Months <sup>2</sup>	Barley, Soybean, Cotton, White corn <sup>3</sup> , Sweet corn <sup>3</sup> , Popcorn <sup>3</sup> , Sorghum <sup>3,4</sup> , Spring Oats, Spring Seeded Alfalfa <sup>3,5</sup>	15 inches of cumulative precipitation from application to planting of rotational crop
18 Months <sup>3</sup>	Alfalfa, Green and Dry Beans, Oats, Sunflower, Canola, Potato, Sugar beet and All other crops	30 inches of cumulative precipitation from application to planting of rotational crop

<sup>1</sup> The amount of cumulative precipitation required before planting a rotational crop is in addition to the required rotational interval given in months. Furrow or flood irrigation should not to be included in total. No more than 7 inches of overhead irrigation should be included in total.

<sup>2</sup> Crop varieties planted back at intervals of one year or less should not have known acute sensitivity to ALS-inhibiting and/or SU herbicides.

<sup>3</sup> When soil pH is 7.5 or above crop plant back should be delayed to the next interval, and to 24 months for crops listed in the 18 month interval above.

<sup>4</sup> Rotation to sorghum should be delayed to the next interval when the total seasonal rate of CAPRENO™ Herbicide exceeds 3.0 fl oz per acre or the total from all sources of Thien carbazole-methyl exceeds 0.014 pounds of active ingredient per acre per season.

<sup>5</sup> For a planned crop rotation to spring seeded alfalfa/spring oats following corn, make only one application of CAPRENO™ Herbicide to the corn crop and do not exceed a total of 3 fl oz of product/A per 365 day period. The interval between application of CAPRENO™ Herbicide to corn and spring planting of the alfalfa/spring oats rotational crop must be equal to or longer than 10 months. When soil pH is 7.5 or above, crop plant back should be delayed to the next interval.

### OTHER CROPS

All other crops may be seeded only after the completion of a successful field bioassay after a CAPRENO™ Herbicide application. Refer to the "Field Bioassay" section.

### FIELD BIOASSAY

A field bioassay must be completed before rotating to crops other than those specified in the Rotational Guidelines section of this label. To conduct an effective field bioassay, grow strips of the crops you intend to grow in the following season in a field previously treated with CAPRENO™ Herbicide. The test strip should include low areas and knolls and included variations in soil such as type and pH. Crop response to the bioassay will determine if the crop(s) grown in the test strips can be grown safely in the areas previously treated with CAPRENO™ Herbicide.

### RESISTANCE MANAGEMENT

Naturally occurring biotypes of certain weed species with resistance to ALS-inhibiting herbicides are known to exist. However, CAPRENO™ Herbicide contains two modes of action, and there are no known instances of cross resistance between tembotrione (HPPD inhibitor) and other classes of herbicides, or modes of action. Performance of CAPRENO™ Herbicide is only affected by the presence of biotypes resistant to ALS herbicides and not controlled by tembotrione. Performance of CAPRENO™ Herbicide is not affected by the presence of weed biotypes resistant to glyphosate, triazines or growth regulant herbicide modes of action.

To manage the development and spread of resistant weed populations, use herbicides with different modes of action in tank mixture, sequence or rotation, and in conjunction with alternate cultural practices.

### Integrated Pest (Weed) Management

CAPRENO™ Herbicide may be integrated into an overall weed and pest management strategy whenever the use of an herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

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**IMPORTANT: READ BEFORE USE**

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**NET CONTENTS:** 2.5 gallons

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