

10163-196

03/29/2011

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

OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

MAR 29 2011

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

Subject: Label Amendment (delete residential uses)  
Betasan 4E Selective Herbicide  
EPA Reg. No. 10163-196  
Application Dated July 2, 2010  
Resubmission Dated March 9, 2011

Dear Ms. Hengl:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

A stamped copy of your label is enclosed for your records. This label supersedes all previously accepted labels. You must submit one (1) copy of the final printed label before you release the product for shipment. Products shipped after eighteen (18) months from the date of this letter or the next printing of the label, whichever occurs first, must bear the new revised label. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA §6(e). Your release for shipment of the product constitutes acceptance of these conditions.

If you have any questions, please contact Mindy Ondish at (703) 605-0723 or at [ondish.mindy@epa.gov](mailto:ondish.mindy@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis".

Kable Bo Davis  
Product Manager 25  
Herbicide Branch  
Registration Division (7505P)

# Betasan™ 4E Selective Herbicide

Selective Herbicide for Preemergent Control of CRABGRASS and ANNUAL BLUEGRASS in GOLF COURSE TURF

<b>ACTIVE INGREDIENT:</b>	<b>% By Wt.</b>
Bensulide: S-(O,O-Diisopropyl phosphorodithioate) ester of N-(2-mercaptoethyl) benzenesulfonamide.....	46.4%
<b>OTHER INGREDIENTS</b> .....	<b>53.6%</b>
This product contains petroleum distillates.	

TOTAL 100.0%

This product contains 4 pounds active ingredient per gallon.  
**KEEP OUT OF REACH OF CHILDREN**  
**CAUTION**

**ACCEPTED**

MAR 29 2011

FIRST AID Organophosphate Herbicide		Under the Federal Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. <u>10163-196</u>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>Call poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>	
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>	
<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>	
<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. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>	
<b>HOT LINE NUMBER</b>		
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-228-5635 EXT. 283 for emergency medical treatment information.		
<b>NOTE TO PHYSICIAN</b>		
This product is an organophosphate herbicide. If symptoms of cholinesterase inhibition are present, atropine by injection is antidotal. 2-PAM is also antidotal and may be administered, but only in conjunction with atropine. This product may pose an aspiration pneumonia hazard. This product contains petroleum distillates.		

**PRECAUTIONARY STATEMENT**  
**Hazards To Humans & Domestic Animals**  
**CAUTION**

Harmful if swallowed or absorbed through the skin. Avoid breathing spray mist. Causes moderate eye irritation. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling and before eating or smoking. Wash all contaminated clothing with soap and hot water before reuse. Avoid contamination of food, feed, or water supplies.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

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

**Mixers and loaders must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate or viton ≥ 14 mil
- Shoes plus socks
- In addition, a NIOSH-approved dust-mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any N, R, P, or HE filter.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical resistant gloves such as barrier laminate or viton ≥ 14 mil
- Shoes plus socks
- In addition to the above, for hire applicators (non golf course employees) must wear a NIOSH approved half-mask respirator equipped with a combination of organic vapor cartridges and HE or P-100 particulate filters. The approval number is (TC-23C-XX) or a NIOSH approved respirator with any N, R, P, or HE filter (due to the risk from repeated exposures) when applying this product to golf courses.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

**NET CONTENTS \_\_\_\_\_ GALLONS**



**ENGINEERING CONTROLS**

When handlers use closed systems or enclosed cabs, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40CFR 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.

**ENVIRONMENTAL HAZARDS**

This chemical is toxic to fish and aquatic invertebrates. 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 contaminate water when disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift from the treated area.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

This product may impair reproduction in birds if used during the breeding season.

**PHYSICAL OR CHEMICAL HAZARDS**

Combustible. Do not use, store, pour or spill near heat or open flame. Keep container closed when not in use.

**DIRECTIONS FOR USE**

**USE RESTRICTIONS**

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

**IMPORTANT: THIS PRODUCT WILL NOT WORK UNLESS IT IS WATERED IN FOR 10-15 MINUTES. FOR SAFETY REASONS, WATER THIS PRODUCT IN AS SOON AS POSSIBLE FOLLOWING APPLICATION FOR 10-15 MINUTES AND DO NOT ALLOW CHILDREN OR PETS ON TREATED AREAS UNTIL DRY FOLLOWING THE WATERING.**

**WATERING-IN MUST BE PERFORMED BY THE COMMERCIAL APPLICATOR.**

- Do not apply this product in a way that will contact workers or other persons.
- For use only on golf courses (greens, tees and bentgrass fairways only).
- Do not use on parks, recreational areas, or other public sites.
- Applications on bentgrass fairways are limited to the following states: OH, PA, NY, MI, CT, MA, IN, IL, NJ, WV, MN, WI, VT, NH, RI, DE, MD, VA). Applications on bentgrass fairways may only be made in the Fall and are limited to one application per year.
- Applications to greens and tees are limited to two per year
- This product may only be broadcast applied by groundboom or by low pressure/high volume turfgun. This product may be applied by low pressure handwand for spot treatments only.
- Read all directions before using. Mix well before diluting with water. BETASAN 4E SELECTIVE HERBICIDE may only be used for the purposes listed on the label. Do not exceed the rates specified on the label. (Do not overdose).
- Use BETASAN 4E SELECTIVE HERBICIDE on mineral soils only. Do not apply peat moss to turf grasses before treating with BETASAN 4E SELECTIVE HERBICIDE.
- Do not use in greenhouses.
- Do not apply this product through any type of irrigation system.
- Keep unprotected persons out of treated areas until sprays have dried.

BETASAN 4E SELECTIVE HERBICIDE is registered for use on golf courses for control of crabgrass, annual bluegrass and other annual weeds listed.

Application of BETASAN 4E SELECTIVE HERBICIDE must precede the emergence of weeds from the soil. Crabgrass will emerge from the soil from 4 to 6 weeks before it is visible above turf grass sod. If weeds are visible above the soil, it is too late to apply BETASAN 4E SELECTIVE HERBICIDE.

Remove leaves, dead tall grass, and other debris before applying BETASAN 4E SELECTIVE HERBICIDE to golf course turf areas. Any weeds present around ornamentals must be removed or worked into the soil before applying BETASAN 4E SELECTIVE HERBICIDE.

BETASAN 4E SELECTIVE HERBICIDE must be watered into the soil immediately after application. Irrigate with 1/2 to 1 inch of water following the herbicide application to established turf grasses.

**WEEDS CONTROLLED**

Annual Bluegrass	Fall Panicum	Lambsquarters
Barnyardgrass	Foxtails	Redroot Pigweed
(Watergrass)	Goosegrass	Shepherdspurse
Deadnettle (Henbit)	Hairy Crabgrass	Smooth Crabgrass

**TIMING OF APPLICATION**

The most effective program for control of crabgrass, goosegrass, annual bluegrass and other annual weeds is one specifically designed for local conditions. Two applications per year may be necessary, using the specified rates given below for a particular weed problem. For additional information regarding timing and rate of application, consult weed specialists of the State Agricultural Extension Service or the State Agricultural Experiment Station.

**TURF GRASSES:** Apply BETASAN 4E SELECTIVE HERBICIDE to the following well established golf course turf grasses.

Bahiagrass	Red Top	St. Augustinegrass
Bentgrass spp.	Pensacola Bahiagrass	Zoysiagrass
Perennial Buegrass spp.	Perennial Ryegrass	
Bermudagrass spp.	Rough Stalk Bluegrass	

**PRODUCT INFORMATION**

For control of crabgrass, apply BETASAN 4E SELECTIVE HERBICIDE at the specified rate (see RATES OF APPLICATION) any time from fall (September or October) through early spring for spring and summer control. With a late winter or an early spring application, the application must be made prior to crabgrass emergence (see GENERAL INFORMATION).

For control of annual bluegrass and other annual weeds, apply BETASAN 4E SELECTIVE HERBICIDE at the specified rate (see RATES OF APPLICATION) before weeds emerge from the soil.

Where germination of crabgrass, annual bluegrass and other annual weeds extends into the late summer and early fall, a second application of BETASAN 4E SELECTIVE HERBICIDE at the specified rates should be made 4 to 5 months after the initial application.

BETASAN 4E SELECTIVE HERBICIDE may only be broadcast applied by groundboom or by low pressure/high volume turfgun. This product may be applied by low pressure handwand for spot treatments only. Immediately following this herbicide application, irrigate thoroughly by applying 1/2 to 1 inch of water.

**RATES OF APPLICATION**

Apply a maximum of 6 1/4 gallons (50 pints) of BETASAN 4E SELECTIVE HERBICIDE per acre (18 fluid ounces per 1,000 square feet) per year in two applications depending on the weed species and degree of infestation.

If weed specialists are unavailable to provide specific local recommendations, follow these directions:

**CRABGRASS ONLY:** Apply 1 7/8-2 1/2 gallons of BETASAN 4E SELECTIVE HERBICIDE per acre with spray volumes of 80-100 gallons per acre. Or, apply 15-20 pints of BETASAN 4E SELECTIVE HERBICIDE per acre with spray volumes of 80-100 gallons per acre. Or, apply 5.6-7.3 fl. oz. of BETASAN 4E SELECTIVE HERBICIDE per 1,000 sq. ft. with spray volumes of 1.8-2.5 gallons per 1,000 sq. ft. Immediately following this herbicide application, irrigate thoroughly by applying 1/2 to 1 inch of water.

**ANNUAL BLUEGRASS AND OTHER ANNUAL WEEDS:** Apply 3 1/8 gallons of BETASAN 4E SELECTIVE HERBICIDE per acre with spray volumes of 80-100 gallons per acre. Or, apply 9.4 fl. oz. of BETASAN 4E SELECTIVE HERBICIDE per 1,000 sq. ft. with spray volumes of 1.8-2.5 gallons per acre.

When a weed program involves two applications of BETASAN 4E SELECTIVE HERBICIDE for crabgrass, goosegrass and bluegrass, the rate of application may be reduced. The rates are 1 7/8-2 1/2 gallons of product per acre, or 15-20 pints of product per acre, or 5.6-7.3 fl. oz. of product per 1,000 sq. ft. Use the higher rate for heavier infestations.

**RESEEDING**

Any material that provides effective control of annual grasses may affect new turf grass seedlings, which germinate after treatment. Proper fertilization and watering will encourage the existing turfgrass to fill in the thin or bare spots formerly occupied by crabgrass. The following procedures are suggested in order to minimize any stunting of turf grasses, which may occur when reseeding into BETASAN 4E SELECTIVE HERBICIDE-treated areas:

1. Do not re-seed within 4 months after application.
2. Renovate the area to be re-seeded by raking thoroughly to scarify the soil surface. Where practical, mix peat in with the soil to provide an optimum seedbed.
3. When turf diseases or physiological disorders necessitate reseeding sooner than 4 months after BETASAN 4E SELECTIVE HERBICIDE application, apply powdered activated charcoal prior to reseeding to deactivate the BETASAN 4E SELECTIVE HERBICIDE.
4. Apply the activated charcoal at a rate of 7 pounds in 14 gallons of water per 1,000 square feet (300 pounds in 600 gallons of water per acre).
5. Following application, irrigate the turf with sufficient water to wash the charcoal into the soil.
6. Re-seed no sooner than 7 days after applying the charcoal.

**STORAGE & DISPOSAL**

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

**PESTICIDE STORAGE:** Protect from temperatures below 42°F. Product crystallizes at lower temperatures. Warm or store at higher temperatures and mix to re-dissolve crystals and assure uniformity before use. Do not store near sources of heat or open flame. Store in original container in locked storage area. Keep pesticides separate during storage to prevent cross-contamination with other pesticides or fertilizers.

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

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. 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 drop. 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 offer for recycling, if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK OR FIRE), CALL CHEMTREC® (800) 424-9300.  
For other product information, contact Gowan Company or see Material Safety Data Sheet.**

**NOTICE OF CONDITIONS OF SALE AND WARRANTY AND LIABILITY LIMITATIONS**

**Important:** Read the entire Directions for Use and Notice of Conditions of Sale and Warranty and Liability Limitations before using this product. If terms are not acceptable return the unopened container for a full refund.

Our directions for use of this product are based on tests believed to be reliable. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, inadequate performance, or other unintended consequences may result due to soil or weather conditions, off target movement, presence of other materials, method of use or application, and other factors, all of which are beyond the control of Gowan Company. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer and User.

Gowan Company warrants that his product conforms to the specifications on the label when used in strict conformance with Direction for Use, subject to the above stated risk limitations. GOWAN COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, GOWAN COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, GOWAN COMPANY'S EXCLUSIVE LIABILITY FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, OR ANY OTHER LEGAL THEORY IS STRICTLY LIMITED TO THE PURCHASE PRICE PAID OR REPLACEMENT OF PRODUCT, AT GOWAN COMPANY'S SOLE DISCRETION.

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