

19713-388

7/21/2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

Mr. Scott Pace  
Drexel Chemical Company  
P.O. Box 13327  
Memphis, TN 38113-0327

JUL 21 2011

Dear Mr. Pace,

RE: YOUR ADMINISTRATIVE LETTERS ALL DATED JUNE 22, 2011; AMENDED CSF'S AND LABELS FOR END-USE PRODUCTS WITH EPA REG. NOS. 19713-85, 19713-265, AND 19713-388

The Basic CSF, and Alternate Formulations # 1 and # 2, all dated June 22, 2011, for DREXEL DEFOL 6 (EPA Reg. No. 19713-85) and DREXEL DEFOL 6W (EPA Reg. No. 19713-265) are approved, and replace all prior Basic and Alternate CSF's . The draft amended labels for DEFOL 6 (Coded 265SP-0611\*P) and DREXEL DEFOL 6W (Coded 85SP-0611\*P) are Acceptable Without Comment.

The Basic CSF dated 11/3/2010, and accepted February 2, 2011 for DEFOL 5 (EPA Reg. No. 19713-388), and the Alternate CSF, dated June 22, 2011 are approved, and replace all prior Basic and Alternate CSF's. The draft amended label for this product is Accepted Without Comment.

Product shipped using the revised CSF's must be accompanied by the labeling Accepted Without Comment approved in this submission. Please provide one copy of the final printed labeling for each product before shipment. For additional assistance in this matter, please contact Phil Errico at 703-305-6663/ [errico.philip@epa.gov](mailto:errico.philip@epa.gov) .

Sincerely,

A handwritten signature in black ink, appearing to read "Kable Bo Davis", with a long horizontal flourish extending to the right.

Kable Bo Davis PM 25  
Herbicide Branch/Registration Division 7505P

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**ACCEPTED**  
JUL 21 2011  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 19713-388



# Defol 5

Defoliant/Desiccant with Fire Retardant

<b>ACTIVE INGREDIENT:</b>	
Sodium chlorate.....	42.3%
<b>OTHER INGREDIENTS:</b> .....	57.7%
<b>TOTAL:</b> .....	100.0%

This product contains 5 pounds of Sodium chlorate per gallon.

## KEEP OUT OF REACH OF CHILDREN CAUTION

See FIRST AID Below

EPA Reg. No. 19713-388  
EPA Est. No. 19713-XX-XXX

Net Content: \_\_\_\_\_

FIRST AID	
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• 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>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious or convulsing person.</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 to 20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For information on this pesticide product (including health concerns, medical emergencies or pesticide incidents), call the National Pesticide Information Center at 1-800-858-7378.	

**Manufactured By:**  
**DREXEL CHEMICAL COMPANY**  
P.O. Box 13327  
Memphis, TN 38113-0327

Defol, Surf-AC, Peptoil and the Drexel logo are trademarks or registered trademarks of Drexel Chemical Company.

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are made of any waterproof material such as polyethylene or polyvinyl chloride. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

**All mixers, loaders, applicators, and other handlers must wear:** Long-sleeved shirt and long pants, shoes, and socks.

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.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

See engineering controls for additional requirements.

**Enclosed Cockpits/Cabs:** Applicators must use an enclosed cockpit or enclosed cab that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(6)].

## USER SAFETY RECOMMENDATIONS

**Users should:** 1) Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) 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

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 when weather conditions favor drift from areas treated. Do not contaminate water when disposing of equipment washwater or rinsate.

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product through any type of irrigation system. 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 (WPS), 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, 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 (REI). The requirements in this box only apply to uses of this product that are covered by the WPS.

Do not enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the WPS and that involves contact with anything that has been treated, such as plants, soil or water is: Coveralls, shoes and socks, and chemical-resistant gloves made of any waterproof material.

## APPLICATION

DEFOL 5 may be applied by aircraft or ground equipment. It is essential that the foliage be thoroughly covered. The specified dilution rates should be carefully observed. A non-ionic surfactant such as Surf-Ac® 820 or an emulsifiable crop oil such as Peptoil™ may enhance the results. This product should not be mixed with insecticides or other organic materials, unless specifically recommended, because a fire or explosion may result.

Precautions should be taken to avoid having spray or spray drift contact adjacent crops or desirable vegetation or they may be defoliated. Equipment should be washed before and after use and care should be taken so that product does not dry in tank or on spray nozzles. Washwater should not be allowed to contact desirable vegetation.

**When using this product under dry land conditions, injury may occur to rotational crops.**

## SPRAY DRIFT MANAGEMENT

A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

### Wind Speed

Do not apply at wind speeds greater than 15 mph.

### Droplet Size

Apply as a medium or coarser spray (ASAE Standard 572).

### Temperature Inversions

If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height.

Do not make applications into areas of temperature inversions or stable atmospheric conditions.

### Other State and Local Requirements

Applicators must follow all state and local pesticide drift requirements regarding application of sodium chlorate. Where states have more stringent regulations, they must be observed.

### Equipment

All application equipment must be properly maintained and calibrated using appropriate carriers or surrogates.

### Additional Requirements for Aerial Applications

1. The boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter.
2. Release spray at the lowest height consistent with efficacy and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.
3. When applications are made with a crosswind, the swath must be displaced downwind. The applicator must compensate for this displacement at the up and downwind edge of the application area by adjusting the path of the aircraft upwind.

### Additional Requirement for Groundboom Application

Do not apply with a nozzle height greater than 4 feet above the crop canopy.

## DEFOLIATION

Ideally, defoliation is favored on clear, calm, sunny days with high temperatures and high humidity. If rain is anticipated within 24 hours, application should be delayed whenever possible. Defoliation may be slowed when daytime temperatures are below about 60°F and with some crops, especially with vigorous varieties, regrowth can occur.

In order to obtain acceptable defoliation results, the crop must be fully mature. In most cases, the signs of maturity include:

1. A slight discoloration of the foliage is apparent, often with a yellowish or reddish tinge.
2. Vegetative growth has slowed or ceased, with little or no secondary growth.
3. A slight downward pull on a leaf gives a clean break from the stalk.

Adequate fertility, ample soil moisture, good insect control and good weed control also favor defoliation. Plants which have been under stress as from drought or insect pressure give less reliable results because tough, wilted or damaged leaves do not permit the proper uptake of the chemical and tend to inhibit the formation of an abscission layer. Typically, under such circumstances, the leaves are desiccated but do not drop, which in turn, often causes problems with excessive trash during harvesting. For crops where there is a heavy canopy of foliage, obtaining thorough coverage is sometimes difficult. Whenever practical, the use of ground equipment should be considered. The higher dilution rates should be used and any other available methods employed which will assure that the plants are completely covered all the way to the bottom leaves. If coverage is incomplete, a second application may be necessary in order to defoliate the lower leaves and to prevent secondary growth.

## DESICCATION

When the objective is to reduce crop moisture or to desiccate weeds prior to harvest, most of the points discussed under "DEFOLIATION" are applicable. Incomplete coverage will give erratic results, especially with vines such as Morningglory where the slender stems may be sheltered from the spray by the crop canopy, leaving the vines succulent and tough so they will become entangled in the harvesting machinery. Once again, larger spray volume will encourage more complete coverage and more reliable desiccation.

## CROPS

Crop	Rate Per Acre (qts.)	Water (gals.)
Chili peppers	4 to 10	Air: 5 to 15 Ground: 20 to 40
SPECIFIC DIRECTIONS: Apply 10 days before harvest. To be used on Peppers for processing only. Consult a processor before applying.		
Corn	4.8	Air: 5 to 7 Ground: 10 to 20
SPECIFIC DIRECTIONS: Use as a harvest aid to desiccate trashy weeds in early maturing Corn. Apply at least 14 days before anticipated harvest date. Use the low dilution rates when weeds are small and the crop canopy is fairly open. Desiccation of Morningglory and other vines may be erratic. DO NOT graze treated fields or feed fodder, forage or residual grain within 14 days of application.		
Cotton	2.4 to 4.8	Air: 5 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: <b>Air Application</b> – Apply this product in sufficient water to make 4 to 10 gals. total solution per acre. Use the lower rate when plants and weather conditions are ideal for defoliation. Swath width should not exceed wingspread. Altitude and speed of aircraft should be regulated to give sufficient spray coverage. DO NOT apply during periods of excessive winds as spray may drift and cause defoliation of adjoining Cotton or injury to other crops. DO NOT apply during the very high temperatures found in some areas at midday. <b>Ground Application</b> – Apply this product in sufficient water to make 15 to 30 gals. total solution per acre. Cotton defoliants should be applied when 70% of the bolls are open. Poor defoliation often occurs under unfavorable weather, soil moisture, fertility and plant conditions. Uniform defoliation within a field may sometimes be difficult to obtain because of irregular plant maturity. Satisfactory defoliation within a field may not be obtained when Cotton plants are suffering from lack of moisture or when plant growth is retarded by cold weather. Apply by air or ground at least 7 days before crop harvest. <b>USE RESTRICTIONS:</b> DO NOT apply more than 4.8 quarts of this product per acre per application. A maximum of one application per year is permitted, except in California, where a maximum of two applications is permitted. DO NOT graze treated areas or feed gin waste to livestock. Flush out equipment with water after each day's work.		
Dry beans	4.8	Air: 5 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: Thorough coverage is essential. Make application 7 to 10 days before anticipated harvest, longer if temperatures are cool. DO NOT graze treated fields or feed treated fodder or forage to livestock.		
Flax	4.8	Air: 5 (min.) Ground: 10 (min.)
SPECIFIC DIRECTIONS: Use as a harvest aid to desiccate trashy weeds and to reduce moisture in the mature crop. Apply 7 to 10 days before anticipated harvest date. Thorough coverage is essential. Activity of the spray will be enhanced by the addition of a good, nonionic surfactant at the rate of 1 quart per 100 gals. of spray. DO NOT graze treated fields or feed treated foliage and fodder for 14 days after application.		

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<b>Crop</b>	<b>Rate Per Acre (qts.)</b>	<b>Water (gals.)</b>
Grain sorghum	3.6 to 4.8	Air: 4 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: To reduce the moisture content of the grain while the crop is standing, apply 7 to 10 days before harvest. Thorough coverage is essential. Use the lower rates when grain moisture is low and the weather is clear and dry. Use the higher rate when conditions for desiccation are poor.		
Guar beans	4.8	Air: 5 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: Make application 7 to 10 days before anticipated harvest date. DO NOT graze treated fields or feed treated fodder or forage to livestock.		
Potatoes	4.8	Air: 5 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: To defoliate plants and facilitate harvest, apply 10 days before harvest. DO NOT apply under conditions of extreme heat during the middle of the day.		
Rice	3.6 to 4.8	Air: 5 (min.) Ground: 10 to 20
SPECIFIC DIRECTIONS: Use to facilitate harvest and reduce moisture in the fully mature seed heads and to desiccate immature Red rice in mature White rice. Use the lower rate when crop conditions and weather are right to enhance rapid drying. Apply 7 to 10 days before anticipated harvest. To avoid drift, do not apply during windy weather. Thorough coverage of the crop is essential to achieve good results. DO NOT graze treated fields or feed treated straw or crop residues within 14 days of application.		
Safflower	4.8	Air: 5 to 10 Ground: 20 to 30
SPECIFIC DIRECTIONS: Use to facilitate harvest and reduce moisture in fully mature seed heads. Apply 7 or more days before normal harvest when Safflower heads are fully mature. DO NOT graze treated fields or feed treated forage.		
Southern peas	4.8	Air: 5 to 10 Ground: 10 to 20
SPECIFIC DIRECTIONS: Make application 7 to 10 days before anticipated harvest, longer if temperatures are cool. Thorough coverage is essential. DO NOT graze treated fields or feed treated fodder or forage to livestock.		
Soybeans	4.8	Air: 5 (min.) Ground: 20 (min.)
SPECIFIC DIRECTIONS: Use as a harvest aid to dry weeds in early maturing Soybeans and to facilitate the harvest. Make application 7 to 10 days before anticipated harvest date when beans are mature and ready for harvest. DO NOT graze treated fields or feed treated forage.		
Sunflowers	4.8	Air: 5 to 10 Ground: 20 to 30
SPECIFIC DIRECTIONS: Use to facilitate harvest and reduce moisture in fully mature seed heads. When using ground application, apply with a high clearance sprayer. Make application 7 or more days before normal harvest when Sunflower heads are fully mature. DO NOT apply later than 7 days before harvest. DO NOT graze treated fields or feed treated forage within 14 days of application.		
Wheat	4.8	Air: 5 (min.) Ground: 10 (min.)
SPECIFIC DIRECTIONS: Use as desiccant on Wheat. DO NOT apply more than 4.8 quarts per acre. DO NOT harvest wheat within 3 days of application.		

### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Storage should be under lock and key and secure from access by unauthorized persons and children. Storage should be in a cool, dry area away from any heat or ignition source. Do not stack over 2 pallets high. Move containers by handles or cases. Do not move containers from one area to another unless they are securely sealed. Keep container tightly sealed when not in use. Keep away from any puncture source. Avoid storage near water supplies, food, feed and fertilizer to avoid contamination. Store in original containers only. Unloading storage and work areas must be as clean, as possible to prevent contamination if spilled. If concentrate or spray solution is allowed to dry on flammable objects, the chlorate component can act as oxidizer. If the contents are leaking or material is spilled, follow these steps:

1. Contain spill. Absorb with a material such as sawdust, clay granules or dirt.
2. Collect and place in suitable containers for disposal.
3. Wash area with soap and water to remove remaining pesticide.
4. Follow washing with clean water rinse.
5. Clothing contaminated with chlorate solution must be removed at once before solution dries. Dried contaminated clothes can be ignited easily. Wash contaminated clothing immediately.
6. Do not allow runoff to enter sewer or contaminate water supplies.
7. Dispose of waste as indicated below:

**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 (rigid material; less than 5 gallons):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container 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 one-fourth 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. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid material; 5 gallons or greater):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse a follows: Empty the remaining contents into application equipment or a mix tank. Fill the container one-fourth 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. Dispose of empty container in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Refillable Containers:** 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 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

### WARRANTY—CONDITIONS OF SALE

OUR DIRECTIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically directed and other influencing factors in the use of this product are beyond the control of the Seller. To the extent consistent with applicable law, Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. To the extent consistent with applicable law, in no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.