


70506-78

9/12/2006

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Please read instructions on reverse before completing form

Form Approved, OMB No. 2070-0060, Approval expires 5-31-98

 <b>United States</b> <b>Environmental Protection Agency</b> Washington, DC 20460	<input type="checkbox"/> Registration	OPP Identifier Number
	<input type="checkbox"/> Amendment	<b>275009</b>
	<input checked="" type="checkbox"/> Other	

**Application for Pesticide - Section I**

1. Company/Product Number 70506-78	2. EPA Product Manager Tompkins	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) United Phosphorus, Inc/Break-UP 50 WP	PM # 25	
5. Name and Address of Applicant (Include ZIP Code) United Phosphorus, Inc. 423 Riverview Plaza Trenton, NJ 08611  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> In accordance with FIFRA Section 3(c)(3) (b)(i), my product is similar or identical in composition and labeling to: EPA Reg No. _____ Product Name _____	

**Section - II**

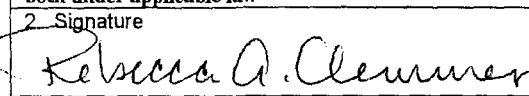
<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____	<b>NOTIFICATION</b>  <b>SEP 12 2006</b>
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application	
<input checked="" type="checkbox"/> Notification - Explain below	<input type="checkbox"/> Other - Explain below	

**Explanation:** Use additional page(s) if necessary. (For Section I and Section II.)  
 Notification of change in primary brand name.  
 This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

**Section III**

1. Material This Product Will be Packaged in:						2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Metal	<input type="checkbox"/> Plastic	<input type="checkbox"/> Glass	<input type="checkbox"/> Paper
<b>*Certification must be submitted</b>		If "Yes" Unit Packaging wgt.	No. per container	If "Yes" Package wgt.	No. per container	<input type="checkbox"/> Other (Specify) _____	
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container			4. Size(s) Retail Container		5. Location of label directions <input type="checkbox"/> On Label <input type="checkbox"/> On Label accompanying product		
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled				<input type="checkbox"/> Other _____			

**Section IV**

1. Contact Person (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Rebecca A. Clemmer		Title Regulatory Affairs Manager		Telephone No. (Include Area Code) 609-392-8200	
<b>Certification</b>					6. Date Application Received  <b>(Stamped)</b>  SJC
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law					
2. Signature 		3. Title Regulatory Affairs Manager			
4. Typed Name Rebecca A. Clemmer		5. Date August 16, 2006			

**RESTRICTED USE PESTICIDE**

Because pronamide has produced tumors in laboratory animals, this product is for retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

## Break-UP™ 50 WP

### A Selective Herbicide in Water-Soluble Pouches for Control of Grasses and Certain Broadleaf Weeds

Break-UP 50 WP may be used on the following:

- Artichoke (Globe)
- Blackberry/Boysenberry/Raspberry
- Blueberry
- CRP Established Grass Stands
- CRP Fallow Land
- Fallow Land
- Grasses (Ornamental)
- Alfalfa, Clover, Birdsfoot Trefoil, Crown Vetch, Sainfoin
- Lettuce/Endive/Escarole/Radicchio Greens
- Rhubarb
- Apple, Apricot, Cherry, Grape, Nectarine, Peach, Pear, Plum, Prune
- Winter Peas
- Woody Ornamentals, Nursery Stock of Ornamentals, Christmas Trees

**ACTIVE INGREDIENT:**

Pronamide: 3,5-dichloro-N-(1,1-dimethyl-2-propynyl) benzamide .....	51.0%
<b>OTHER INGREDIENTS:</b> .....	49.0%
<b>TOTAL:</b> .....	100.0%

**Keep Out of Reach of Children**

### CAUTION

<b>FIRST AID</b>	
<b>If swallowed:</b>	<ul style="list-style-type: none"> <li>• Call a 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.</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>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. Contact the National Pesticide Information Center 1-800-858-7378 for emergency medical treatment information.	
For CHEMICAL EMERGENCY: Spill, leak, fire, exposure or accident, call CHEMTREC 1-800-424-9300.	

See inside label booklet for additional PRECAUTIONARY STATEMENTS

EPA Reg. No. 70506-78

EPA Est. No.

United Phosphorus, Inc.  
423 Riverview Plaza, Trenton NJ 08611  
1-800-247-1557 • [www.upi-usa.com](http://www.upi-usa.com)

Net Weight:

**PRECAUTIONARY STATEMENTS**  
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**  
**CAUTION**

Harmful if swallowed, inhaled, or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

- Coveralls over short-sleeved shirt and short pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- Chemical-resistant apron when cleaning equipment, mixing or loading

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.

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 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**

Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate water when cleaning equipment or 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. 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 24 hours.

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 over short-sleeved shirt and long pants
- Waterproof gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure

### NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are not within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

For all uses except those specified below, do not enter or allow others to enter until sprays have dried. When applied to stadium or professional athletic fields, water in immediately after application or do not enter or allow others to enter treated area for 24 hours after application. If product is watered-in after treatment, do not enter or allow other persons to enter until area has dried.

### GENERAL INFORMATION

Break-UP 50 WP is a wettable powder herbicide packaged in a one-pound water-soluble pouch. This product is soil active herbicide that controls a wide range of grasses and certain broadleaf weeds through uptake by sensitive weeds occurring via the roots.

#### USE PRECAUTIONS

- Hand sprayers may be used to apply Break-UP 50 WP to ornamentals and nursery stocks of ornamentals ONLY.
- DO NOT apply this product through any type of irrigation system except as described in this label for use on lettuce, endive, escarole and radicchio greens grown in Riverside and Imperial Counties in the State of California and in Arizona.

#### WEEDS CONTROLLED

Break-UP 50 WP provides preemergence and early postemergence control of chickweed and winter annual and perennial grasses as well as preemergence only control of certain other broadleaf weeds and grasses listed below:

##### Both Preemergence and Early Postemergence:

Barley, Foxtail [ <i>Hordeum jubatum</i> ]	Goatgrass, Jointed [ <i>Aegilops cylindrical</i> ]
Barley, Volunteer [ <i>Hordeum vulgare</i> ]	Oat, Volunteer [ <i>Avena sativa</i> ]
Bentgrass [ <i>Agrostis spp.</i> ]	Oat, Wild [ <i>Avena fatua</i> ]
Bluegrass, Annual [ <i>Poa annua</i> ]	Orchardgrass [ <i>Dactylis glomerata</i> ]
Bluegrass, Bulbous [ <i>Poa bulbosa</i> ]	Quackgrass [ <i>Agropyron repens</i> ]
Bluegrass, Kentucky [ <i>Poa pratensis</i> ]	Rye, Volunteer [ <i>Secale cereale</i> ]
Brome, Downy (Cheatgrass) [ <i>Bromus tectorum</i> ]	Ryegrass, Italian [ <i>Lolium multiflorum</i> ]
Chickweed, Common [ <i>Stellaria media</i> ]	Ryegrass, Perennial [ <i>Lolium perenne</i> ]
Chickweed, Mouse-ear [ <i>Cerastium vulgatum</i> ]	Velvetgrass [ <i>Holcus lanatus</i> ]
Fescue, Tall [ <i>Festuca arundinaceae</i> ]	Wheat, Volunteer [ <i>Triticum aestivum</i> ]

**Preemergence Only:**

Barnyardgrass [*Echinochloa crus-galli*]  
 Canarygrass [*Phalaris canariensis*]  
 Carpetweed [*Mollugo verticillata*]  
 Crabgrass, Large [*Digitaria, sanguinalis*]  
 Dodder, Field [*Cuscuta campestris*]  
 Foxtail, Yellow [*Setaria lutescens*]  
 Goosefoot, Nettleleaf [*Chenopodium murale*]  
 Goosegrass [*Eleusine indica*]  
 Henbit [*Lamium amplexicaule*]  
 Knotweed, Prostrate [*Polygonum aviculare*]  
 Lambsquarters, Common [*Chenopodium album*]  
 Lovegrass [*Eragrostis diffusa*]  
 Mallow, Little (Cheeseweed) [*Malva parviflora*]

Morningglory, Annual [*Ipomoea purpurea*]  
 Mustard, Wild [*Brassica kaber*]  
 Nettle, Burning [*Urtica urens*]  
 Nightshade, Black [*Solanum nigrum*]  
 Nightshade, Hairy [*Solanum sarachoides*]  
 Panicum, Fall [*Panicum dichotomiclorum*]  
 Purslane, Common [*Portulaca oleracea*]  
 Radish, Wild [*Raphanus sativus*]  
 Rocket, London [*Sisymbrium irio*]  
 Shepherdspurse [*Capsella bursa-pastoris*]  
 Smartweed, Pale [*Polygonum lapathifolium*]  
 Sorrel, Red (from seed) [*Rumex acetosella*]  
 Tomato, Volunteer [*Solanum esculentum*]

**APPLICATION RATES**

Refer to the specific crop use directions below for recommended application rates. All recommended rates listed in this label are in terms of pounds Break-UP 50 WP per broadcast acre. For banded application, the amount of Break-UP 50 WP used per acre should be reduced according to the following formula:

$$\frac{\text{Band Width (inches)}}{\text{Row Width (inches)}} \times \text{Broadcast Rate (per Acre)} = \text{Band Application Rate (per Acre)}$$

**APPLICATION TIMING**

Unless specific directions to the contrary are indicated below, apply Break-UP 50 WP when temperatures do not exceed 55°F but prior to soil freeze-up in the fall or early winter. For best results, apply Break-UP 50 WP preemergence to the weeds and activate the product by rainfall or irrigation to move the product into the root zone of the germinating weeds.

**SPRAY MIX PREPARATION AND APPLICATION**

Thoroughly mix Break-UP 50 WP in clean water using the concentration recommended below for the specific use.

**Ground Applications:** Apply using a conventional low-pressure herbicide sprayer equipped with flat fan nozzles that are spaced and calibrated to deliver 20 - 50 gallons of spray per acre unless otherwise directed in this label.

**Aerial Applications:** Apply in a coarse droplet spray at 5 - 10 gallons per acre unless otherwise directed in this label. Be sure to accurately calibrate the spray equipment prior to each use.

**COMPATIBILITY WITH OTHER PESTICIDES**

Break-UP 50 WP is compatible with most commonly used adjuvants, crop oil concentrates and other agricultural pesticides. When preparing tank mixes with other products, the user should consult their State Cooperative Extension Service Specialists or spray compatibility charts before actual use.

**Note Regarding Boron and Crop Oil Concentrates:** When Break-UP 50 WP is used with boron and/or crop oil concentrates, the water-soluble pouches must be *completely* dissolved before adding spray oils or products containing boron to the spray mixture.

## EFFECTS OF SOIL TYPE, TEMPERATURE AND MOISTURE ON EFFICACY

The herbicidal activity of Break-UP 50 WP is primarily through root absorption and rain, melting snow or irrigation following an application is **essential** to move Break-UP 50 WP into the root zone of germinating weeds.

At the rates recommended in this label, Break-UP 50 WP is most active in coarse to medium textured soils with low organic matter content and relatively inactive in peat or muck soils or mineral soils that are high in organic matter content.

This product works best in soils containing less than 4 percent organic matter. Incomplete or inconsistent weed control may result if this product is used in soils with more than 4 percent organic matter.

Break-UP 50 WP remains relatively stable with little loss of herbicidal activity when soil temperatures are below 55°F. Degradation of the active ingredient takes place as soil temperatures increase, and Break-UP 50 WP may degrade rapidly if left exposed on the soil surface in warm weather. Break-UP 50 WP should be incorporated into the top 2-3 inches of the soil or watered into the soil as soon as possible if it is applied when air temperatures exceed 85°F.

## CROPPING PRACTICE CONSIDERATIONS

Clean cultivation before application is preferred, but not required. Because trash-free areas create ideal conditions for rapid movement of Break-UP 50 WP into the weed root zone following rain or irrigation, for best results apply Break-UP 50 WP to a trash-free soil surface.

## ROTATION CROP PLANTING INFORMATION

Follow the directions given below when rotation crops will be planted to areas previously treated with Break-UP 50 WP.

Waiting Period in Days Before Planting the Crops Indicated (1,2):

Amount of Break-UP 50 WP Applied/Planted Acre	Root and Tuber Vegetables	Legume Vegetables and Cotton	Brassica Leafy Vegetables, Cucurbits, Fruiting Vegetables and Bulb Vegetables	Other Leafy Vegetables
1.0 lb	90	90	90	30
2.0 lb	90	90	120	30
3.0 lb	90	120	180	30
4.0 lb	90	150	210	30

(1) Fields may be rotated to cereal grains 12 months following application of Break-UP 50 WP.

(2) There are no plant-back restrictions for Break-UP 50 WP when rotating to artichokes, grapes, berry fruits, pome fruits or stone fruits.

Whether Break-UP 50 WP is bed-topped, banded or broadcast, the beds should be knocked down and field cross-disced before rotation crops other than artichokes, lettuce, endive, radicchio or escarole are planted.

Whether the Break-UP 50 WP treatment is to be followed by a rotation crop within 180 days of application, bed-topped or banded applications are suggested.

### **SPRAY DRIFT MANAGEMENT (AERIAL APPLICATION)**

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

The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $3/4$  the length of the wingspan or rotor.
2. Nozzles must always point backwards parallel with the airstream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, they should be observed.

The applicator should be familiar with and take into account the information covered in the Aerial Drift Reduction Advisory Information.

### **AERIAL DRIFT REDUCTION ADVISORY INFORMATION**

The most effective way to reduce drift potential is to apply large droplets. The best 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).

#### **CONTROLLING DROPLET SIZE:**

- Volume – Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure – Use the lower spray pressures recommended for the nozzle. Higher pressure reduces droplet size and does not improve canopy penetration. 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 backwards, parallel to the airstream will produce larger droplets than other orientations. 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 downwind. 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 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. The presence of inversion conditions can be indicated by ground fog. However, if fog is not present, the movement of smoke from a ground source or an aircraft smoke generator can also identify inversion conditions. 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).

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**ARTICHOKE (GLOBE)  
(CALIFORNIA ONLY)**

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**Break-UP 50 WP** may be applied to either established (ratoon) or transplanted globe artichokes for preemergence control of the following weeds:

Barley, volunteer	Bluegrass, annual	Chickweed, common	Chickweed, mouse-ear
Foxtail, yellow	Goosefoot, nettleleaf	Henbit	Knotweed, prostrate
Mallow, little (cheeseweed)	Mustard, wild	Nettle, burning	Nightshade, hairy
Oat, volunteer	Oat, wild	Ryegrass, Italian	Wheat, volunteer

**Use Precautions**

- DO NOT make more than 2 applications (one to the artichoke row and one to the untreated soil between the rows) per season.
- DO NOT apply more than 4.0 lb/acre active ingredient (8.0 lb/acre of Break-UP 50 WP) to established artichokes or more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) to newly transplanted artichokes broadcast application, or make more than one "in-row" application per season.
- DO NOT harvest artichokes within 60 days of final application.
- Use of Break-UP 50 WP is not recommended on highly organic or muck soils because herbicidal activity is significantly reduced.
- Use of Break-UP 50 WP on Artichokes is not recommended if using Furrow Irrigation or rainfall is not dependable after making the application.
- If artichokes will be discontinued on a field that has been treated with Break-UP 50 WP and within one year a rotational crop planted, be sure to refer to Rotational Crop Planting Information in the GENERAL INFORMATION section of this label prior to planting.

**Application Rates**

Established Ratoon:           4.0 lbs / broadcast acre for sandy soils, sandy loams and silt loams.  
   8.0 lbs / broadcast acre for silt, silty clay loams, clay loams and clay soils.



Newly Transplanted Crowns: 4.0 lbs / broadcast acre for all soil types except peat and muck soils.

### Application Instructions

Break-UP 50 WP may be applied by aircraft or ground sprayer.

**Ground:** Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 20 to 50 gallons of water per acre. Reduce dosage and volume accordingly for banded treatments (see Application Rates in the GENERAL INFORMATION section at the beginning of this label). Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

**Aerial:** Being sure to avoid spray drift to all other crops and non-target areas, apply the recommended amount of Break-UP 50 WP in a minimum of 10 gallons of water per acre.

For effective weed control, natural rainfall or supplementary overhead irrigation must occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate the field with 1 - 2 inches of water.

### Specific Instructions for Established Ratoon Artichokes

Apply Break-UP 50 WP in a banded treatment over the crop row at the rate of 4.0 - 8.0 pounds of product per broadcast acre (see Application Rates above for recommended rates based on soil type). For best results, Break-UP 50 WP should be applied before new artichoke leaves are greater than 14 to 16 inches long and preemergence to the weeds.

A second application of Break-UP 50 WP may be applied later in the season at the same rate using a banded treatment directed to the untreated soil surface between the artichoke rows after the ditching operation is completed but at least 60 days prior to harvest.

### Specific Instructions for Transplanted Artichoke Crowns

Apply Break-UP 50 WP in a banded treatment over the crop row at the rate of 4.0 pounds of product per broadcast acre (see Application Rates above for recommended rates based on soil type). For best results, Break-UP 50 WP should be applied after transplanting crowns but before the artichoke shoots have developed 3-4 new leaves and preemergence to the weeds.

A second application of Break-UP 50 WP may be applied later in the season at the same rate using a banded treatment directed to the untreated soil surface between the artichoke rows after the ditching operation is completed but at least 60 days prior to harvest.

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### GRASSES (ORNAMENTAL)

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Break-UP 50 WP provides preemergence and postemergence control of annual bluegrass (*Poa annua*) in warm season grasses and the removes perennial rye grass (*Lolium perenne*) from warm season grasses during spring transition. This product may only be used on turf grown for seed, or sod or on non-residential sites including golf courses, industrial and office building sites, stadium fields or professional athletic fields.

NOTE: Warm season grasses include: ornamental bermudagrass (*Cynodon dactylon*), Zoysiagrass, St. Augustinegrass, and Centipedegrass or bermudagrass grown for seed. Application to other types of grasses may cause injury or death of the grass.

### Use Precautions

- DO NOT apply Break-UP 50 WP to dichondra, perennial bluegrass, annual and perennial ryegrasses, fescue and bentgrasses.
- Do not apply this product on turf that has been weakened by weather-, pest-, disease-, chemical- or mechanical-related stress or turf injury may result.

- Unless deactivation is planned (see below), do not apply Break-UP 50 WP to areas that are to be overseeded with susceptible cool season grasses within 90 days of treatment.
- Do not graze treated areas and do not feed clippings to livestock.
- Do not apply more than one application of Break-UP 50 WP per season and do not apply Break-UP 50 WP at rates higher than 3.0 pounds of product (1.5 pounds active ingredient) per acre.
- Avoid spraying on hill sides, fairways, or approaches that may drain onto bentgrass greens or to areas overseeded with sensitive cool season grasses.

#### Deactivation for Overseeding

An application of an activated charcoal such as Gro-Safe® is necessary when reseeding sooner than 90 days following the application of Break-UP 50 WP. For control of emerged annual bluegrass allow at least 14 days between the Break-UP 50 WP application and the charcoal application. Apply the activated charcoal at the rate of 10 pounds per 1,000 sq. ft. and reseed no sooner than seven days following the charcoal application.

#### ANNUAL BLUEGRASS (*Poa Annua*) CONTROL

Break-UP 50 WP may be applied to control annual bluegrass from pre-germination and seedling stages through tillering, heading and seed formation. Following the application of Break-UP 50 WP, annual bluegrass will transition from dark green to yellow and then die over a 3 to 5 week period.

#### Application Rates

Apply 1.0 - 3.0 pounds of Break-UP 50 WP per acre broadcast application. The growth stage of annual bluegrass at the time of application determines the rate required. Refer to the following table for recommended rates:

Annual Bluegrass Growth Stage	Break-UP 50 WP Lbs. per Acre Broadcast Application
Preemergence or early postemergence	1.0 - 2.0 <sup>†</sup>
Postemergence – early tillering to heading	1.5 - 2.0
Postemergence – seed forming stages	2.0 - 3.0

<sup>†</sup> Use the higher rate when longer preemergence residual control is desired.

#### Application Instructions

Follow the instructions in the GENERAL INFORMATION section at the beginning of this label.

If no rainfall occurs within 24-48 hours of the application, a light overhead irrigation should be made to move the chemical into the weed zone. Avoid heavy irrigations of more than 1 inch to reduce the possibility of excess washing or leaching of the chemical from the area of application.

#### REMOVAL OF PERENNIAL RYE GRASS FROM WARM SEASON GRASSES

To control the transition from cool season overseeded to warm season grasses, apply Break-UP 50 WP postemergent to perennial rye grass in the spring. Perennial rye grass will gradually die over a 4 - 6 week period after application of Break-UP 50 WP, with the length of this transition dependent upon environmental factors such as mowing height of the turf, temperature and rainfall.

#### Use Precautions

- Avoid spraying on fairways or approaches that may drain onto bentgrass greens or to areas overseeded with sensitive cool season grasses.
- Injury may result if an application of a wetting agent for the purpose of frost protection or soil penetration to greens or tees is made 14 days prior to or after a Break-UP 50 WP application.

#### Application Rates

Use 1.0 - 2.0 pounds of Break-UP 50 WP per acre.

**Application**

Because application of Break-UP 50 WP to dormant warm season grasses can slow greenup, for best results apply to warm season grasses at 50% greenup.

Apply the recommended amount of Break-UP 50 WP in 20 - 50 gallons of water per acre (0.5 - 1 gallons of water per 1,000 sq. ft.) using a low- pressure ground sprayer equipped with flat fan nozzles.

A light overhead irrigation should be made to move the chemical into the weed zone if no rainfall occurs within 24-48 hours of the application. To reduce the possibility of excess washing or leaching of the chemical from the area of application, avoid heavy irrigations of more than 1 inch.

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**BLACKBERRY / BOYSENBERRY / RASPBERRY  
(OREGON AND WASHINGTON ONLY)**

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Break-UP 50 WP may be applied to established boysenberries, blackberries, and raspberries in the fall and winter for preemergence and postemergence control of winter annual and perennial grasses.

**Use Precautions**

- Do not apply more than 3.0 lb/acre active ingredient (6.0 lb/acre Break-UP 50 WP) or make more than one application Break-UP 50 WP per season.
- Newly transplanted blackberries, boysenberries and raspberries should be well rooted and transplanted for at least 3 months prior to the application of Break-UP 50 WP.

**Application Rates**

Use 2-6 pounds of Break-UP 50 WP per acre as indicated in the table below:

Weeds Controlled	Application Rate (lbs. per acre) <sup>†</sup>	Comments
Bluegrass, annual	2.0 - 4.0	Use lower rates on light to medium soils and higher rates on heavy soils.
Quackgrass	4.0 - 6.0	
Ryegrass, perennial	4.0 - 6.0	

<sup>†</sup> Rates are in pounds of Break-UP 50 WP per acre broadcast application. Refer to Application Rates in the GENERAL INFORMATION section at the beginning of this label for rate conversions for banded applications.

**Application Instructions**

Apply Break-UP 50 WP only during the fall or winter months with best results occurring in November or December. Do NOT make applications when the ground is frozen or covered with snow. Apply the recommended rate of Break-UP 50 WP in 20 - 50 gallons of water per acre using a low pressure ground sprayer.

For effective weed control, natural rainfall or supplementary overhead irrigation must occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

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**BLUEBERRY**

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Break-UP 50 WP may be applied to established blueberries for both preemergence and postemergence control of chickweed and winter annual and perennial grasses and preemergence only control of broadleaf weeds.

**Use Precautions**

- Do not apply more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) or make more than one application of Break-UP 50 WP per year.

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Break-UP 50 WP

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- Do not apply Break-UP 50 WP to newly transplanted blueberries until roots are well established.

**Application Rates**

To control annual bluegrass, downy brome (cheatgrass), chickweed, wild oat or red sorrel (from seed): apply 2.0 pounds of Break-UP 50 WP per acre.

To control bentgrass, Kentucky bluegrass, tall fescue, orchardgrass, quackgrass, perennial ryegrass or velvetgrass: apply 4.0 pounds of Break-UP 50 WP per acre.

NOTE: Rates are in pounds of Break-UP 50 WP per acre broadcast application. Refer to Application Rates in the GENERAL INFORMATION section at the beginning of this label for rate conversions for banded applications.

**Application Instructions**

Apply Break-UP 50 WP as a single application in the fall or early winter months. Do NOT make applications when the ground is frozen or covered by snow. Apply the recommended rate of Break-UP 50 WP in 20 – 50 gallons of water per acre using a low pressure ground sprayer.

For effective weed control, natural rainfall or supplementary overhead irrigation MUST occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

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**CONSERVATION RESERVE PROGRAM - ESTABLISHED GRASS STANDS  
(IDAHO, OREGON AND WASHINGTON ONLY)**

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Break-UP 50 WP will provide preemergence and postemergence control (or suppression) of winter annual grasses in established grass stands on land that is currently enrolled in the USDA's Conservation Reserve Program (CRP). Break-UP 50 WP will of the following weeds when used according to labeled directions:

- |                    |                    |
|--------------------|--------------------|
| Bluegrass, bulbous | Goatgrass, jointed |
| Brome, downy       | Rye, cereal        |

When used as recommended, the following grass species have been found to be tolerant to Break-UP 50 WP:

- |                     |                          |                     |
|---------------------|--------------------------|---------------------|
| Fescue, tall        | Foxtail, creeping        | Orchardgrass        |
| Wheatgrass, crested | Wheatgrass, intermediate | Wheatgrass, slender |
| Wheatgrass, tall    | Wheatgrass, western      |                     |

NOTE: Slight growth suppression of these grass species may occur in the spring following a Break-UP 50 WP application.

**Use Precautions**

- Use of Break-UP 50 WP under this label is restricted to those CRP acres that have a stand of grass of the species specified in this label that has been established for a minimum of 1 year.
- Any CRP acreage (including those acres treated with Break-UP 50 WP) cannot be grazed or the hay cut for feed.
- For any plant-back restrictions not covered under the CRP agreement refer to the ROTATION CROP PLANTING INFORMATION section at the beginning of this label.
- Do not apply more than 2.0 lb/acre active ingredient (0.4 lb/acre of Break-UP 50 WP) or make more than one application of Break-UP 50 WP per year.

**Application Rate**

Apply Break-UP 50 WP at a rate of 0.4 pounds per acre.

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Break-UP 50 WP

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**Application Instructions**

For best results, apply Break-UP 50 WP between mid-October and mid-December to achieve optimum herbicidal activity. Poor weed control may result if applications are made outside these dates.

Ground: Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 10 to 20 gallons of water per acre. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

Aerial: Being sure to avoid spray drift to all other crops and non-target areas, apply the recommended amount of Break-UP 50 WP in a minimum of 5 - 10 gallons of water per acre using a coarse-droplet spray.

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**CONSERVATION RESERVE PROGRAM - FALLOW LAND  
(IDAHO, OREGON AND WASHINGTON ONLY)**

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Break-UP 50 WP may be used on fallow land to provide preemergence and postemergence control of the following weeds when used according to labeled directions:

Barley, volunteer	Brome, downy (cheatgrass)	Rye, volunteer
Bluegrass, bulbous	Goatgrass, jointed	Wheat, volunteer

Provided that the planting date occurs after August 15 of the year following the Break-UP 50 WP application, all grass species recommended for use as a cover crop in the Conservation Reserve Program can be planted back to fallow land treated with Break-UP 50 WP.

NOTE: This product may only be applied to summer fallow land that will be planted back to grass cover crops for soil erosion or other conservation purposes the following year.

**Use Precautions**

- Strictly follow the Break-UP 50 WP use rates and plant-back restrictions in this label or severe injury to following rotation crops may occur.
- Weed control will be reduced if fallow land is tilled in the fall prior to or after the application of Break-UP 50 WP.
- After treatment of fallow land with Break-UP 50 WP, do not plant any grass species until after August 15 of the year following the application.
- Do not apply more than 0.5 lb/acre active ingredient (1.0 lb/acre Break-UP 50 WP) or make more than one application of Break-UP 50 WP per year.

**Application Rate**

Apply Break-UP 50 WP in a single application at a rate of 0.5 to 1.0 pound per acre.

**Application**

For best results, apply Break-UP 50 WP between mid-October and mid-December but prior to soil freeze-up to achieve optimum herbicidal activity. Poor weed control may result if applications are made outside these dates.

Ground: Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 10 to 20 gallons of water per acre. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

Aerial: Being sure to avoid spray drift to all other crops and non-target areas, apply the recommended amount of Break-UP 50 WP in a minimum of 5 - 10 gallons of water per acre using a coarse-droplet spray.

Break-UP 50 WP is a soil active herbicide that is absorbed through weed roots. In order to achieve good weed control, sufficient soil moisture from rain, melting snow or irrigation is required following treatment to move Break-UP 50 WP into the soil to the weed root zone.

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**FALLOW LAND**


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Break-UP 50 WP may be used on fallow land to provide preemergence and postemergence control of the following weeds when used according to labeled directions:

Barley, volunteer	Brome, downy (cheatgrass)	Bluegrass, bulbous
Goatgrass, jointed	Rye, volunteer	Wheat, volunteer

Use this product only on summer fallow land which will be planted back the following year.

**Use Precautions**

- Do not apply more than one application of Break-UP 50 WP per year and do not apply Break-UP 50 WP at rates higher than 1.0 pound of product (0.5 pound active ingredient) per acre.
- Do not use any fall tillage prior to or after the application of Break-UP 50 WP.
- Refer to the ROTATION CROP PLANTING INFORMATION section of this label for rotational crop restrictions.
- Weed control will be reduced if fall tillage is performed prior to or after the application of Break-UP 50 WP. To ensure best weed control results with Break-UP 50 WP, use a straw spreader when combining to eliminate chaff rows.
- If tank mixing with Glean<sup>®</sup>, use rates and plant-back restrictions must be strictly followed to avoid severe injury to the following small grains crops. For flexibility in crop rotation, do not use Glean<sup>®</sup> herbicide on all fallow acreage.

**Application Rate**

Apply 0.5 to 1.0 pound of Break-UP 50 WP per acre.

In fallow applications, Break-UP 50 WP may be tank mixed with Glean<sup>®</sup> herbicide to control or suppress broadleaf weeds not controlled by Break-UP 50 WP. Refer to the Glean<sup>®</sup> label for list of weeds controlled. Mix 0.5 to 0.75 pounds of Break-UP 50 WP per acre tank mixed with Glean<sup>®</sup> herbicide at the dosage rate recommended on the Glean<sup>®</sup> label for reduced tillage fallow weed control.

**Application Instructions**

For best results, apply Break-UP 50 WP between mid-October and mid-December but prior to soil freeze-up to achieve optimum herbicidal activity. Poor weed control may result if applications are made outside these dates.

**Ground:** Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 10 to 20 gallons of water per acre. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

**Aerial:** Being sure to avoid spray drift to all other crops and non-target areas, apply the recommended amount of Break-UP 50 WP in a minimum of 5 - 10 gallons of water per acre using a coarse-droplet spray.

Because Break-UP 50 WP is absorbed through weed roots, following an application soil moisture from rain, irrigation or melting snow is required to move Break-UP 50 WP to the weed root zone in order to achieve good weed control.

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**ALFALFA, CLOVER, BIRDSFOOT TREFOIL, CROWN VETCH AND  
SAINFOIN GROWN FOR FORAGE AND SEED**


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Break-UP 50 WP may be used for preemergence and postemergence control of susceptible winter annual and perennial grasses and for preemergence control of certain broadleaf weeds in alfalfa, clover, birdsfoot trefoil, crown vetch and sainfoin.

**Use Precautions**

- Do not use more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) per year.

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- Do not use Break-UP 50 WP as a preplant or preemergence treatment or before the trifoliolate leaf stage of the legume has developed in new plantings or injury to the legume stand may result.
- Remove or disperse any crop residues, trash, and ashes before treatment
- Within the following intervals after application, do not graze or harvest for forage or dehydration the following crops:

Alfalfa: below 3.0 pounds/acre Break-UP 50 WP (West of Mississippi River)	25 days
Alfalfa: 3.0 - 4.0 pounds/acre Break-UP 50 WP Acre (West of Mississippi River)	45 days
Clover, birdsfoot trefoil, crown vetch, sainfoin (entire U.S.) and alfalfa (East of Mississippi River) up to 4.0 pounds/acre Break-UP 50 WP	120 days

- Be sure to follow the instructions in the ROTATION CROP PLANTING INFORMATION section of this label when rotating crops within one year of a Break-UP 50 WP treatment to alfalfa, clover, birdsfoot trefoil, crown vetch or sainfoin.

**Application Rate**

Apply 1.0 - 4.0 pounds of Break-UP 50 WP per acre application as indicated in the table below: The effective rate will be higher in low rainfall areas or where furrow irrigation is used than in areas of dependable rainfall or where overhead irrigation is practiced. Refer to the chart below for fall or winter application rates:

**Preemergence or Postemergence:**

Weeds Controlled	Application Rate (per Acre)	
	Dependable Rainfall or Overhead Irrigation	Low Rainfall or Furrow Irrigation
Barley, foxtail Bluegrass, annual Brome, downy (cheatgrass) Chickweed Grain, volunteer Oat, wild Ryegrass, Italian	1.0 - 1.5	1.5 - 2.0
Bluegrass, Kentucky Orchardgrass Ryegrass, perennial	1.5 - 2.0	2.0 - 3.0
Quackgrass	2.0 - 3.0	3.0 - 4.0

**Postemergence Only:**

Weeds Controlled	Application Rate (per Acre)	
	Dependable Rainfall or Overhead Irrigation	Low Rainfall or Furrow Irrigation
Sorrel, red (from seed)	1.5 - 2.0	2.0 - 3.0
Mustard, wild Radish, wild Rocket, London Shepardspurse	3.0	4.0

**Note:** For control of dodder and spring germinating cheatgrass, refer to the specific instructions in the SPRING USE DIRECTIONS FOR ESTABLISHED ALFALFA section below.

**Application Instructions**

For best results, apply Break-UP 50 WP in the fall or winter, but prior to soil freeze-up to achieve optimum herbicidal activity. Poor weed control may result if applications are made outside these dates. Applications should be made to established, actively growing or dormant forage legumes or to new

plantings after the legume has reached the trifoliate leaf stage. In established forage legume stands, applications should be made when the weather and soil temperatures are cool and after the last cutting. In fall seeded forage legumes, applications should be made after legumes have reached the trifoliate leaf stage. In spring-seeded forage legumes, applications should be made the following fall or early winter to control winter annual and perennial grasses.

Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 20 to 50 gallons of water per acre. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

Break-UP 50 WP is a soil active herbicide that is absorbed through weed roots. In order to achieve good weed control, sufficient soil moisture from rain, melting snow or irrigation is required following treatment to move Break-UP 50 WP into the soil to the weed root zone.

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**SPRING USE DIRECTIONS FOR ESTABLISHED ALFALFA  
DODDER CONTROL IN ALFALFA SEED CROPS  
(CALIFORNIA, IDAHO, NEVADA, OREGON, UTAH AND WASHINGTON ONLY)**

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For effective control, Break-UP 50 WP must be applied before dodder germinates.

**Use Precautions**

- When using flood type or overhead sprinkler irrigation systems, the amount of irrigation following the Break-UP 50 WP application should not exceed one inch of water.
- Excess irrigation following the Break-UP 50 WP application and prior to germination of dodder may decrease the effectiveness of Break-UP 50 WP.

**Application Rates and Instructions**

**Furrow Irrigation:** Apply 3.0 - 4.0 pounds of Break-UP 50 WP per acre. Incorporate lightly at time of application and irrigate within 7 days.

**Flood Irrigation:** Apply 3.0 pounds of Break-UP 50 WP per acre. Flood field with 0.5 to 1.0 inch of water within 1 to 3 days after application.

**Overhead Sprinkler Irrigation:** Use the same directions as given above for flood irrigation.

For effective weed control, Break-UP 50 WP must be moved into the soil before the germination of dodder either by rainfall or irrigation. For best results, irrigation should be made within 1 - 3 days following application, but if necessary may be delayed up to 2 weeks provided irrigation occurs prior to dodder germination. A light mechanical incorporation (maximum 1 inch depth) should follow the application and the field irrigated within two weeks, if irrigation of the field treated with Break-UP 50 WP must be delayed.

**CHEATGRASS CONTROL IN ESTABLISHED ALFALFA  
(SPRING APPLICATIONS)**

For control of cheatgrass, spring applications of Break-UP 50 WP may be made if the application is made when cheatgrass has recently germinated or is expected to germinate.

**Application Rate and Instructions**

Apply 1.5 - 2.0 pounds of Break-UP 50 WP per acre as a broadcast application.

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**LETTUCE / ENDIVE / ESCAROLE / RADICCHIO GREENS**

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Break-UP 50 WP may be used in direct-seeded or transplanted lettuce, endive, escarole and radicchio greens for preemergence control of the following annual grasses and broadleaf weeds:



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**Grasses**

Barley, foxtail	Barley, volunteer	Barnyardgrass	Bluegrass, annual
Brome, downy (cheatgrass)	Canarygrass	Crabgrass	Foxtail, yellow
Goosegrass	Lovegrass	Oats, volunteer	Panicum, fall
Ryegrass, Italian	Rye, volunteer	Wheat, volunteer	

**Broadleaf Weeds**

Carpetweed	Chickweed, common	Goosefoot, nettleleaf	Henbit
Knotweed	Lambsquarters, common	Morningglory, annual	Mustard, wild
Nettle, burning	Nightshade, black	Nightshade, hairy	Purslane, common
Rocket, London	Shepherdspurse	Smartweed, pale	Tomato, volunteer

**Use Precautions and Restrictions**

- Most varieties of lettuce are highly tolerant of the recommended rates of Break-UP 50 WP; however, do not use more than 3 pounds Break-UP 50 WP on Val Temp, Grande Verde and Prima Verde varieties of crisp lettuce, or on endive, escarole and radicchio greens.
- Do not apply more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) per year except as noted below for leaf lettuce in Arizona and California.
- Do not make more than one application of Break-UP 50 WP to each crop of lettuce, endive, escarole or radicchio greens.
- Do not apply Break-UP 50 WP to lettuce, endive, escarole or radicchio varieties within 55 days of harvest except as noted below for leaf lettuce in Arizona and California.
- Do not apply Break-UP 50 WP postemergence to leaf lettuce.
- Break-UP 50 WP is not recommended for weed control on highly organic (peat and muck) soils at the rates recommended on this label.
- Be sure to follow the instructions in the ROTATION CROP PLANTING INFORMATION section of this label when rotating crops within one year of a Break-UP 50 WP treatment to alfalfa, clover, birdsfoot trefoil, crown vetch or sainfoin.

**Application Rate**

Apply 2.0 – 4.0 pounds of Break-UP 50 WP in 20 – 50 gallons of water per acre as indicated in the table below.

Weeds	Dependable Rainfall or Overhead Irrigation	Less Dependable Rainfall or Furrow Irrigation	Soil Texture Group
Susceptible annual grasses	2.0 - 3.0 (Surface application)	3.0 - 4.0 (Soil incorporation)	Coarse and medium textured soils
Broadleaf weeds	3.0 - 4.0 (Surface application)	4.0 (Soil incorporation)	Fine textured soils

NOTE: When making banded applications, refer to Application Rates in the GENERAL INFORMATION section at the beginning of this label for application rate conversions.

**Application Instructions – By Ground**

Apply Break-UP 50 WP preplant, post-plant or postemergence to endive, escarole, lettuce, or radicchio greens using banded, bed-topped or broadcast applications. For best results, apply preemergence to the crop just before or after planting and preemergence to the weeds sprouting. Applications may be made before or after thinning of head lettuce but should be made prior to weed emergence.

Using a standard low-pressure sprayer equipped with flat fan nozzles, apply the recommended amount of Break-UP 50 WP in 20 to 50 gallons of water per acre. Use a standard low pressure herbicide sprayer equipped with flat fan nozzles that give uniform spray distribution.

Break-UP 50 WP is a soil active herbicide that is absorbed through weed roots. In order to achieve good weed control, sufficient soil moisture from rain or irrigation is required following treatment to move Break-UP 50 WP into the soil to the weed root zone.

If overhead irrigation is used, Break-UP 50 WP may be applied to the soil surface after planting or transplanting without mechanical incorporation. Irrigate with 1 - 2 inches of water shortly after the application. This is especially important in hot weather.

When furrow irrigating, spray application and mechanical incorporation should be made after beds have been formed. Discing prior to bed shaping will reduce the effectiveness of Break-UP 50 WP.

In areas of dependable natural rainfall, Break-UP 50 WP can be applied as a surface treatment preemergence to the weeds. For best results, the application should be followed by ½ - 1 inch of rainfall within two to three days after application.

Where rainfall is not dependable or supplementary overhead irrigation is not used, shallow preplant incorporation is recommended. PTO-driven incorporators or rolling cultivators that will thoroughly mix the Break-UP 50 WP into the top 2 inches of soil are recommended. Incorporation should be simultaneous or immediately after application of Break-UP 50 WP, especially in hot weather. For best results, the application should be moistened from irrigation or rainfall as soon as possible after incorporation.

#### **Application Instructions – By Air in California and Arizona Only**

For preemergence control of susceptible grasses and broadleaf weeds, apply Break-UP 50 WP by air at 2.0 to 4.0 pounds (1.0 -2.0 lb. ai/acre) per treated acre depending on the soil type (see section above entitled "EFFECTS OF SOIL TYPE, TEMPERATURE, AND MOISTURE ON EFFICACY"). Apply in 10 to 20 gallons (Arizona, use 5-10 gallons) of water per acre. Refer to section on ROTATION CROP PLANTING INFORMATION for plantback information.

#### **Application Instructions – By Chemigation - For Use in Riverside and Imperial Counties, California and in Arizona Only**

Apply Break-UP 50 WP by chemigation to control weeds in direct seeded or transplanted lettuce, endive, escarole or radicchio. Make application preemergence or postemergence to the crop, but prior to weed emergence. **Do not apply postemergence to leaf lettuce, endive, escarole, or radicchio greens.**

**Application Rate:** Make applications of Break-UP 50 WP at the rate of 1 to 2 lb per acre (0.5 to 1 lb active ingredient per acre). Use the higher rates depending upon soil type, weed species and level of infestation.

**Application Moisture Requirements:** For optimum control, Break-UP 50 WP must reach the root zone of germinating weeds so that it can be absorbed through the weed roots. Apply a minimum of 0.75 inches overhead sprinkler irrigation when applied by chemigation to pre-irrigated fields.

**Timing of Treatment:** To avoid movement of Break-UP 50 WP below the root zone of germinating weeds and improve weed control, apply the herbicide after initial irrigation of the crop. To determine the ideal timing for application following pre-irrigation, use the following chart as guidance:

Days After Starting Sprinklers That Application Can Be Made		
1 - 3	3 - 6	5 - 6
(Early Season - Sept. 1 to Oct. 15)	(Mid Season - Oct. 15 to Dec. 15)	(Late Season - Dec. 15 to Jan.)

**Chemigation Equipment:** Apply Break-UP 50 WP through center pivot, lateral move, solid set or hand move systems capable of uniform delivery of the herbicide. Solid set of hand move systems should be capable of delivering a uniform pressure of 60 to 70 psi at all nozzles. Pipes and nozzles must be positioned to provide uniform coverage of the treatment area. Placement of nozzles in diamond shaped (◆) pattern will provide more uniform coverage. Do not apply when wind velocity is sufficient to distort uniformity of coverage or cause drift to susceptible non-target plants.

The injection-metering pump must be calibrated as specified by the manufacturer and checked periodically during application to insure proper operation. 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.

**Mixing:** Use mixing tanks that are sufficiently large enough to contain the entire amount of herbicide mixture for the area to be treated. Mix a minimum of 3 gallons of water per pound of Break-UP 50 WP. Slowly add Break-UP 50 WP water soluble packets. Begin injection after the packets are completely dispersed. Ensure that adequate agitation of the herbicide mixture is maintained at all times during mixing and application (injection).

**Application:** For hand move or solid set systems designed to deliver about 1/10 inch of water per hour, Break-UP 50 WP should be injected over a period of 1 to 2 hours. After injection of the herbicide mixture, continue irrigation for an additional 4 to 6 hours to flush the system and to deliver additional irrigation sufficient to incorporate the herbicide into the upper inch of soil.

Center pivot or lateral move systems should be utilized in pre-irrigated fields to deliver a minimum of 9.75 inches of irrigation water with the chemigation treatment. The Break-UP 50 WP mixture should be injected continuously throughout the irrigation cycle in center pivot or lateral move systems.

#### Use Restrictions for Lettuce, Endive, Escarole or Radicchio by Chemigation

- Do not apply Break-UP 50 WP to direct seeded varieties that will be harvested less than 55 days after treatment or transplant or to leaf lettuce that will be harvested within 35 days of application.
- Apply a single application of Break-UP 50 WP to each crop of lettuce, endive, escarole, or radicchio greens.
- Do not use Break-UP 50 WP as a postemergence application to leaf lettuce, endive, escarole, or radicchio greens.
- Do not apply more than 2 lb per acre of Break-UP 50 WP.

#### Chemigation Instructions

Do not apply this product through any irrigation system unless the instructions for chemigation are followed. Apply this product only through continuously moving center pivot, lateral move end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

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

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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**

1. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
2. The system must contain a functional valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back-flow.
3. The pesticide injection pipeline must contain a functional automatic, quick closing check valve to prevent the fluid back toward the injection pump.
4. 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
6. 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.
7. 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.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Leaf Lettuce (Transplanted or Direct Seeded Leaf Lettuce) - For use in the States of Arizona and California Only**

Direct seeded leaf lettuce or transplanted lettuce treated with Break-UP 50 WP applied to the soil surface at application rates recommended in this section may be harvested 35 days or more after application. Break-UP 50 WP should be applied to the soil surface without mechanical incorporation after direct seeding or transplanting; overhead irrigation should follow incorporation. Irrigate with an initial 1 to 2 inches of water after application of the herbicide, especially if weather is hot. Refer to the Lettuce/Endive/Escarole/Radicchio Greens section above for weeds controlled by Break-UP 50 WP.

<b>Break-UP 50 WP Application Rates for Transplanted and Leaf Lettuce (lb/broadcast acre)<sup>1</sup></b>		
<b>Type of Weeds</b>	<b>Dependable Rainfall or Overhead Irrigation</b>	<b>Soil Texture Group<sup>2</sup></b>
Susceptible Annual Grasses	2.0 – 3.0 (Surface Application)	Coarse and Medium Textured Soils
Susceptible Broadleaf Weeds	3.0 (Surface Application)	Fine Textured Soils

<sup>1</sup> Reduce dosage rate accordingly for banded applications.

<sup>2</sup> Soil Texture Group are defined as follows: Coarse: sand, loamy sand, sandy loam; Medium: loam, silt loam, silt, sandy clay loam; Fine: silty clay loam, clay loam, sandy clay, silty clay, clay

**Use Precautions**

- Use of Break-UP 50 WP is not recommended for weed control on high organic matter peat or muck soils at application rates in this label.
- Furrow irrigation and mechanical incorporation are not recommended at application rates recommended in this label.
- Activity of Break-UP 50 WP is not affected by hoeing, thinning, or shallow cultivation of soil treated with the herbicide.
- Although Break-UP 50 WP does not readily volatilize, degradation of the product can occur if the product is exposed on the soil surface in warm weather. When air temperatures are above 85°F, water the product into the soil as soon as possible, preferably within 1 to 2 days.

**Use Restrictions**

- Do not make applications of Break-UP 50 WP to lettuce that will be harvested 35 days or less after application. Do not apply more than 3.0 lb of Break-UP 50 WP (1.5 lb active ingredient) per acre when observing this reduced preharvest interval or illegal residues could result.
- Follow the directions given in the Rotation Crop Planting Information section above.
- Do not make more than one application of Break-UP 50 WP to each crop of lettuce.

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**RHUBARB  
(OREGON AND WASHINGTON ONLY)**

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Break-UP 50 WP may be applied to established rhubarb for both preemergence and postemergence control of winter annual and perennial grasses and chickweed and preemergence only control of broadleaf weeds.

**Use Precautions**

- Do not apply more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) per year.
- Do not apply Break-UP 50 WP to newly transplanted rhubarb or to rhubarb during the active growing stage.
- Do not apply Break-UP 50 WP within 38 days of harvest.

**Application Rates**

To control annual bluegrass, downy brome (cheatgrass), chickweed, wild oat or red sorrel (from seed): apply 2.0 pounds of Break-UP 50 WP per acre.

To control bentgrass, Kentucky bluegrass, tall fescue, orchardgrass, quackgrass, perennial ryegrass or velvetgrass: apply 4.0 pounds of Break-UP 50 WP per acre. NOTE: At 4.0 lbs. / acre, bentgrass, tall fescue, orchardgrass and velvetgrass may be only partially controlled.

NOTE: Rates are in pounds of Break-UP 50 WP per acre broadcast application. Refer to Application Rates in the GENERAL INFORMATION section at the beginning of this label for rate conversions for banded applications.

**Application Instructions**

Apply Break-UP 50 WP to dormant rhubarb as a single application in the fall or early winter months. Do NOT make applications when the ground is frozen or covered by snow. Apply the recommended rate of Break-UP 50 WP in 20 – 50 gallons of water per acre using a low pressure ground sprayer.

For effective weed control, natural rainfall or supplementary overhead irrigation MUST occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

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**APPLE, APRICOT, CHERRY, NECTARINE, PEACH, PEAR, PLUM, PRUNE AND GRAPE PLANTINGS**

Break-UP 50 WP may be applied to non-bearing and bearing apples, apricots, cherries, nectarines, peaches, pears, plums, prunes and grape plantings for both preemergence and postemergence control of winter annual and perennial grasses and chickweed and preemergence-only control of broadleaf weeds.

**Use Precautions**

- For these crops, Break-UP 50 WP should NOT be soil incorporated.
- Do not apply Break-UP 50 WP to seedling trees or vines less than 1 year old.
- Do not apply Break-UP 50 WP to fall-transplanted stock transplanted less than 1 year or to spring-transplanted stock transplanted less than 6 months.
- Do not apply more than 4.0 lb/acre active ingredient (8.0 lb/acre Break-UP 50 WP) to labeled fruit trees or grapes or make more than one application per year.
- Do not feed or allow livestock to graze areas treated with Break-UP 50 WP.
- Be sure to read Cropping Practice Considerations in the GENERAL INFORMATION section of this label.

**Application Rates**

Application rates are dependent upon the weeds being controlled and the type of soil present in the application site. Refer to the following table for specific recommended application rates:

Weeds Controlled	Application Rate (Pounds per Acre)		
	Soil Texture <sup>†</sup>		
	Coarse	Medium	Fine
Bluegrass, annual Brome, downy (cheatgrass) Chickweed Grain, volunteer Oat, wild Ryegrass, Italian Sorrel, red (from seed)	2.0	3.0	4.0
Bluegrass, Kentucky Fescue, tall Orchardgrass Quackgrass Ryegrass, perennial	3.0 – 4.0	4.0 – 6.0	6.0 – 8.0

<sup>†</sup> Soil Texture: Coarse: sand, loamy sand, sandy loam; Medium: loam, silt loam, silt, sandy clay loam; Fine: silty clay loam, clay loam, sandy clay, silty clay, clay.

NOTE: Rates are in pounds of Break-UP 50 WP per acre broadcast application. Refer to Application Rates in the GENERAL INFORMATION section at the beginning of this label for rate conversions for banded applications.

**Application Instructions**

Apply Break-UP 50 WP as a single directed application after the fruit is harvested in the fall or early winter months. Do NOT make applications when the ground is frozen or covered by snow. Apply the recommended rate of Break-UP 50 WP in 40 – 50 gallons of water per acre. Using a low pressure ground sprayer with a breakaway boom and flat fan or off-center nozzles is recommended. Direct the spray to the soil and the base of the trees and / or vines.

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For effective weed control, natural rainfall or supplementary overhead irrigation MUST occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

**WINTER PEAS  
(IDAHO, OREGON AND WASHINGTON ONLY)**

Break-UP 50 WP may be applied to winter peas for both preemergence and postemergence control of winter annual and perennial grasses and chickweed and preemergence only control of broadleaf weeds.

NOTE: Break-UP 50 WP will provide preemergence control only for Henbit.

**Use Precautions**

- Do not apply more than 1.5 lb/acre active ingredient (3.0 lb/acre Break-UP 50 WP) or make more than one application per year.
- Do not allow animals to graze on treated areas or feed treated vines to livestock.

**Application Rates**

Apply 1.5 – 3.0 pounds of Break-UP 50 WP per acre. For grass weeds taller than three inches, use the higher rate.

**Application Instructions**

Apply Break-UP 50 WP to winter peas in the second node stage of growth (two to three inches tall) as a single application in mid-fall to early winter (November to January). Do NOT make applications when the ground is frozen or covered by snow. Apply the recommended rate of Break-UP 50 WP in 20 – 50 gallons of water per acre using a low pressure ground sprayer equipped with flat fan nozzles.

For effective weed control, natural rainfall or supplementary overhead irrigation MUST occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

**WOODY ORNAMENTALS / NURSERY STOCK OF ORNAMENTALS / CHRISTMAS TREES**

Break-UP 50 WP may be applied to the following established Christmas trees, woody ornamentals, and nursery stock of ornamentals for control of winter annual and perennial grasses and broadleaf weeds:

Arborvitae	Ash	Azalea	Barberry
Basswood	Beech	Birch	Boxwood
Bradford pear	Cedar	Cotoneaster	Dogwood
Douglas fir	Eastern redbud	Elm	Euonymus
Fir	Firethorn	Flowering cherry	Flowering crabapple
Flowering quince	Forsythia	Ginko	Hawthorn
Hemlock	Holly	Honey locust	Juniper
Lilac	Linden	London plane	Magnolia
Maple	Mock orange	Mountain ash	Mountain Laurel
Oak	Ohio buckeye	Pine	Poplar
Privet	Rhododendron	Spirea	Spruce
Sweetgum	Sycamore	Tuliptree	Viburnum
Walnut	Willow	Yew	

**Use Precautions**

- Break-UP 50 WP is not recommended for use on shrubs or seedling trees less than one year old.
- Break-UP 50 WP must not be soil incorporated when applied to these crops.
- Do not apply more than 2.0 lb/acre active ingredient (4.0 lb/acre Break-UP 50 WP) or make more than one application per year.

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- Do not harvest plants for food or feed for at least one year after treatment.
- Do not apply Break-UP 50 WP to fall-transplanted stock transplanted less than one year or to spring-transplanted stock transplanted less than 6 months.

**Application Rates**

Apply 2.0 – 4.0 pounds of Break-UP 50 WP per acre as indicated in the following table:

Weeds Controlled	Application Rate (lbs. per acre) <sup>†</sup>
Barley, foxtail Bluegrass, annual Brome, downy (cheatgrass) Chickweed Grain, volunteer Ryegrass, Italian Sorrel, red (from seed)	2.0
Mustard, wild Rocket, London Shepherdspurse	3.0
Bluegrass, Kentucky Orchardgrass Quackgrass Ryegrass, perennial	4.0

**Application Instructions**

Apply Break-UP 50 WP as a single directed or topical application in the fall prior to leaf drop and soil freeze-up. Do NOT make applications when the ground is frozen or covered by snow. For control of winter annual or perennial grasses or chickweed, applications can be made either preemergence or postemergence. For control of other labeled broadleaf weeds, preemergence applications must be used. Apply the recommended rate of Break-UP 50 WP in 20 – 50 gallons of water per acre using a low pressure ground sprayer equipped with flat fan nozzles.

For effective weed control, natural rainfall or supplementary overhead irrigation MUST occur within 1 - 3 days after the application of Break-UP 50 WP. For best results, after application of Break-UP 50 WP use an overhead sprinkler irrigation system to irrigate with 1 - 2 inches of water.

**Note:** Most ornamental turf grass species and ground covers are sensitive to Break-UP 50 WP. Care should be exercised to avoid contact of Break-UP 50 WP with these plants from either direct application or spray drift from applications to areas that may drain onto established ornamental turf and ground cover.

**STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store in a cool, dry place but not below 32°F. Do not remove package from container except for immediate use.

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

**Container Disposal:** Completely empty bag into application equipment. Then dispose of in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**ATTENTION:** This product contains pronamide (propyzamide), a chemical known to the State of California to cause cancer.

**IMPORTANT INFORMATION**



**READ BEFORE USING PRODUCT****CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY**

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. The Directions for Use of this product reflect the opinion of experts based on field use and tests. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of United Phosphorus, Inc. or Seller. Handling, storage, and use of the product by Buyer or User are beyond the control of United Phosphorus, Inc. and Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold United Phosphorus, Inc. and Seller harmless for any claims relating to such factors.

United Phosphorus, Inc. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or United Phosphorus, Inc., and Buyer and User assume the risk of any such use. **UNITED PHOSPHORUS, INC. MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

To the extent allowed by law, United Phosphorus, Inc. or Seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF UNITED PHOSPHORUS, INC. AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF UNITED PHOSPHORUS, INC. OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

United Phosphorus, Inc. and Seller offer this product, and Buyer and User accept it, subject to the foregoing conditions of sale and limitations of warranty and of liability, which may not be modified except by written agreement signed by the duly authorized representative of United Phosphorus, Inc.

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**RESTRICTED USE PESTICIDE**

Because pronamide has produced tumors in laboratory animals, this product is for retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.

**Break-UP™ 50 WP  
SUPPLEMENTAL LABEL**

EPA Reg. No. 70506-78

EPA Est. No.

**FOR CHEMIGATION APPLICATION TO LETTUCE, ENDIVE, ESCAROLE AND RADICCHIO GREENS FOR USE IN RIVERSIDE AND IMPERIAL COUNTIES, CALIFORNIA AND IN ARIZONA ONLY**

**AND**

**FOR APPLICATION TO LETTUCE (TRANSPANTED OR DIRECT SEEDED LEAF LETTUCE) - FOR USE IN THE STATES OF ARIZONA AND CALIFORNIA ONLY**

**NOTICE**

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

This supplemental label must be in the possession of the user at the time of application. The use of Break-UP 50 WP according to this label is subject to the use precautions and limitations found on the EPA-registered label affixed to the Break-UP 50 WP container.

Read the entire Precautionary Statements, Directions for Use and Conditions of Sale and Limitation of Warranty and Liability found on the container label before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded. Always read and follow the label directions and any precautions or restrictions when applying any pesticide alone or in combination with tank mix partners. Use the most restrictive label directions when Break-UP 50 WP is applied in tank mixes.

**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 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.

**LETTUCE / ENDIVE / ESCAROLE / RADICCHIO GREENS**

**Application Instructions – By Chemigation - For Use in Riverside and Imperial Counties, California and in Arizona Only**

Apply Break-UP 50 WP by chemigation to control weeds in direct seeded or transplanted lettuce, endive, escarole or radicchio. Make application preemergence or postemergence to the crop, but prior to weed emergence. **Do not apply postemergence to leaf lettuce, endive, escarole, or radicchio greens.**

**Application Rate:** Make applications of Break-UP 50 WP at the rate of 1 to 2 lb per acre (0.5 to 1 lb active ingredient per acre). Use the higher rates depending upon soil type, weed species and level of infestation.

**Application Moisture Requirements:** For optimum control, Break-UP 50 WP must reach the root zone of germinating weeds so that it can be absorbed through the weed roots. Apply a minimum of 0.75 inches overhead sprinkler irrigation when applied by chemigation to pre-irrigated fields.

**Timing of Treatment:** To avoid movement of Break-UP 50 WP below the root zone of germinating weeds and improve weed control, apply the herbicide after initial irrigation of the crop. To determine the ideal timing for application following pre-irrigation, use the following chart as guidance:

**Days After Starting Sprinklers That Application Can Be Made**

1 - 3 (Early Season - Sept. 1 to Oct. 15)	3 - 6 (Mid Season - Oct. 15 to Dec. 15)	5 - 6 (Late Season - Dec. 15 to Jan.)
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**Chemigation Equipment:** Apply Break-UP 50 WP through center pivot, lateral move, solid set or hand move systems capable of uniform delivery of the herbicide. Solid set or hand move systems should be capable of delivering a uniform pressure of 60 to 70 psi at all nozzles. Pipes and nozzles must be positioned to provide uniform coverage of the treatment area. Placement of nozzles in diamond shaped (◆) pattern will provide more uniform coverage. Do not apply when wind velocity is sufficient to distort uniformity of coverage or cause drift to susceptible non-target plants.

The injection-metering pump must be calibrated as specified by the manufacturer and checked periodically during application to insure proper operation. 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.

**Mixing:** Use mixing tanks that are sufficiently large enough to contain the entire amount of herbicide mixture for the area to be treated. Mix a minimum of 3 gallons of water per pound of Break-UP 50 WP. Slowly add Break-UP 50 WP water soluble packets. Begin injection after the packets are completely dispersed. Ensure that adequate agitation of the herbicide mixture is maintained at all times during mixing and application (injection).

**Application:** For hand move or solid set systems designed to deliver about 1/10 inch of water per hour, Break-UP 50 WP should be injected over a period of 1 to 2 hours. After injection of the herbicide mixture, continue irrigation for an additional 4 to 6 hours to flush the system and to deliver additional irrigation sufficient to incorporate the herbicide into the upper inch of soil.

Center pivot or lateral move systems should be utilized in pre-irrigated fields to deliver a minimum of 9.75 inches of irrigation water with the chemigation treatment. The Break-UP 50 WP mixture should be injected continuously throughout the irrigation cycle in center pivot or lateral move systems.

#### **Use Restrictions for Lettuce, Endive, Escarole or Radicchio by Chemigation**

- Do not apply Break-UP 50 WP to direct seeded varieties that will be harvested less than 55 days after treatment or transplant or to leaf lettuce that will be harvested within 35 days of application.
- Apply a single application of Break-UP 50 WP to each crop of lettuce, endive, escarole, or radicchio greens.
- Do not use Break-UP 50 WP as a postemergence application to leaf lettuce, endive, escarole, or radicchio greens.
- Do not apply more than 2 lb per acre of Break-UP 50 WP.

#### **Chemigation Instructions**

Do not apply this product through any irrigation system unless the instructions for chemigation are followed. Apply this product only through continuously moving center pivot, lateral move end tow, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system.

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

If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers, or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.

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**

1. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system.
2. The system must contain a functional valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back-flow.
3. The pesticide injection pipeline must contain a functional automatic, quick closing check valve to prevent the fluid back toward the injection pump.
4. 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.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

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6. 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.
7. 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.
8. Do not apply when wind speed favors drift beyond the area intended for treatment.

**Leaf Lettuce (Transplanted or Direct Seeded Leaf Lettuce) - For use in the States of Arizona and California Only**

Direct seeded leaf lettuce or transplanted lettuce treated with Break-UP 50 WP applied to the soil surface at application rates recommended in this section may be harvested 35 days or more after application. Break-UP 50 WP should be applied to the soil surface without mechanical incorporation after direct seeding or transplanting; overhead irrigation should follow incorporation. Irrigate with an initial 1 to 2 inches of water after application of the herbicide, especially if weather is hot. Refer to the Lettuce/Endive/Escarole/Radicchio Greens section of the product label for weeds controlled by Break-UP 50 WP.

<b>Break-UP 50 WP Application Rates for Transplanted and Leaf Lettuce</b>		
<b>(lb/broadcast acre)<sup>1</sup></b>		
<b>Type of Weeds</b>	<b>Dependable Rainfall or Overhead Irrigation</b>	<b>Soil Texture Group<sup>2</sup></b>
Susceptible Annual Grasses	2.0 – 3.0 (Surface Application)	Coarse and Medium Textured Soils
Susceptible Broadleaf Weeds	3.0 (Surface Application)	Fine Textured Soils

<sup>1</sup> Reduce dosage rate accordingly for banded applications.

<sup>2</sup> Soil Texture Groups: Coarse: sand, loamy sand, sandy loam; Medium: loam, silt loam, silt, sandy clay loam; Fine: silty clay loam, clay loam, sandy clay, silty clay, clay

**Use Precautions**

- Use of Break-UP 50 WP is not recommended for weed control on high organic matter peat or muck soils at application rates in this label.
- Furrow irrigation and mechanical incorporation are not recommended at application rates recommended in this label.
- Activity of Break-UP 50 WP is not affected by hoeing, thinning, or shallow cultivation of soil treated with the herbicide.
- Although Break-UP 50 WP does not readily volatilize, degradation of the product can occur if the product is exposed on the soil surface in warm weather. When air temperatures are above 85°F, water the product into the soil as soon as possible, preferably within 1 to 2 days.

**Use Restrictions**

- Do not make applications of Break-UP 50 WP to lettuce that will be harvested 35 days or less after application. Do not apply more than 3.0 lb of Break-UP 50 WP (1.5 lb active ingredient) per acre when observing this reduced preharvest interval or illegal residues could result.
- Follow the directions given in the Rotation Crop Planting Information section of the product label.
- Do not make more than one application of Break-UP 50 WP to each crop of lettuce.

**ATTENTION:** This product contains pronamide (propyzamide), a chemical known to the State of California to cause cancer.



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