

70506-36

8/14/2013

1/23



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

OFFICE OF
CHEMICAL SAFETY AND
POLLUTION PREVENTION

Rebecca A. Clemmer
United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406

AUG 14 2013

Subject: Label Amendment – Label Formatting and Revisions
Devrinol 50-DF Selective Herbicide
EPA Reg. No. 70506-36
Application dated – April 22, 2013

Dear Ms. Clemmer:

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

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

If you have any questions regarding this letter, please contact Maggie Rudick at (703) 347-0257 or rudick.maggie@epa.gov.

Sincerely,

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

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

2/23

ACCEPTED

AUG 14 2013

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 70506-36

GROUP	15	HERBICIDE
-------	----	-----------

DEVRI[®]NOL 50-DF
Selective Herbicide

For use on certain Nuts, Small Fruits, Vegetables and Tobacco

ACTIVE INGREDIENT:

Napropamide 50.0%

OTHER INGREDIENTS: 50.0%

TOTAL 100%

KEEP OUT OF REACH OF CHILDREN
CAUTION

FIRST AID

IF IN EYES:

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

IF SWALLOWED:

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

IF ON SKIN OR CLOTHING:

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

IF INHALED:

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.
- Call a Poison Control Center or doctor for further treatment advice.

Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment. For emergency medical treatment, contact the Rocky Mountain Poison Control Center at 1-866-673-6671.

For Chemical Emergency: Spill, leak, fire, exposure or accident, call CHEMTREC 1-800-424-9300.

EPA Reg. No. 70506-36

EPA Est. No



United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406 • 1-800-438-6071

NET WEIGHT: __ pounds

3/23

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

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

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Mixers, loaders, applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical resistant gloves.
- Shoes plus 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.

ENGINEERING CONTROLS STATEMENT

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. Pilots must use an enclosed cockpit that meets the requirements in the Worker Protection Standard.

User Safety Recommendations

Users should:

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

ENVIRONMENTAL HAZARDS

This product is toxic to fish. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters 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 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. Do not allow people or pets to enter the treated area until dusts have settled.

USE PRECAUTIONS

Read all instructions before using.

- Use only for labeled purposes and at labeled rates.
- Use as a directed spray and avoid contact with fruit or foliage.
- Except where specifically noted, DEVIRINOL 50-DF herbicide is not recommended for use on soil containing more than 10% organic matter.
- Spraying on ground heavily covered with leaves or trash may adversely affect weed control.

9/23

USE RESTRICTIONS

- Do not apply to frozen ground.
- Do not apply when fruit or nuts are on the ground during the harvest period.
- Do not overdose.
- Do not apply when weather conditions favor drift from areas treated.
- Do not graze treated areas.
- Do not contaminate irrigation water or water used for domestic purposes.
- Do not graze or harvest for food or feed purposes earlier than maturity.

CROP ROTATION RESTRICTIONS

- 60-day plantback interval for leafy vegetables
- 180-day plantback interval for cereal grains
- 365-day plantback interval for all other crops not listed on this label

Crops listed on this label may be planted immediately after treatment, unless otherwise directed in this label.

When DEVRINOL 50-DF herbicide is used on tobacco at up to 4 pounds active ingredient per acre, small grains may be seeded in rotation in the fall to prevent soil erosion. These grains may be stunted but not otherwise adversely affected. No tolerance is established for residues of DEVRINOL 50-DF herbicide in small grains and must be destroyed by plowing under or otherwise prevented from reaching food or feed production.

When using DEVRINOL 50-DF herbicide with other registered pesticides, always refer to the restrictive instructions and precautions on the other product label and comply with the most restrictive rotational crop directions.

RESISTANCE MANAGEMENT RECOMMENDATIONS

DEVRINOL 50-DF herbicide is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to Group 15 herbicides. The resistant biotypes may dominant the weed population if these herbicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance management strategies should be followed.

To delay herbicide resistance.

- Where possible, rotate the use of DEVRINOL 50-DF herbicide or other Group 15 herbicides with different herbicide groups that control the same weed species in the field.
- Use tank mixtures with herbicides from a different group when such use is permitted.
- Herbicide use should be based on an IPM (Integrated Pest Management) program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development, Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist, certified crop advisors and/or manufacturer for herbicide resistance-management recommendations for specific crops and weed biotypes.

5/23

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.

Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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

- Coveralls.
- Shoes plus socks.
- Chemical resistant gloves made of any waterproof material.
- Eye wear.

PRODUCT INFORMATION

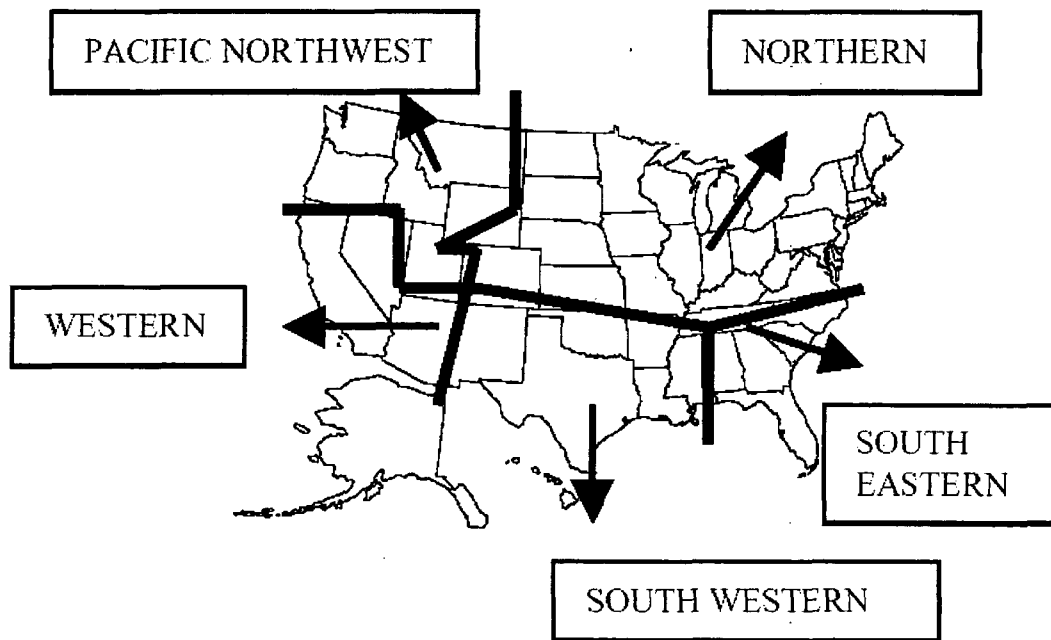
DEVIRINOL 50-DF herbicide is a soluble concentrate selective surface-applied or incorporated herbicide for use in certain types of newly planted or established crops. DEVIRINOL 50-DF herbicide does not control established weeds. All weed growth, crop stubble and/or leaf litter in the fields that can interfere with soil coverage must be thoroughly worked into the soil or removed from the treatment zone prior to planting. Spray equipment should be carefully calibrated before use and checked frequently during application to be sure nozzles are operating properly and are delivering a uniform spray pattern. Apply the labeled rate of DEVIRINOL 50-DF herbicide in 10 to 100 gallons of water per acre in a low pressure boom-type sprayer.

Be sure the spray tank, boom and nozzle have been thoroughly flushed with clean water before use. Sufficient jet or mechanical agitation should be provided during the filling operation and during application.

When mixing DEVIRINOL 50-DF herbicide alone, or in combination with other wettable powders, make a slurry and add to a nearly filled spray tank with adequate agitation. This will enhance initial mixing. Contact herbicides and spreaders should always be added to a nearly filled spray tank. Never add them to the slurry.

6/23

REGIONAL USE MAP



ALLOWABLE TIME FOR TREATMENT TO REMAIN ON SOIL SURFACE (BY REGION):

Western and Pacific Northwest: Three weeks (fall through early spring) or 24-72 hours (remainder of year).

Other Regions and Period Unless Otherwise Specified: 24-72 hours.

APPLICATIONS THROUGH IRRIGATION SYSTEMS

- For use in the Western Region on tree crops and grapevines only for preemergence control of listed weeds.
- Do not allow treatment to contact foliage or crop.
- Remove existing weed growth before application.
- Meter the DEVRINOL 50-DF herbicide into the irrigation water during the entire period.
- Apply with sufficient water to wet the soil to a depth of 2-4 inches.
- Good agitation should be maintained during the entire application period.
- Avoid run-off.
- Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water.
 - 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.
 - If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

7/23

USE RESTRICTIONS:

- Only apply this product through center pivot, lateral move, end tow, side wheel roll, traveler, microsprinkler, solid set, or hand move sprinkler systems, or flood (basin); furrow; border irrigation systems.
- 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.
- Do not apply when wind speed favors drift beyond the area intended for treatment.

FOR SPRINKLER IRRIGATION:

- The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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 where pesticide distribution is adversely affected.
- 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.

FOR FLOOD (BASIN), FURROW AND BORDER IRRIGATION:

- Systems using a gravity flow pesticide dispensing system must meter the pesticide into the water at the head of the field and downstream of a hydraulic discontinuity such as a drop structure or weir box to decrease potential for water source contamination from backflow if water flow stops.
- Systems utilizing a pressurized water and pesticide injection system must meet the following requirements:
 - The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
 - The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
 - 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

8/23

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.

- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
- 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 where pesticide distribution is adversely affected.
- 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.

TANK MIXTURES – LABELED CROPS

DEVIRINOL 50-DF may be tank mixed with other pre-emergence herbicides labeled for the same crops to provide additional weed control and for control of weeds not listed on the DEVIRINOL 50-DF label, and/or with contact herbicides to control emerged weeds at the time of application. Read and follow all applicable directions, restrictions and precautions on product labels, deferring to the most restrictive directions.

Always follow the more restrictive label instructions for tank mixes.

For a tank mix application, apply the specified dosage (see directions for use) in 10 to 100 gallons of water per acre.

**WEEDS CONTROLLED BY DEVIRINOL 50-DF HERBICIDE
BROADCAST APPLICATION**

For control of all weeds listed, apply 8 pounds DEVIRINOL 50-DF herbicide per broadcast acre to the soil surface. Apply in the fall through early spring prior to weed emergence. Do not apply DEVIRINOL 50-DF herbicide to frozen ground. For best results, the treatment must reach the zone of weed seed germination. If rainfall does not occur the treatment must be shallowly incorporated or irrigated-in following application (sprinkler or flood) with sufficient water to wet the soil to a depth of 2 to 4 inches.

Reduce rates proportionately for band or strip treatments.

NOTE: DEVIRINOL 50-DF herbicide does not control established weeds.

ANNUAL GRASSES:	
Barnyardgrass, Junglerice	<i>Echinochloa</i> spp.
Foxtail Barley	<i>Hordeum jubatum</i>
Wild Barley	<i>Hordeum leporinum</i>
Annual Bluegrass	<i>Poa annua</i>
Bromes	<i>Bromus</i>
Cheatgrass	<i>B. secalinus</i>
Downy Brome	<i>B. tectorum</i>
Ripgut Brome	<i>B. rigidus</i>
Soft Chess	<i>B. mollis</i>

9/23

Canarygrass	<i>Phalaris canariensis</i>
Large (Hairy) Crabgrass	<i>Digitaria sanguinalis</i>
Smooth Crabgrass	<i>Digitaria ischaemum</i>
Southwestern Cupgrass	<i>Eriochloa gracilis</i>
Foxtail	<i>Setaria</i>
Bristly Foxtail	<i>S. verticilla</i>
Giant Foxtail	<i>S. faberi</i>
Green Foxtail	<i>S. viridis</i>
Yellow Foxtail	<i>S. lutescens</i>
Goosegrass	<i>Eleusine indica</i>
Seedling Johnsongrass	<i>Sorghum halpense</i>
Wild Oats	<i>Avena fatua</i>
Panicums	<i>Panicum</i>
Guineagrass	<i>P. Maximum</i>
Fall Panicum	<i>P. dichotomiflorum</i>
Texas Panicum	<i>P. texanum</i>
Witchgrass	<i>P. capillare</i>
Italian Ryegrass	<i>Lolium multiflorum</i>
Sandbur	<i>Cenchrus spp.</i>
Mexican Sprangletop	<i>Leptochloa uninervia</i>
Red Sprangletop	<i>Leptochloa filiformis</i>
Stinkgrass	<i>Eragrostis cilianensis</i>
ANNUAL BROADLEAF WEEDS:	
Carpetweed	<i>Mollugo verticillata</i>
Common Chickweed	<i>Stellaria media</i>
Coast Fiddleneck	<i>Amsinckia intermedia</i>
Cudweed, Purple	<i>Gnaphalium purpureum</i>
Redstem Filaree	<i>Erodium cicutarium</i>
Common Groundsel	<i>Senecio vulgaris</i>
Prostrate Knotweed	<i>Polygonum aviculare</i>
Lambsquarters	<i>Chenopodium album</i>
Prickly Lettuce	<i>Lactuca serriola</i>
Little Mallow*	<i>Malva parviflora</i>
Redroot Pigweed	<i>Amaranthus retroflexus</i>
Pineappleweed	<i>Matricaria matricarioides</i>
Common Purslane	<i>Portulaca oleracea</i>
Horse Purslane	<i>Trianthema portulacastrum</i>
Common Ragweed**	<i>Ambrosia artemisiifolia</i>
Annual Sowthistle	<i>Sonchus oleraceus</i>

*From seed

**Suppression

10/23

**WEEDS CONTROLLED BY DEVRINOL 50-DF
PREPLANT INCORPORATED APPLICATION**

For control of all weeds listed, apply 2 to 4 pounds DEVRINOL 50-DF herbicide as a preplant incorporated application.

On flat-planted or bedded crops apply before planting to well-worked soil that is dry enough to permit thorough incorporation to a depth of 1 to 2 inches. Incorporate using equipment which will result in uniform incorporation of the herbicide to the desired depth. Whenever a rate range is indicated for DEVRINOL 50-DF herbicide, use the lower rate on light soil (coarse textured-sandy) and the higher rate on heavy soil (fine textured-clay).

NOTE: DEVRINOL 50-DF herbicide does not control established weeds.

ANNUAL GRASSES:	
Barnyardgrass, Junglerice	<i>Echinochloa</i> spp.
Crabgrass	<i>Digitaria</i> spp.
Foxtails	<i>Setaria</i>
Giant Foxtail	<i>S. faberi</i>
Green Foxtail	<i>S. viridis</i>
Yellow Foxtail	<i>S. lutescens</i>
Goosegrass	<i>Eleusine indica</i>
Seedling Johnsongrass	<i>Sorghum halepense</i>
Panicums	<i>Panicum</i>
Fall Panicum	<i>P. dichotomiflorum</i>
Witchgrass	<i>P. capillare</i>
Stinkgrass	<i>Eragrostis cilianensis</i>
ANNUAL BROADLEAF WEEDS:	
Carpetweed	<i>Mollugo verticillata</i>
Purple Cudweed	<i>Gnaphalium purpureum</i>
Galinsoga*	<i>Galinsoga</i> spp.
Lambsquarters	<i>Chenopodium album</i>
Redroot Pigweed	<i>Amaranthus retroflexus</i>
Smooth Pigweed	<i>Amaranthus hybridus</i>
Common Purslane	<i>Portulaca oleracea</i>
Florida Pusley	<i>Richardia scabra</i>
Common Ragweed**	<i>Ambrosia artemisiifolia</i>

*Controlled at 4 pounds DEVRINOL 50-DF

**Suppression

USE DIRECTIONS

DEVRINOL 50-DF herbicide is labeled for use on the following crops. Unless otherwise noted, DEVRINOL 50-DF herbicide can be used in ALL REGIONS. Please refer to Regional Map under PRODUCT INFORMATION.

All rates are given on a broadcast basis, per acre. Reduce rates proportionately for band or strip treatment.

u/23

BERRY CROPS

Apply a maximum of once per year.

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Blackberry (including bingleberry, boysenberry; dewberry, lowberry, marionberry, olallieberry, youngberry) Blueberry Currant Elderberry Gooseberry Huckleberry Loganberry Raspberry (black and red)	8 lbs./A (4 lb ai)	Apply to a weed free soil surface. May be applied to newly planted and established crop. Restrictions: Do not apply more than 8 pounds per acre per crop cycle.
Strawberries established plantings	8 lbs./A (4 lb ai)	<u>Spring Application</u> - Apply after removal of straw mulch. Surface should be weed free. Water into soil to a depth of 2 to 4 inches using natural rainfall or irrigation within 24-72 hours of application for best results. Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle. Do not apply from bloom through harvest. <u>Fall Application</u> - Apply before winter protective mulch is applied over plants. Water into soil to a depth of 2 to 4 inches using natural rainfall or irrigation within 24-72 hours of application. Restrictions: Do not apply to frozen ground. Do not exceed a maximum application rate of 8 pounds per acre per crop cycle.
Strawberries not grown with plastic mulch	8 lbs./A (4 lb ai)	Apply to a weed free soil surface. May be applied to newly transplanted crop. Delay application until the desired number of daughter plants has become established. Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle. Do not apply from bloom through harvest.
Strawberries grown with plastic mulch on plant beds	8 lbs./A (4 lbs ai) Preplant	Apply to a weed free soil before the laying of plastic mulch. Soil should be well worked yet moist enough to permit a thorough incorporation to a depth of 2

12/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
(All Regions except Southeastern)	incorporated	inches. Incorporate within 24-72 hours before laying of plastic mulch using equipment which will result in uniform incorporation of the herbicide to desired depth.
Strawberries grown with plastic mulch on plant beds (Southeastern Region)	4-8 lbs./A (2-4 lbs ai) Preplant incorporated	If weed pressure is from small seeded annuals, apply to the surface of the bed immediately in front of the laying of the plastic mulch. If soil is dry, water or sprinkler irrigate with sufficient water to wet to a depth of 2 to 4 inches before covering with plastic mulch. Apply the plastic mulch over the treated soil within 24-72 hours. Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle.
Strawberries grown with plastic mulch on plant beds	8 lbs./A (4 lbs ai) Application between rows of plastic mulch, middles, or aisles	Use a shielded sprayer or properly spaced drop nozzles to apply to a weed free soil surface between the rows of plastic. Mechanically incorporate or irrigate DEVRINOL 50-DF herbicide into the soil to a depth of 1 to 2 inches within 24-72 hours of application. In the event of emerged weed growth being present, tank mix 2 gallons of DEVRINOL 50-DF herbicide with the correct amount of a labeled burndown herbicide to get burndown and residual control. Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle. Do not apply from bloom through harvest.

CROP	WEEDS CONTROLLED	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Cranberries Established beds (over one year old) (Northeast: Connecticut,	Nutsedge (<i>Cyperus dentatus</i>) Rice Cutgrass (<i>Leersia oryzoides</i>)		Apply to a weed free soil surface before spring growth begins or in the fall after harvest. Do not apply when beds are under winter flood. CAUTION: Do not apply in the spring to cranberry beds that do not have sprinkler systems for frost control.

13/23

<p>Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia)</p>	<p>Purplestem Beggarticks (<i>Bidens connata</i>)</p>	<p>In Peat Beds: 12-18 lbs./A (6 – 9 lbs ai)</p> <p>In Beds with Sandy Soils: 8 – 12 lbs./A (4 – 6 lbs ai)</p>	<p><u>In Peat Beds:</u> Apply through ground application equipment or through the overhead sprinkler system. See use directions for application through sprinkler irrigation systems.</p> <p>Restrictions: Do not apply more than 18 pounds per acre per year.</p> <p><u>In Beds with Sandy Soils:</u> Apply through ground application equipment or through the sprinkler irrigation system.</p> <p>Restrictions: Do not apply more than 12 pounds DEVRINOL 50-DF per acre per year.</p>
<p>Cranberries New plantings</p> <p>(Northeast: Connecticut, Delaware, Massachusetts, Maryland, Maine, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, West Virginia)</p>		<p>6 lbs./A (3 lbs ai)</p>	<p>Apply to a weed free soil surface after planting using ground spray equipment or through the sprinkler irrigation system.</p> <p>Restrictions: Do not apply more than 6 pounds DEVRINOL 50-DF herbicide per acre per year.</p>
<p>Cranberries</p> <p>Established beds (over one year old)</p> <p>(North Central: Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)</p>	<p>Purplestem beggarticks (<i>Bidens connata</i>)</p> <p>Rice Cutgrass (<i>Leersia oryzoides</i>)</p>	<p>In Peat Beds: 12-18 lbs./A (6 – 9 lbs ai)</p> <p>In Beds with</p>	<p>Apply to a weed free soil surface before spring growth begins or in the fall after harvest. Avoid applying when beds may be reflowed for spring frost protection or when soils are water soaked. Do not apply when beds are under winter flood. CAUTION: Do not apply in the spring to cranberry beds that do not have sprinkler systems for frost control.</p> <p><u>In Peat Beds:</u> Apply through ground application equipment or through the overhead sprinkler system. See use directions for application through sprinkler irrigation systems.</p> <p>Restrictions: Do not apply more than 18 pounds DEVRINOL 50-DF per acre per year.</p> <p><u>In Beds with Sandy Soils:</u> Apply</p>

14/23

		Sandy Soils: 8-12 lbs./A (4 – 6 lbs ai)	through ground application or through the sprinkler irrigation system. Restrictions: Do not apply more than 12 pounds per acre per year.
Cranberries New plantings (North Central: Michigan, Minnesota, North Dakota, South Dakota, Wisconsin)		6 lbs. (3 lb ai)	Apply to a weed free soil surface after planting using ground spray equipment or through the sprinkler irrigation system. Restrictions: Do not apply more than 6 pounds DEVRINOL 50-DF per acre per year.
Cranberries Established beds (over one year old) (West: Idaho, Montana, Oregon, Washington)	Clover (<i>Trifolium fimbriatum</i>) Aster (<i>Aster douglasii</i>) Silverweed Cinquefoil* (silverleaf) (<i>Potentilla anserina</i>), Red Sorrel (sheep sorrel) (<i>Rumex acetosella</i>) Birdsfoot Trefoil (<i>Lotus corniculatus</i>) *Suppression only	In Beds with Heavy Muck Soil: 18 lbs./A (9 lbs ai) In Peat Beds: 12-18 lbs./A (6 – 9 lbs ai) In Beds with Sandy Soils: 8-18 lbs./A (4 – 9 lbs ai)	Apply DEVRINOL 50-DF at the rates indicated below to a weed free soil surface before spring growth begins in mid-February or before the end of March. In Beds with Heavy Muck Soil: Apply through ground application equipment or through the overhead sprinkler system. See use directions for application through sprinkler irrigation systems. In Peat Beds: Apply through ground application equipment or through the overhead sprinkler system. In Beds with Sandy Soils: Apply through ground application equipment or through the sprinkler irrigation system. Restrictions: Do not apply after buds start to swell. CAUTION: Do not apply in the spring to cranberry beds that do not have sprinkler systems for frost control. Do not apply more than 18 pounds DEVRINOL 50-DF acre per acre per year.
Cranberries New Plantings (West: Idaho, Montana, Oregon, Washington)		6 lbs./A (3 lbs ai)	Apply to a weed free soil surface after planting using ground spray equipment or through the sprinkler irrigation system. Restrictions: Do not apply more than 6 pounds DEVRINOL 50-DF per acre per year.

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Rhubarb (Pacific Northwest	8 lbs./A	Apply to a weed free soil surface in winter

15/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Only)	(4 lb ai)	when rhubarb is dormant. Restrictions: Do not apply more than 8 lbs/A per crop cycle.

FRUIT CROPS

Apply a maximum of once per year.

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Kiwi Fruit (Western Region Only)	8 lbs./A (4 lb ai)	Apply to a weed free soil surface. May be applied to newly planted and established crop. Restrictions: Do not apply within 90 days of harvest. Do not apply more than 8 pounds per acre per crop cycle.
Persimmons (Western Region Only)	8 lbs./A (4 lb ai)	Apply to a weed free soil surface. May be applied to established crop only. Restrictions: Do not apply within 100 days of harvest.

HERB CROPS

CROP	RATE DEVRINOL 50-DF/A	USE DIRECTIONS AND RESTRICTIONS
Basil, Marjoram, Rosemary, Savory (summer and winter)	2-4 lbs./A (1 – 2 lb ai)	Apply as a preplant/preemergence application. Apply with ground spray equipment only, in 20-100 gallons of water per acre. Apply to a weed free surface. Shallow incorporate no deeper than seeding depth or sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 2 to 4 inches. Use the lower rate on light soil (coarse textured- sandy) and the higher rate on heavy soil (fine textured-clay). Restrictions: Apply a maximum of one application per year. There is no restriction between last application and harvest.
Peppermint, Spearmint	8 lbs./A (4 lb ai)	Apply to a weed free soil surface. Mint: may be applied to newly planted and established crops.

16/23

CROP	RATE DEVRINOL 50-DF/A	USE DIRECTIONS AND RESTRICTIONS
		<p>When used on established crops, apply DEVRINOL 50-DF only to stands that have been established for at least one growing season. When used on recently planted crops, application may be made immediately after planting.</p> <p>Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle.</p>

TOBACCO

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Tobacco	<p>2-4 lbs./A (1-2 lb ai)</p> <p>Before Transplanting</p>	<p>Apply to a weed free soil surface. Use the lower rate on light soil (coarse textured sandy) and the higher rate on heavy soil (fine textured - clay). In Southeast only: Apply up to 3 weeks before transplanting. No waiting period is necessary.</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
<p>Tobacco (Kentucky, Maryland, Virginia and Southeast Region Only)</p>	<p>2-4 lbs./A (1-2 lb ai)</p> <p>At Transplanting</p>	<p>Apply to a weed free soil surface.</p> <p>Apply to the soil surface immediately after transplanting. May be applied over the top of transplants.</p> <p>For best results the treatment must reach the zone of weed seed germination. If rainfall does not occur within 5 days after application, the treatment must be shallowly incorporated or irrigated-in with sufficient overhead irrigation to wet the soil to a depth of 2 to 4 inches.</p> <p>Restrictions: Do not apply more than 4 pounds per acre per crop cycle.</p>
Tobacco	<p>2-4 lbs./A (1-2 lb ai)</p>	<p>Reduce rates proportionately for band layby application. Layby</p>

17/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
(Kentucky, Maryland, Virginia and Southeast Region Only)	Layby Application Between Rows	<p>treatments may follow a preplant incorporated application of DEVRINOL 50-DF herbicide.</p> <p>Apply the labeled amount in a band within 24-72 hours after the layby cultivation. Apply as a directed spray to the row middles.</p> <p>Apply to a weed-free soil surface. For best results the treatment must reach the zone of weed seed germination. If rainfall does not occur within 5 days after application, the treatment must be shallowly incorporated or irrigated-in with sufficient overhead irrigation to wet the soil to a depth of 2 to 4 inches.</p> <p>Restrictions: Do not apply more than 4 pounds per acre per crop cycle.</p>

TREE NUT AND VINE CROPS

Apply a maximum of once per year.

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Almonds Filberts Pecans	8 lbs./A (4 lb ai)	<p>Apply to a weed free soil surface. May be applied to newly planted and established crop.</p> <p>Restrictions: Do not apply within 50 days of harvest for filberts or pecans,</p> <p>Do not apply more than 8 pounds per acre per crop cycle.</p>
Grapes	8 lbs./A (4 lb ai)	<p>Apply to a weed free soil surface. May be applied to newly planted and established crop.</p> <p>Restrictions: Do not apply within 70 days of harvest.</p> <p>Do not apply more than 8 pounds per acre per crop cycle</p>

18/23

VEGETABLE CROPS

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Asparagus	8 lbs./A (4 lbs ai)	<p>Apply to a weed free soil surface. Asparagus: may be applied to established crop only.</p> <p>When used on established crops, apply only to stands that have been established for at least one growing season.</p> <p>Restrictions: Do not exceed a maximum application rate of 8 pounds per acre per crop cycle.</p>
Broccoli (Maine Only)	2-4 lbs./A (1-2 lbs ai)	<p>Apply to weed free surface. May be applied to direct seeded and transplanted crop, preplant incorporated or as a surface spray after planting. Shallow incorporate no deeper than seeding depth or sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 4-8 inches. Use the lower rate on light soil (coarse textured-sandy) and the higher rate on heavy soil (fine textured-clay).</p> <p>Restrictions: Do not apply more than 4 pounds per acre per crop season. Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
(Arizona and California Only) Broccoli, Brussels Sprouts, Cauliflower	1-2 lbs./A (1/2 – 1 lb ai)	<p>For suppression only of Annual Bluegrass, Barnyardgrass, Common Groundsel, Common Purslane, and Redroot Pigweed. Apply to a weed free soil surface. May be applied to direct seeded and transplanted crop, preplant incorporated or as a surface spray after planting. Shallow incorporate to a depth of 1-2 inches or sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 4-8 inches. Use the lower rate on light soil (coarse textured - sandy) and the higher rate on heavy soil (fine textured - clay).</p>

19/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
		<p>Restrictions: Do not exceed a maximum application rate of 2 pounds per acre per crop cycle.</p>
<p>(Northern Region Only) Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collards, Kale, Mustard Greens</p>	<p>2 lbs./A (1 lb ai)</p>	<p>Apply to a weed free surface. May be applied to direct seeded and transplanted crop, preplant incorporated or as a surface spray after planting. Shallow incorporate no deeper than seeding depth or sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 4-8 inches.</p> <p>Restrictions: Do not exceed a maximum application rate of 2 pounds per acre per crop cycle.</p>
<p>(Pacific Northwest Only) Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Collards, Kale, Mustard Greens</p>	<p>2-4 lbs./A (1-2 lbs ai)</p>	<p>Apply to a weed free surface. May be applied to direct seeded and transplanted crop, preplant incorporated or as a surface spray after planting. Shallow incorporate no deeper than seeding depth or sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 4-8 inches. Use the lower rate on light soil (coarse textured - sandy) and the higher rate on heavy soil (fine textured - clay).</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
<p>(Southeast Region Only) Broccoli, Brussels Sprouts, Cabbage Cauliflower, Collards, Kale, Mustard Greens</p>	<p>4 lbs./A (2 lbs ai)</p>	<p>Apply to a weed free surface. May be applied to direct seeded (except in Florida) and transplanted crop, as a surface spray after planting. Sprinkler irrigate within 24-72 hours using sufficient water to wet the soil to a depth of 4-8 inches.</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
<p>(Southwest Region Only) Broccoli, Brussels Sprouts, Cabbage Cauliflower, Collards, Kale,</p>	<p>2-4 lbs./A (1-2 lbs ai)</p>	<p>Apply to a weed free soil surface. May be applied to direct seeded and transplanted crop, preplant, incorporated or as a surface spray after planting. Incorporate the surface spray to a shallow depth of one inch, avoiding the seed</p>

20/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
Mustard Greens		<p>placement when mixing the soil. Use the lower rate on light soil (coarse textured - sandy) and the higher rate on heavy soil (fine textured - clay).</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
Eggplants	<p>2-4 lbs./A (1-2 lbs ai)</p>	<p>Apply before transplanting, to weed free soil surface. May be applied to transplanted crop only. Use the lower rate on light soil (coarse textured sandy) and the higher rate on heavy soil (fine textured-clay).</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
Peppers (including pimento, bell, hot and sweet) Tomatoes	<p>2-4 lbs./A (1-2 lb ai)</p>	<p>Apply to a weed free soil surface. May be applied to direct seeded and transplanted crop. Use the lower rate on light soil (coarse textured - sandy) and the higher rate on heavy soil (fine textured-clay).</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
Eggplants, Peppers (including pimento, bell, hot and sweet), Tomatoes grown on plastic mulch on plant beds	<p>2-4 lbs./A (1-2 lb ai)</p> <p>Preplant Incorporated</p>	<p>Apply to a weed free soil before the laying of plastic mulch.</p> <p>If weed pressure is from small seeded annuals, apply to the surface of the bed immediately in front of the laying of the plastic mulch. If soil is dry, water or sprinkler irrigate with sufficient water to wet to a depth of 2 to 4 inches before covering with plastic mulch. Apply the plastic mulch over the treated soil the same day.</p> <p>Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
Eggplants, Peppers (including pimento, bell, hot and sweet),	<p>4 lbs./A (2 lb ai)</p> <p>Application between rows</p>	<p>Apply to a weed free soil surface between the rows of plastic. Mechanically incorporate or irrigate into the soil to a depth of 1 to 2</p>

2/23

CROP	USE RATE/ACRE	USE DIRECTIONS AND RESTRICTIONS
<p>Tomatoes grown with plastic mulch on plant beds</p>	<p>of plastic mulch, middles or aisles</p>	<p>inches within 24-72 hours of application. Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle.</p>
<p>Sweet Potatoes</p>	<p>2-4 lbs./A (1-2 lb ai).</p>	<p>Apply to a weed free soil surface. Use the lower rate on light soil (coarse textured sandy) and the higher rate on heavy soils (fine textured clay). For best results, the treatment must reach the zone of weed seed germination. Shallow incorporate to a depth of 1-2 inches or sprinkler irrigate within 24-72 hours using sufficient overhead irrigation to wet the soil to a depth of 2-4 inches. At Transplanting: (All Regions) Apply the labeled amount of DEVRINOL 50-DF herbicide to the soil surface immediately after transplanting. Plant Beds: (Southeast Region Only) Apply the labeled amount of DEVRINOL 50-DF herbicide to the soil surface after sweet potato roots are covered with soil, but prior to soil cracking and emergence of sweet potato plants. Restrictions: Do not exceed a maximum application rate of 4 pounds per acre per crop cycle</p>

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Keep container closed when not in use. Store in a cool dry place. Do not store near seeds, fertilizer or foodstuffs.

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: Nonrefillable container. Do not reuse or refill this container.

Completely empty bag into application equipment. Then offer for recycling if available, or dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

22/23

**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 reflect the opinion of experts based on field use and tests, and must be followed carefully. It is impossible to eliminate all risks 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. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User.

To the extent consistent with applicable law, 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. To the extent consistent with applicable law, 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 consistent with applicable 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 and TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, **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

23/23

modified except by written agreement signed by the duly authorized representative of United Phosphorus, Inc.

DEVBINOL® is a trademark of United Phosphorus, Inc.

Rev. 8/9/13