

2015-03-03
2015-0623

GROUP	15	HERBICIDE
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COMMERCIAL

Net Contents: 1.81 kg or 2 kg

DEVIRINOL® 50-DF
Selective Herbicide
Dry Flowable

COMMERCIAL

For use on certain Small Fruits, Vegetables, Container-Grown
Ornamentals, Field-Grown Nursery Stock, Liner Stock, Forestry Stock, Ground Covers and for
Control of Grass Weeds in Cranberries.

WARNING - EYE IRRITANT

READ THE LABEL AND BOOKLET BEFORE USING
KEEP OUT OF REACH OF CHILDREN
Warning, contains the allergen sulfites

GUARANTEE:

Napropamide50%

REGISTRATION NO. **25231** PEST CONTROL PRODUCTS ACT

United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406, USA
1-800-438-6071
www.upi-usa.com

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

MAY BE HARMFUL IF SWALLOWED

- Avoid contact with skin, eyes and clothing.
- Avoid breathing dust or spray mist.
- Wear rubber gloves, boots and coveralls to minimize exposure during loading, mixing and spraying operations.
- Change clothing and gloves daily and wash thoroughly before reuse.
- Wash hands, face and arms thoroughly after handling and before eating or smoking.
- Routinely shower or bathe after work.
- Keep unprotected persons out of operating area.
- Avoid contamination of food and feed.
- Do not contaminate any body of water, including irrigation water or water used for domestic purposes.
- **DO NOT APPLY BY AIR**
- Wear long pants, a long-sleeved shirt and chemical-resistant gloves during mixing/loading, clean-up and repair activities.
- Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

FIRST AID

IN CASE OF POISONING: Contact a physician or a poison control centre **IMMEDIATELY**.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

If swallowed: Call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

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 centre or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control centre 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 by mouth-to-mouth, if possible. Call a poison control centre or doctor for treatment advice.

Consult your local POISON CONTROL CENTRE for additional information.

TOXICOLOGICAL INFORMATION

DEVIRINOL 50-DF is very low in mammalian toxicity by oral ingestion or dermal uptake. DEVIRINOL 50-DF is a moderate irritant to eyes and a mild skin irritant. DEVIRINOL 50-DF does not cause skin sensitization. Treat symptomatically.

ENVIRONMENTAL HAZARDS

- TOXIC to aquatic organisms and non-target terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**.
- Keep out of lakes, streams and ponds.
- Do not contaminate water by cleaning of equipment or disposal of wastes.
- Do not apply when weather conditions favour drift from areas treated.

STORAGE

Do not store near food, feed, seed or fertilizer. Keep container tightly closed when not in use. Store in a cool, dry place.

DECONTAMINATION AND DISPOSAL:

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean up of spills.

PRODUCT DECONTAMINATION AND DISPOSAL

1. Empty bag thoroughly into spray tank.
2. Make the empty bag unsuitable for further use.
3. Dispose of the bag in accordance with provincial requirements.

***IN CASE OF EMERGENCY INVOLVING A MAJOR SPILL, FIRE OR POISONING
CALL 1-800-424-9300 (CHEMTREC)***

NOTICE TO USER

This control product is to be used only in accordance with the directions on the label. It is an offence under the Pest Control Products Act to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

DEVIRINOL[®] is a registered trademark of United Phosphorus, Inc.

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MAY BE HARMFUL IF SWALLOWED

- Avoid contact with skin, eyes and clothing.
- Avoid breathing dust or spray mist.
- Wear rubber gloves, boots and coveralls to minimize exposure during loading, mixing and spraying operations.
- Change clothing and gloves daily and wash thoroughly before reuse.
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- Routinely shower or bathe after work.
- Keep unprotected persons out of operating area.
- Avoid contamination of food and feed.
- Do not contaminate any body of water, including irrigation water or water used for domestic purposes.

- **DO NOT APPLY BY AIR**
- Wear long pants, a long-sleeved shirt and chemical-resistant gloves during mixing/loading, clean-up and repair activities.
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- Keep out of lakes, streams and ponds.
- Do not contaminate water by cleaning of equipment or disposal of wastes.
- Do not apply when weather conditions favour drift from areas treated.

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DIRECTIONS FOR USE

GENERAL USE PRECAUTIONS

- Read all label directions before using. Apply this product only as specified on the label.
- Use only for recommended purposes and at recommended rates.
- Do not overdose.
- DEVRINOL 50-DF is recommended for use on mineral soils only. Not recommended for use on soils with over 10% organic matter.
- To avoid injury to crops not specified on the label, do not plant until 12 months after the last DEVRINOL 50-DF application.
- Do not apply more than once per season.
- Spraying on ground heavily covered with leaves or trash may adversely affect weed control.
- Do not apply to frozen ground.

- It is recommended that this product not be applied in a way that will contact workers or other persons, either directly or through drift. Only handlers wearing personal protective equipment may be in the area during application.

GENERAL USE INFORMATION

DEVRINOL 50-DF is a selective surface-applied or incorporated herbicide for use in certain types of newly planted or established crops. DEVRINOL 50-DF does not control established weeds. All weed growth and crop stubble in the fields must be thoroughly worked into the soil 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 recommended rate of DEVRINOL 50-DF in 200 to 900 litres of water per hectare in a low pressure boom-type sprayer.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification. Boom height must be 60 cm or less above the crop or ground.

DO NOT apply by air.

Buffer zones:

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, shelter belts, woodlots, hedgerows, riparian areas and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of Application	Crop	Buffer Zones (metres) Required for the Protection of:		
		Aquatic Habitats of Depths:		Terrestrial habitat
		Less than 1m	Greater than 1m	
Field Sprayer*	Fuzzy squash	1	0	10
	Basil, broccoli, Brussels sprouts, cabbage, cauliflower, Chinese broccoli, Chinese mustard cabbage, Chinese radish, Chinese cabbage, garlic, kohlrabi, pepper, pumpkin, rutabaga, squash, strawberry, tobacco and tomato	1	0	15
	Grapes, caneberries, lowbush and highbush blueberries, asparagus (seedlings and new plantings), and field-grown nursery and container stock	2	1	30
	Established asparagus, cranberries	3	1	40

* For field sprayer application, buffer zones can be reduced with the use of drift-reducing spray shields. When using a spray boom fitted with a full shield (shroud, curtain) that extends to the crop canopy, the labelled buffer zone can be reduced by 70%. When using a spray boom where individual nozzles are fitted with cone-shaped shields that are no more than 30 cm above the crop canopy, the labelled buffer zone can be reduced by 30%.

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture.

When mixing DEVRINOL 50-DF, make a slurry and add to a nearly filled spray tank with adequate agitation. This will enhance initial mixing.

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.

Allow the pump to run several minutes before application to insure proper suspension and mixing. The suspension should not be left in the spray tank for prolonged periods; batches should be mixed and applied the same day.

NOTE: All rates are given on a broadcast basis. Reduce rates proportionately for band or strip treatment, using the following formula:

$$\frac{\text{Spray Band Width (cm)}}{\text{Row Width (cm)}} \times \text{Broadcast rate in Kg per hectare} = \text{kg Devrinol 50-DF per hectare for band treatment}$$

WEEDS CONTROLLED

WEEDS CONTROLLED BY 9 KG/HA DEVRINOL 50-DF - SURFACE APPLICATION

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

Annual Grasses:

Annual bluegrass (*Poa annua*)
Barnyard grass (*Echinochloa crusgalli*)
Foxtail (*Setaria* spp.)
Large crabgrass (*Digitaria sanguinalis*)
Sandbur (*Cenchrus* spp.)
Wild oats (*Avena fatua*)

Annual Broadleaf Weeds:

Chickweed (*Stellaria media*)
Small-flowered mallow* (*Malva parviflora*)
Annual sow-thistle (*Sonchus oleraceus*)
Groundsel (*Senecio* spp.)
Pineapple weed (*Matricaria matricarioides*)
Redroot pigweed (*Amaranthus retroflexus*)
Prickly lettuce (*Lactuca scariola*)
Prostrate knotweed (*Polygonum aviculare*)
Purslane (*Portulaca oleracea*)
Storks bill (*Erodium cicutarium*)
Lamb's quarters (*Chenopodium album*)

* *From seed*

WEEDS CONTROLLED BY 2.25 TO 4.5 KG/HA DEVRINOL 50-DF PREPLANT INCORPORATED OR POST-TRANSPLANT SURFACE APPLICATION

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

Annual Grasses:

Barnyard grass (*Echinochloa crusgalli*)
Crabgrass (*Digitaria* spp.)
Fall panicum (*Panicum dichotomiflorum*)
Goosegrass (*Eleusine indica*)

Annual Broadleaf Weeds:

Carpetweed (*Mollugo verticillata*)
Purslane (*Portulaca oleracea*)
Lamb's-quarters (*Chenopodium album*)
Pigweed (*Amaranthus* spp.)
*Common ragweed (*Ambrosia artemisiifolia*)

**Suppression*

APPLICATIONS AND RATES

FRUIT CROPS

DEVRINOL 50-DF can be used on the following crops:

- **Newly planted or established strawberries.**
- **Established grapes.**
- **Newly planted or established caneberries (blackberries, raspberries, boysenberries and loganberries).**
- **Highbush blueberries.**
- **Cultivated lowbush blueberries.**

Where recommended for use on established crops, apply DEVRINOL 50-DF only to stands that have been established for at least one year in the field, orchard or vineyard. Where recommended for use on newly planted crops, application may be made immediately after transplanting.

Use as a directed spray and avoid contact with fruit or foliage. Do not apply when fruit is on the ground during the harvest period. Do not graze treated areas.

To avoid injury to crops not specified on the label do not plant until 12 months after the last DEVRINOL 50-DF application.

Do not apply DEVRINOL 50-DF to frozen ground. For best results, the treatment must reach the zone of weed seed germination. If rainfall does not occur within 7 days for a spring or fall application or 2 days for a summer application (June, July and August), a shallow incorporation to a depth of 2.5 to 5 cm or an irrigation (sprinkler or flood) with sufficient water to wet the soil to a depth of 5 to 10 cm is necessary.

Newly planted or established strawberries - Application of DEVRINOL 50-DF should be delayed until the desired number of daughter plants have become established. Do not apply from bloom to harvest. See paragraph below.

Established grapes: See paragraph below caneberries.

Tank Mix with GRAMOXONE®: If the use of this tank mix is desired, add the required DEVRINOL 50-DF to the spray tank followed by the required amount of GRAMOXONE®. Apply 9 kg of DEVRINOL 50-DF plus 5.5L of GRAMOXONE® in 1100 L water per broadcast hectare as a directed spray to the base of vines. Avoid Contact with foliage, fruit, young growing shoots, suckers and green bark. Make only one application per season.

Newly planted or established caneberries (blackberries, raspberries, boysenberries and loganberries): See paragraph below.

Apply 9 kg DEVRINOL 50-DF per broadcast hectare to the soil surface for control of all weeds listed (WEEDS CONTROLLED BY 9 KG/HA). Apply in the fall through early spring prior to weed emergence.

Highbush Blueberries: Annual Grasses and some Broadleaf Weeds - Apply one application per season of 9 kg of DEVRINOL® 50-DF per broadcast hectare in a band. Apply in the fall through early spring prior to weed emergence. Do **not** apply to frozen ground. Do not apply within 70 days of harvest.

Cultivated Lowbush Blueberries: Germinating Annual Grasses and Broadleaf Weeds: Apply 9 kg of DEVRINOL® 50-DF per broadcast hectare in late fall/early spring when blueberries are dormant. Make only one application per season. Do **not** apply within 70 days of harvest.

Cranberries: For the control of **grass weeds (including rice cut-grass)** apply 9-13.4 kg of DEVRINOL 50-DF per hectare. Apply only one application per year as a broadcast application. Application should be made in late winter (BC only) or spring - fall application is prohibited. If rainfall does not occur after treatment, irrigate with sufficient water to wet the soil to a maximum depth of 10cm.

DEVRINOL 50-DF Tank Mixed with Residual Herbicides for Annual Weed Control

Consult the residual herbicide labels for other directions and precautionary information.

Raspberries (British Columbia Only): For use on soils with a range of 8-10% organic matter. Apply a tank mix of 4 kg of DEVRINOL 50-DF plus 412 to 837 g of SINBAR per hectare preemergence to weed growth or after weed removal; for best activity apply to moist soil. If no rain occurs shortly after application, irrigate to activate the chemicals.

VEGETABLE and FIELD CROPS

BASIL

For control of broadleaf weeds and grasses, apply DEVRINOL 50DF at a rate of 2.2-4.4 kg/ha in 200 to 900 L water/ha. One application per year by ground or preplant incorporated. Usual rotational crop restrictions apply.

To avoid injury to crops not specified on the label, do not plant until 12 months after the last DEVRINOL 50-DF application.

CAUTION: Use of DEVRINOL at the high label rates of application may result in temporary crop stunting or retardation however crops will outgrow the injury and yield is unaffected.

ASPARAGUS, TOMATOES AND TOBACCO

To avoid injury to crops not specified on the label do not plant until 12 months after the last DEVRINOL 50-DF application.

Asparagus (Seedlings and new Plantings)

Apply to the soil surface 4.5 to 9 kg of DEVRINOL 50-DF per broadcast hectare preemergent to crop and weeds. Refer to WEEDS CONTROLLED lists for listed weeds and use of appropriate rate. Make only one application per season. Use the lower rate on light soils (coarse textured sandy and sandy-loam). For best results, irrigate if rainfall does not occur within two days after application.

Asparagus (Established)

Tank mix with PRINCEP NINE-T (simazine) - apply a tank mix of 9 to 13.4 kg of DEVRINOL 50-DF plus 1.5 to 2.75 kg of PRINCE[®]P NINE-T[®] in 150 to 300 L water per hectare. Apply preemergent to established beds with a field sprayer. Make only one application per season. Do not apply within 6 days of harvest.

TOMATOES (Direct seeded and Transplanted)

Apply and incorporate before planting 2.25 to 4.5 kg DEVRINOL 50-DF per broadcast hectare. Use the lower rate on light soils (coarse textured-sandy and sandy-loam). 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 2.5 to 5 cm. Incorporate the same day as applied, using equipment which will result in uniform incorporation of the herbicide to the desired depth.

If broadleaf weeds not listed on this label become a problem during the growing season, follow with a sequential application of a registered broadleaf herbicide.

Tobacco (Transplanted)

Apply to the soil surface 2.25 to 4.5 kg DEVRINOL 50-DF per broadcast hectare. Use the lower rate on light soils (coarse textured-sandy and sandy-loam). Apply DEVRINOL 50-DF immediately following transplanting in a 25 to 30 cm band directly over the top of transplants, so that the treatment reaches the soil surface (See formula for band applications). For best results, lightly incorporate or irrigate if rainfall does not occur within 2 days after application.

Post-Harvest Operations: After harvesting or prior to planting of succeeding crops, a deep moldboard or disc plowing operation must be carried out. For banded applications, work the soil at right angles to the row.

Rotational Crop Restrictions: When DEVRINOL 50-DF is used on tobacco post-transplant banded, small grains may be seeded in rotation in the fall to prevent soil erosion. These grains may be stunted but not otherwise adversely affected.

Tank Mixing with AMBUSH[®] 500EC: if timing of DEVRINOL 50-DF application coincides with that of AMBUSH 500EC for insect control, a tank mix may be used. Follow directions on DEVRINOL 50-DF and AMBUSH 500EC labels for appropriate timing, rates and precautions.

For all other labelled uses of DEVRINOL 50-DF, to avoid injury to crops not specified on the label, do not plant until 12 months after the last application of DEVRINOL 50-DF.

**CABBAGE, BROCCOLI, CAULIFLOWER AND BRUSSEL SPROUTS (DIRECT SEEDED AND TRANSPLANTED)
(BRUSSEL SPROUTS FOR THE PROVINCE OF BRITISH COLUMBIA ONLY)**

For control of broadleaf weeds and grasses, apply DEVRINOL 50DF at a rate of 2.25 to 4.5 kg/ha pre-emergent or preplant incorporated. Use the lower rate on light soils (coarse textured-sandy and sandy-loam). One application per year by ground only, PHI 60 days. Usual rotational crop restrictions apply.

CAUTION: Use of DEVRINOL at the high label rates of application may result in temporary crop stunting or retardation however crops will outgrow the injury and yield is unaffected.

RUTABAGAS

Apply 2.2 - 4.4 kg/ha in 200-900 L water/ha pre-plant incorporated; broadcast. Make only one application per season. Shepherd's purse and Lady's thumb may escape treatment at this rate. Do not apply within 60 days of harvest.

NOTE TO BUYER/USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR SPECIAL USE APPLICATIONS:

The DIRECTIONS FOR USE for this product for the use(s) described below were developed by persons other than United Phosphorus Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. United Phosphorus Inc. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed.

Accordingly, the Buyer and User assume all liability arising, and agree to hold United Phosphorus, Inc. harmless from any claims based on efficacy and/or phytotoxicity in connection with the use(s) described.

DIRECTIONS FOR USE

COLE CROPS - Seeded Chinese broccoli, Chinese Mustard cabbage, Chinese Radish; Seeded and transplanted Chinese cabbage (nappa cabbage); transplanted Kohlrabi.

Apply 2.25-4.50 kg/ha in sufficient water. Apply as either pre-plant or pre-emergent; only one application per season. Do not plant subsequent crops not specified on the label until 12 months after the last application.

FUZZY SQUASH (TRANSPLANTS ONLY) For use in Eastern Canada only.

For the control of labelled weeds, apply DEVRINOL 50 DF at 3.0 kg/ha pre plant incorporated. Some crop stunting may be observed but this should not affect yield. DEVRINOL 50-DF requires rainfall or irrigation with sufficient water to wet the soil to a depth of 5 to 10 cm soon after application for adequate weed control. Application should be timed to take advantage of rainfall if irrigation is not available.

GARLIC

Apply DEVRINOL 50DF at a rate of 2.24 to 4.5 kg/ha in 200-900 litres water/ha, pre-emergent. One application per season, by ground only.

PEPPERS

Apply DEVRINOL 50DF at a rate of 2.24 to 4.5 kg/ha pre-plant incorporated. One application per season.

DIRECT SEEDED PUMPKIN AND SQUASH

For the control of labelled weeds, apply 2.24-4.5 kg/ha in 200-900 L water/ha pre-emergent, ground application. Make only one application per season. Use the lower rate on light soils (coarse textured-sandy and sandy-loam). Shepherd's-purse and Lady's thumb may escape treatment at this rate. DEVRINOL 50-DF requires rainfall or irrigation with sufficient water to wet the soil to a depth of 5 to 10 cm soon after application for adequate weed control. Application should be timed to take advantage of rainfall if irrigation is not available.

STRAWBERRIES - newly planted (British Columbia Only)

Apply DEVRINOL 50DF at a rate of 3.0 to 4.0 kg/ha and 0.6-0.83 kg/ha of Princep® Nine-T. Apply 1-2 weeks after transplanting prior to weed emergence. One application per year, by ground application.

FIELD GROWN NURSERY AND CONTAINER STOCK

Only apply to transplanted or established stock, DO NOT apply to species right after direct seeding.

For control of annual grasses and broadleaf weeds listed on full label (WEEDS CONTROLLED BY 9 kg/ha) in the field grown nursery stock, container grown ornamentals and ground covers listed below, use the current label rate:

Apply 9 kg of DEVRINOL 50-DF per broadcast hectare in 470 litres of water (90 g per 10 litres water per 100 sq. m) late fall or early spring.

Deciduous and Evergreen Trees: ash, birch, black walnut, cedar, cypress, dogwood, Douglas fir, fir, hemlock, Japanese larch and pin oak.

Deciduous and Evergreen Shrubs: aucuba, azalea, bottlebrush, camellia, cotoneaster, crape myrtle, dogwood, forsythia, honeysuckle (Lonicera), leucothoe, nandina, photinia, viburnum.

Fruits and Nuts: filbert, grape and walnut.

Ground covers: ajuga, hederia, hypericum, ivy, lantana, liriopse, pachysandra, sedum and vinca

Flowers: aster, dahlia, daisy, geranium, narcissus, petunia, plantain lily (hosta).

Container growth ornamentals: abelia, ageratum, azalea, bottlebrush, bougainvillea, camellia, cedar, cotoneaster, crape myrtle, cypress, dogwood, Douglas fir, eucalyptus, fir, forsythia, gardenia, geranium, heather, hibiscus, leucothoe, liriopse, nandina, pachysandra, photinia, raphiolepis, sedum, star jasmine, vinca.

ORNAMENTAL AND FORESTRY STOCK

DEVRINOL 50-DF does not control established weeds. It must be applied to freshly weeded soil before weeds germinate or during fall and winter months.

DEVRINOL 50-DF can be applied to newly planted container grown stock after soil has settled from first watering, field grown nursery stock, and to established plants.

DEVRINOL 50-DF needs mechanical incorporation (such as power tiller), adequate irrigation or natural moisture (rainfall or snow) for optimum results. The treatment must reach the zone of weed seed germination. If rainfall does not occur within 7 days for a spring or fall application or 2 days for a summer application (June, July and August), a shallow incorporation to a depth of 2.5 to 5 cm or an irrigation (sprinkler or flood) with sufficient water to wet the soil to a depth of 5 to 10 cm is necessary.

NURSERY STOCK - FIELD GROWN (ORNAMENTAL AND FORESTRY)

Consult the list of plant species on which DEVRINOL 50-DF can be used.
Apply DEVRINOL 50-DF as a broadcast treatment over young nursery stock or as a directed spray to larger stock either as a band or broadcast application.
Application can be made anytime of the year to weed free soil. However, since DEVRINOL 50-DF requires rainfall or irrigation with sufficient water to wet the soil to a depth of 5 to 10 cm soon after application for adequate weed control, application should be timed to take advantage of rainfall if irrigation is not available. Fall and winter applications will provide excellent weed control the following spring and summer.

Thorough incorporation of DEVRINOL 50-DF into the soil to a depth of 2.5 - 5 cm will provide excellent weed control with less rainfall required.
One application of DEVRINOL 50-DF should provide adequate weed control for a growing season in temperate areas.

CONTAINER GROWN ORNAMENTALS

Consult the list of plant species on which DEVRINOL 50-DF can be used.
Apply DEVRINOL 50-DF as a broadcast application over the containers.
Normal irrigation or rainfall (if a fall or winter application is made in cold areas) should provide sufficient water for satisfactory weed control.
DEVRINOL 50-DF is recommended on several different container potting soil mixtures. These mixtures include those containing 30% soil and/or sand and mixtures containing no soil. (Example: perlite, peat, bark, sawdust and sand).

GROUND COVERS

Apply DEVRINOL 50-DF as a broadcast treatment over the ground covers. Irrigate immediately with sufficient water to wet the soil to a depth of 5 to 10 cm or apply when rainfall is expected. Use a boom sprayer for larger areas.

ORNAMENTALS AND NURSERY STOCK

Deciduous and Evergreen Trees:

Acer	Laburnum	Pinus	Populus
Crataegus	Malus	Pittosporum	Prunus
Gleditsia	Picea	Podocarpus	Pyrus

Deciduous and Evergreen Shrubs:

Asparagus (Sprengeri)	Hypericum	Pittosporum	Rhododendron
Buxus	Ilex	Podocarpus	Rosa
Euonymus	Juniperus	Pyracantha	Taxus
Hibiscus	Ligustrum		

Ground Covers:

Gazania

Container Grown:

Agapanthus	Hedera	Pinus	Rhododendron
Asparagus	Ilex	Podocarpus	Rosa
Buxus	Juniperus	Pyracantha	Thuja
Euonymus	Ligustrum		

APPLICATION RATES

For control of the listed annual grasses and broadleaf weeds (WEEDS CONTROLLED BY 9 KG/HA) in the above ORNAMENTALS AND FORESTRY STOCK, NURSERY STOCK, CONTAINER GROWN ORNAMENTALS and GROUND COVERS use the following rates:

Transplanted (lining out): apply 9 kg of DEVRINOL 50-DF per broadcast hectare in 470 litres of water (90 g per 10 litres water per 100 sq. m) as soon as possible after lining out.

Established: apply 9 kg of DEVRINOL 50-DF per broadcast hectare in 470 litres of water (90 g per 10 litres water per 100 sq. m) late fall or early spring. DEVRINOL 50-DF may be used alone or tank-mixed with Princep Nine-T Herbicide at a rate of 1.22 kg per broadcast hectare for control of broadleaf weeds not listed on this label.

Resistance-Management Recommendations

For resistance management, DEVRINOL 50-DF is a Group 15 herbicide. Any weed population may contain or develop plants naturally resistant to DEVRINOL 50-DF and other Group 15 herbicides. The resistant biotypes may dominate 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 or other Group 15 herbicides within a growing season (sequence) or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group when such use is permitted. To delay resistance, the less resistance-prone partner should control the target weed(s) as effectively as the more resistance-prone partner.
- Herbicide use should be based on an integrated weed management program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical control methods), cultural (for example, higher crop seeding rates; precision fertilizer application method and timing to favour the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Monitor weed populations after herbicide application for signs of resistance development (for example, only one weed species on the herbicide label not controlled). If resistance is suspected, prevent weed seed production in the affected area if possible by an alternative herbicide from a different group. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- Have suspected resistant weed seeds tested by a qualified laboratory to confirm resistance and identify alternative herbicide options.

- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.

For further information or to report suspected resistance, contact a company representative at 1-800-438-6071 or at www.upi-usa.com.

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