



**DuPont™ Krovar® I DF**  
herbicide

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# DuPont™ Krovar® I DF

## herbicide

### Dispersible Granules

Active Ingredients	By Weight
Bromacil [5-bromo-3-sec-butyl-6-methyluracil]	40%
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea]	40%
<b>Other Ingredients</b>	20%
<b>TOTAL</b>	100%

EPA Reg. No. 352-505      EPA Est. No. \_\_\_\_\_

#### Nonrefillable Container

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

OR

#### Refillable Container

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

### KEEP OUT OF REACH OF CHILDREN

### CAUTION

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

#### FIRST AID

**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 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 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.

**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 induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

For medical emergencies involving this product, call toll free 1-800-441-3637.

### PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed or if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

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

#### Pilots, flaggers and groundboom applicators must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

In addition to the above PPE, groundboom applicators must also wear: chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

#### Mixers, loaders, other applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride.
- A NIOSH approved dust/mist filtering respirator with any N, R, P, or HE filter or with approval number prefix TC-21C.
- Chemical resistant apron when mixing, loading, or cleaning equipment or spills.

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.

See 'Engineering Control Statement' for additional requirements.

### ENGINEERING CONTROL 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 listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)]. Flaggers supporting aerial applications must use an enclosed cab that meets the definition in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)] for dermal protection.

### USER SAFETY RECOMMENDATIONS

**Users should:** Wash hands thoroughly with soap and water after handling and 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

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.

Bromacil is known to leach through soil and has been found in ground water as a result of normal field use. Users are advised not to apply in areas where soils are permeable, particularly where ground water is used for drinking water. Consult with the pesticide state lead agency for information regarding soil permeability and aquifer vulnerability in your area.

## PRODUCT INFORMATION

DuPont™ KROVAR® I DF is a dispersible granule to be mixed in water and applied as a spray for selective control of weeds in citrus and for non-crop weed control.

KROVAR® I DF controls many annual weeds and, at the highest rates allowed by this label, it controls certain perennial weeds.

Moisture is necessary to move the herbicide into the root zone of weeds. Best results are obtained if treatment is made to moist soil, and moisture is supplied by rainfall or sprinkler irrigation within two weeks after application. Weed control symptoms are slow to appear and may not become apparent until the herbicide has been carried into the root zone of the weeds by moisture. The degree and duration of control will vary with the amount of herbicide applied, soil texture, rainfall, and other soil and water management practices.

## USE PRECAUTIONS AND RESTRICTIONS

KROVAR® I DF is not to be used in any recreational areas or around homes.

Injury to or loss of desirable trees or other plants may result from failure to observe the following:

Do not apply (except as recommended for crop use), or drain or flush equipment on or near desirable trees or other plants, or on areas where their roots may extend, or in locations where the chemical may be washed or moved into contact with their roots. Do not use on lawns, walks, driveways, tennis courts or similar areas. Do not use in home fruit plantings nor in citrus orchards interplanted to other trees or desirable plants. Prevent drift of dry powder or spray to desirable plants. Keep from contact with fertilizers, insecticides, fungicides and seeds.

Do not apply this product through any type of irrigation system.

Do not graze cattle in treated areas.

Treated areas may be planted to citrus trees one year after last application. Do not replant to other crops within two years after last application as injury may result.

### NOTE: Additional Precautions

Avoid storage of pesticides near well sites.

Calibrate sprayers only with clean water away from the well site.

Measure out only enough KROVAR® I DF for the job at hand.

Avoid over-filling the spray tank.

Do not discharge excess material as a point source.

Dilute and agitate excess spray solution and apply at labeled rates.

## CROP ROTATION BIOASSAY

In sites where KROVAR® I DF has been used, a field bioassay should be completed prior to planting any desired crop. In arid climates (10 inches of rainfall or less) or areas where drought conditions have prevailed for one or more years, a field bioassay must be completed prior to planting any desired crop.

A successful field bioassay means growing to maturity a test strip of the crop(s) intended for production. The test strip should cross the entire field including knolls and low areas.

The results from the bioassay may require the two-year crop rotation interval to be extended.

## SPRAY PREPARATION

**Mixing in water** - Fill tank 1/2 full with water. Start agitation system, add KROVAR® I DF and continue adding water. Add separately each additional component of any tank-mix while adding water. Continue agitation throughout.

**Mixing in liquid fertilizer** - A fertilizer solution may be used in the spray mixture. Small quantities should be tested for compatibility by the following procedures before full scale mixing.

1. Put 1 pint fertilizer solution in a quart jar.
2. Mix 2 teaspoonfuls KROVAR® I DF with 2 tablespoons of water; mix thoroughly and add to fertilizer solution.
3. Close jar and shake well.
4. If other herbicides are used in the mixture, premix 2 teaspoons of dry materials or 1 teaspoon of liquids with 2 tablespoons of water; add to KROVAR® I DF-fertilizer solution mixture.
5. Close jar and shake well.
6. Watch mixture for several seconds; check again in 30 minutes.
7. If mixture does not separate, foam, gel or become lumpy, it may be used.

Provided the above procedure shows the mixture to be compatible, prepare the tank mixture as follows: Add the fertilizer solution to the spray tank first; with agitator running, add the required amount of KROVAR® I DF and thoroughly mix.

**Mixing with other herbicides** - Determine the tank mixture partner(s) compatibility with KROVAR® I DF by following the directions above. For Step 1 above, use 1 pint of water instead of the liquid fertilizer. Provided the above procedure shows the mixture to be compatible, KROVAR® I DF may be used in this tank mixture.

## SPRAY TANK CLEAN OUT

Thoroughly clean all traces of DuPont™ KROVAR® I DF from application equipment immediately after use. Flush the tank, pump, hoses, and boom with several changes of water after removing nozzle tips and screens (clean these parts separately). Dispose of the equipment wash water by applying it to a use-site listed on this label.

## RESISTANCE

When herbicides that affect the same biological site of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. Adequate control of these resistant weed biotypes cannot be expected. If weed control is unsatisfactory, it may be necessary to retreat the problem area using a product affecting a different site of action.

To better manage herbicide resistance through delaying the proliferation and possible dominance of herbicide resistant weed biotypes, it may be necessary to change cultural practices within and between crop seasons such as using a combination of tillage, retreatment, tank-mix partners and/or sequential herbicide applications that have a different site of action. Weed escapes that are allowed to go to seed will promote the spread of resistant biotypes.

It is advisable to keep accurate records of pesticides applied to individual fields to help obtain information on the spread and dispersal of resistant biotypes. Consult your agricultural dealer, consultant, applicator, and/or appropriate state agricultural extension service representative for specific alternative cultural practices or herbicide recommendations available in your area.

## INTEGRATED PEST MANAGEMENT

This product may be used as part of an Integrated Pest Management (IPM) program that can include biological, cultural, and genetic practices aimed at preventing economic pest damage. IPM principles and practices include field scouting or other detection methods, correct target pest identification, population monitoring, and treating when target pest populations reach locally determined action thresholds. Consult your state cooperative extension service, professional consultants or other qualified authorities to determine appropriate action treatment threshold levels for treating specific pest/crop systems in your area.

## DIRECTIONS FOR USE

It is a violation of federal law to use this product in a manner inconsistent with its labeling. DuPont™ KROVAR® I DF herbicide must only be used in accordance with instructions on this label. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

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.

Use of this product in certain portions of California, Oregon, and Washington is subject to the January 22, 2004 Order for injunctive relief in Washington Toxics Coalition et al vs EPA, Co1-132C (W.D. W.A.). For information, please refer to [www.epa.gov/espp/wtc/](http://www.epa.gov/espp/wtc/).

## AGRICULTURAL USES

### 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 12 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.

Chemical Resistant Gloves made of any Waterproof material.

Shoes plus socks.

## APPLICATION INFORMATION

Apply KROVAR® I DF with a properly calibrated fixed-boom power sprayer as a band or broadcast treatment. Apply any time of year provided overhead moisture (rainfall or sprinkler irrigation) is available to activate the herbicide, preferably just before or just after weeds have germinated.

All use rates of KROVAR® I DF are expressed for broadcast treatments. For band treatments, use proportionately less.

Use sufficient spray volume (minimum of 10 gallons per acre) to provide uniform coverage of the treated area and to allow proper dispersion and suspension of the product in the spray tank. Continuous agitation in the spray tank is required to keep the product in suspension. Agitate spray tank contents by mechanical or hydraulic means. If a by-pass or return line is used, it should terminate at a bottom of tank to minimize foaming. Do not use air agitation.

Best results are obtained if KROVAR® I DF is applied to bare ground. If weeds are present at application, tank mixtures with foliar active herbicides are recommended (see Tank Mixtures section of label). If dense populations of hard-to-kill weed species are present, control of these weeds prior to application of KROVAR® I DF is recommended.

### TANK MIXTURES

KROVAR® I DF may be tank mixed with other suitable herbicides registered for use in citrus. Refer to the tank mixture partner label(s) for any additional use information or restrictions. Follow the label guidelines that are the most restrictive.

KROVAR® I DF may also be tank mixed with appropriate adjuvants used with herbicides in citrus.

NOTE: If there is no prior use experience with the tank mixture combination, a compatibility test should be performed prior to adding the products into the spray tank. See SPRAY PREPARATION section of the label for further information.

When using DuPont™ KROVAR® I DF alone or in combination, thoroughly re-agitate the spray tank contents if allowed to settle.

## WEEDS CONTROLLED

### Annuals

Barnyardgrass	<i>Echinochloa crus-galli</i>
Brome, downy (cheatgrass)	<i>Bromus tectorum</i>
Chickweed, common	<i>Stellaria media</i>
Chickweed, mouseear	<i>Cerastium vulgatum</i>
Clovers (annual)	<i>Trifolium spp.</i>
Filaree	<i>Erodium spp.</i>
Fleabane, flaxleaved (hairy)	<i>Conyza bonariensis</i>
Foxtail	<i>Setaria spp.</i>
Goatweed	<i>Scoparia dulcis</i>
Groundsel	<i>Senecio spp.</i>
Horseweed (marestail)	<i>Conyza canadensis</i>
Johnsongrass	<i>Sorghum halepense</i>
Junglerice	<i>Echinochloa colona</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarter	<i>Chenopodium album</i>
Lettuce, wild	<i>Lactuca serriola</i>
Mustard, wild	<i>Brassica kaber</i>
Natalgrass (red top)	<i>Rhynchelytrum repens</i>
Nightshade (annual)	<i>Solanum spp.</i>
Pigweed	<i>Amaranthus spp.</i>
Pineappleweed	<i>Matricaria matricariodes</i>
Puncturevine, common	<i>Tribulus terrestris</i>
Purslane, common	<i>Portulaca oleracea</i>
Pusley, Florida	<i>Richardia scraba</i>
Ragweed, common	<i>Ambrosia artemisiifolia</i>
Sandbur (sandspur)	<i>Cenchrus spp.</i>
Shepherdspurse	<i>Capsella bursa-pastoris</i>
Sowthistle, annual	<i>Sonchus oleraceus</i>
Spanishneedles	<i>Bidens pilosa</i>
Thistle, Russian	<i>Salsola australis</i>

### Perennials (At maximum rates and repeat treatments)

Balsamapple vine (seedling)	<i>Momordica charantia</i>
Bermudagrass	<i>Cynodon dactylon</i>
Drymary	<i>Drymaria spp.</i>
Guineagrass	<i>Panicum maximum</i>
Milkweed vine (strangler)	<i>Morrenia odorata</i>
Quackgrass	<i>Agropyron repens</i>
Vines (seedlings)	

**NOTE:** Use the highest rates allowed by this label for best control of perennial weeds listed on this label. Partial control of perennial weeds can result with only a single treatment of KROVAR® I DF. Repeat applications are required (in season and/or annually) for best control of the perennial weeds on this label. Control of perennials may be improved by cultivation prior to treatment, otherwise, avoid working the soil as long as weed control continues or else effectiveness of the treatment may be reduced.

## CITRUS

Apply KROVAR® I DF as a band or broadcast treatment beneath and/or between trees. Aerial application is prohibited in citrus.

Avoid contact of citrus foliage and fruit with spray or mist. Avoid overlapping and shut off spray boom while starting, turning, slowing or stopping as injury to trees may result.

Temporary yellowing of citrus leaves may occur following treatment. As injury to citrus trees may result, do not use on soils with less than 1% organic matter. Do not use on poorly drained soils, gravelly soils or thinly covered or exposed subsoils.

Do not treat trees planted in irrigation furrows. Do not treat diseased or stressed citrus trees.

Do not use in citrus groves inter-planted with other trees or desirable plants or in areas where roots of desirable plants or trees may extend, as injury may result.

For all states listed below, when making multiple applications, do not apply at less than 60 day intervals to trees less than 4 years old and 80 days to trees 4 years old or greater. A maximum of two applications of product per year is allowed. Thoroughly clean all traces of KROVAR® I DF from application equipment immediately after use. Flush tank, pump, hoses and boom with several changes of water after removing nozzle tips and screens (clean these parts separately.)

## CALIFORNIA, ARIZONA

**Trees Established for at least Three Years:** Best results occur when applied in late fall or early winter, but before winter annuals become well established. Application should be made after the first fall or early winter rains have settled the soil.

For the initial treatment, apply 4-5 pounds KROVAR® I DF per acre on coarse soils containing 1-2% organic matter and 5-6 pounds per acre on fine soils, or soils with organic matter of 2 1/2% or more. Alternatively, apply 3-4 pounds per acre in the fall and repeat at 2-4 pounds per acre in the spring. Do not exceed 6 pounds per acre per year.

Use the highest rate allowed by this label where groundsel or puncturevine are known to be a problem. These rates will also suppress low density stands of bermudagrass and yellow nutsedge. Repeat annually for best treatment effect.

## FLORIDA

### USE RESTRICTIONS

The use of KROVAR® I DF (bromacil + diuron) is prohibited for weed control in non-bedded citrus groves located on any permeable, better drained soil identified in the intended site of application. Permeable, better drained soils which occur in citrus producing areas of the state include soils unnamed and characteristic of quartzipsamments, and the following soil series classifications:

Adamsville	Dade	Orsino
Archbold	Florahome	Palm Beach
Astatula	Fort Meade	Paola
Bahiahonda	Gainesville	Satellite
Broward	Lake	St. Augustine
Canaveral	Lakewood	St. Lucie
Candler	Neilhurst	Tavares
Cocoa	Orlando	

## APPLICATION INSTRUCTIONS

Apply KROVAR® I DF as a band treatment only using a properly calibrated fixed-boom power sprayer. **Do not use Trunk to Trunk.** All use rates of KROVAR® I DF are expressed for broadcast treatments. For band treatments, use proportionately less.

Use sufficient spray volume (minimum of 10 gallons per acre) to provide uniform coverage of the treated area and to allow proper dispersion and suspension of the product in the spray tank. Continuous agitation in the spray tank is required to keep the product in suspension.

Do not apply more than 16 pounds of KROVAR® I DF per treated acre per year. This amount corresponds to 6.4 pounds of bromacil and 6.4 pounds of diuron, the active ingredients in KROVAR® I DF.

The maximum allowable use rate for bromacil is 6.4 pounds per treated acre per year inclusive of all bromacil formulations. The maximum allowable use rate for diuron is 6.4 pounds per treated acre per year inclusive of all diuron formulations.

Multiple applications may improve control of “hard-to-kill” weed species.

**Trees Established Less Than One Year:** For control of annual weeds, apply 2-4 pounds of DuPont™ KROVAR® I DF per treated acre to maintain weed control. Do not apply more than 6 pounds per treated acre during any 6 month period nor more than 8 pounds per treated acre during the first year.

**Trees Established One to Three Years:** For control of annual weeds, apply 2-4 pounds of KROVAR® I DF per treated acre. A second application may be made when needed to maintain weed control, but do not exceed 8 pounds per treated acre per year.

**Trees Established Three or More Years:** Apply 4-8 pounds per treated acre to maintain weed control. Do not apply more than 16 pounds of KROVAR® I DF per treated acre per year.

## LOUISIANA

**Trees Established for at least Three Years:** Make a single application of 2 to 4 pounds per acre on coarser soils (sands, loamy sands, sandy loams) and 4 to 6 pounds per acre on finer soils (silt loams, clay loams, or soils with organic matter of 2 1/2% or more); use the highest rate allowed by this label for maximum suppression of perennials. Alternatively, make two applications per year at rates of 2 pounds per acre on coarser soils and 3 pounds per acre on finer soils; make the second application when needed to maintain weed control. Do not apply more than 6 pounds per acre per year.

## TEXAS

**Trees Established Less than One Year:** Apply 2-4 pounds KROVAR® I DF per acre to maintain weed control. Do not apply at less than 60-day intervals. Do not apply more than 6 pounds per acre per year.

**Trees Established One or Two Years:** Apply 2-4 pounds KROVAR® I DF per acre. A second application may be made when needed to maintain weed control, but do not exceed 6 pounds per acre per year.

**Trees Established Three or More Years:** Make one to two applications per year to maintain weed control. Use 2-4 pounds per acre on coarser soils (sands, loamy sands, sandy loams) and 4-6 pounds per acre on finer soils (silt loams, clay loams, or soils with organic matter of 2 1/2 % or more). Use the higher rate for maximum suppression of perennials. Do not use more than 6 pounds per acre per year.

## NON-AGRICULTURAL USES

### 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 Part170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Noncrop weed control is not within the scope of the Worker Protection Standard.

Do not enter or allow others to enter the treated area until sprays have dried.

## USE RESTRICTIONS - STATE OF FLORIDA

In the state of Florida the use of KROVAR® I DF (bromacil + diuron) is prohibited in the counties of Hardee, Highland, Polk, Orange and Lake. For Non-Agricultural Usage in all other areas of the state, do not apply more than 16 pounds per acre per year of KROVAR® I DF. This amount corresponds to 6.4 pounds of bromacil and 6.4 pounds of diuron, the active ingredients in KROVAR® I DF. The maximum allowable use rate for bromacil is 6.4 pounds per acre per year inclusive of all bromacil formulations.

## APPLICATION INFORMATION

KROVAR® I DF is recommended for general weed control as follows: uncultivated non-agricultural areas (such as, airports, highway, railroad and utility rights-of-way, sewage disposal areas); uncultivated agricultural areas (non-crop producing, which includes: farmyards, fuel storage areas, fence rows, barrier strips); industrial sites (outdoor, such as, lumberyards, pipeline and tank farms).

Apply KROVAR® I DF using a properly calibrated fixed-boom power sprayer. Use sufficient spray volume (minimum of 10 gallons per acre) to provide uniform coverage of the treated area and to allow proper dispersion and suspension of the product in the spray tank. All rates of KROVAR® I DF are expressed for broadcast treatments. For band treatments, use proportionately less.

A maximum of 12 pounds active ingredient bromacil per acre per year is allowed. A maximum of 12 pounds active ingredient diuron is allowed per acre per year in areas of high rainfall or dense vegetation. A maximum of 8 pounds of active ingredient diuron is allowed in all other areas. Apply a maximum of two applications per year. The minimum retreatment interval is 90 days.

Combination with other herbicides broadens the spectrum of weeds controlled. In addition, total vegetation control can be achieved with higher rates of KROVAR® I DF plus residual-type companion herbicides. To improve the control of emerged weeds, add surfactant at 0.25% by volume.

**Note:** Applications may also be made using a handgun sprayer. Use a spray volume of at least 40 gallons per acre to insure uniform coverage. For small areas, a hand sprayer or sprinkling may be used.

## NON-CROP WEED CONTROL

### APPLICATION TIMING

Apply DuPont™ KROVAR® I DF as a preemergence spray prior to or during the rainy season when weeds are actively germinating or growing. Moisture is required to activate and move KROVAR® I DF into the root zone of weeds for preemergence control. For best preemergence control, apply prior to rainfall and weed germination.

In arid regions of the Western U.S., to insure adequate moisture for activation and even dispersion of the herbicide in the soil profile, KROVAR® I DF should be applied several weeks prior to the Fall freeze or shortly after Spring thaw to coincide with periods of higher seasonal moisture probability. Do not treat frozen or saturated soils, or soils that are non-receptive to percolation.

Do not apply to sites which have roots of desirable plants growing into the treatment zone as plant injury or death may occur. Do not apply to hard or impervious soils, water saturated soils or to any surface that does not allow the herbicide to be moved into the soil horizon with moisture. Unusually heavy rainfall shortly after application may move the product off-target to the lowest surrounding point and cause plant injury or death.

If herbicide treated soil is disturbed by any physical or mechanical means, the herbicide barrier is disrupted and the likelihood of non-performance may increase. For best performance results, make sure the treatment area is stable after the application for the desired weed control period.

### APPLICATION RATES

Apply KROVAR® I DF at the rates indicated by weed type. When applied at lower rates, KROVAR® I DF provides short-term control of weeds listed; when applied at higher rates, weed control is extended.

### WEEDS CONTROLLED

KROVAR® I DF effectively controls the following broadleaf weeds and grasses when applied at the rates shown.

#### Broadleaf Weeds--6-8 pounds per acre

Clovers (annual)	<i>Trifolium spp.</i>
Fiddleneck	<i>Amsinckia intermedia</i>
Filaree	<i>Erodium spp.</i>
Knapweed, diffuse	<i>Centaurea diffusa</i>
Lambsquarter, common	<i>Chenopodium album</i>
Lettuce, prickly	<i>Lactuca serriola</i>
Mustards	<i>Brassica spp.</i>
Pigweed	<i>Amaranthus spp.</i>
Ragweed	<i>Ambrosia spp.</i>
Sunflower, common	<i>Helianthus annuus</i>
Thistle, Russian	<i>Salsola iberica</i>

#### Broadleaf Weeds--8-12 pounds per acre

Carrot, wild	<i>Daucus carota</i>
Dandelion, common	<i>Taraxacum officinale</i>
Dock, curly	<i>Rumex crispus</i>
Knapweed, spotted	<i>Centaurea maculosa</i>
Knotweed, prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Marestail, common (horseweed)	<i>Conyza canadensis</i>
Parsnip, wild	<i>Pastinaca sativa</i>
Plantain	<i>Plantago spp.</i>
Puncturevine	<i>Tribulus terrestris</i>
Spurge	<i>Euphorbia spp.</i>
Thistle, milk	<i>Silybum marianum</i>
Yarrow, common	<i>Achillea millefolium</i>

#### Broadleaf Weeds--12-16 pounds per acre

Cinquefoil, common	<i>Potentilla canadensis</i>
Goldenrod	<i>Solidago spp.</i>
Milkweed, common	<i>Asclepias syriaca</i>

#### Grasses--6-8 pounds per acre

Barley, foxtail	<i>Hordeum jubatum</i>
Brome	<i>Bromus spp.</i>
Cheat	<i>Bromus secalinus</i>
Cupgrass, Prairie	<i>Eriochloa contracta</i>
Foxtail	<i>Setaria spp.</i>
Oat, wild	<i>Avena fatua</i>
Ryegrass, Italian	<i>Lolium multiflorum</i>
Quackgrass	<i>Agropyron repens</i>
Wheatgrass, intermediate	<i>Agropyron intermedium</i>

#### Grasses--8-12 pounds per acre

Bahiagrass	<i>Paspalum notatum</i>
Crabgrass	<i>Digitaria spp.</i>
Goosegrass	<i>Eleusine indica</i>
Rye	<i>Secale cereale</i>
Vaseygrass	<i>Paspalum urvillei</i>

#### Grasses--12-16 pounds per acre

Bluegrass	<i>Poa spp.</i>
Dropseed, sand *	<i>Sporobolus cryptandrus</i>
Fescue	<i>Festuca spp.</i>
Saltgrass*	<i>Distichlis spp.</i>

\*Note: Best control of Saltgrass and Sand Dropseed is achieved from a Spring application prior to plant green-up.

For control of hard-to-kill perennials such as bermudagrass (*Cynodon dactylon*), bouncingbet (*Saporaria officinalis*), dogbane (*Apocynum spp.*), Johnsongrass (*Sorghum halepense*), and nutsedge (*Cyperus spp.*) apply 19 - 30 pounds per acre (except Florida).

For extended control of annual weeds and partial control of perennials such as bermudagrass and nutsedge, apply 10-18 pounds\* per acre. Use the higher KROVAR® I DF rates on adsorptive soils (high in organic matter or carbon). Best results occur when application is made just before weed emergence or in the early stages of weed growth.

**Retreating:** Apply 4 to 6 pounds per acre when annual weeds and grasses reappear on sites where weed growth has been controlled.

**Small Areas:** 1/4 cupful of KROVAR® I DF per 200 sq. ft. is approximately 15 pounds per acre.

### TANK MIXTURES

KROVAR® I DF may be tank mixed with other suitable herbicides registered for non-agricultural use. Refer to the tank mixture partner label(s) for any additional use information or restrictions. Follow the label guidelines that are the most restrictive.

KROVAR® I DF may also be tank mixed with appropriate adjuvants used with herbicides for non-agricultural use.

NOTE: If there is no prior use experience with the tank mixture combination, a compatibility test should be performed prior to adding the products into the spray tank. See SPRAY PREPARATION section of the label for further information.

When using KROVAR® I DF alone or in combination, thoroughly re-agitate the spray tank contents if allowed to settle.



## SPECIAL USES

### UNDER ASPHALT AND CONCRETE PAVEMENT

#### APPLICATION INFORMATION

DuPont™ KROVAR® I DF can be used to control weeds under asphalt and concrete pavement, such as that used in parking lots, highway shoulders, median strips, roadways, and other industrial sites.

KROVAR® I DF should only be used in an area that has been prepared according to good construction practices. Use sufficient water to insure uniform coverage, generally 100 gal per acre. Agitate the tank continuously to keep KROVAR® I DF in suspension.

#### APPLICATION TIMING

KROVAR® I DF should be applied immediately before paving to avoid lateral movement of the herbicide as a result of soil movement due to rainfall or mechanical means.

#### APPLICATION RATES

Apply KROVAR® I DF at 17 to 30 pounds per acre. Use a higher rate for hard to control weeds and/or for longer term weed control.

#### TANK MIXTURES

To control a broader spectrum of weeds, or for an extended period of weed control, a tank mixture of KROVAR® I DF at 7 to 15 pounds per acre plus DuPont™ OUST® XP at 4 to 8 ounces per acre may be used.

#### IMPORTANT PRECAUTIONS-UNDER ASPHALT ONLY

- Do not use KROVAR® I DF under pavement in residential properties such as driveways, or in recreational areas, including jogging or bike paths, tennis courts, or golf cart paths.
- Desirable plants may be injured if their roots extend into treated areas or if planted in treated areas.

## SPRAY DRIFT MANAGEMENT

The interaction of many equipment and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all these factors when making application decisions.

AVOIDING SPRAY DRIFT IS THE RESPONSIBILITY OF THE APPLICATOR.

#### IMPORTANCE OF DROPLET SIZE

The most effective way to reduce drift potential is to apply large droplets (>150 - 200 microns). The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. The presence of sensitive species nearby, the environmental conditions, and pest pressure may affect how an applicator balances drift control and coverage. **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 **Surface Temperature Inversions** sections of this label.

## CONTROLLING DROPLET SIZE - GENERAL TECHNIQUES

- **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 A HIGHER-CAPACITY NOZZLE INSTEAD OF INCREASING PRESSURE.**
- **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.

## CONTROLLING DROPLET SIZE - AIRCRAFT

- **Number of Nozzles** - Use the minimum number of nozzles with the highest flow rate that provide uniform coverage.
- **Nozzle Orientation** - Orienting nozzles so that the spray is emitted backwards, parallel to the airstream will produce larger droplets than other orientations.
- **Nozzle Type** - Solid stream nozzles (such as disc and core with swirl plate removed) oriented straight back produce larger droplets than other nozzle types.

## BOOM LENGTH AND HEIGHT

- **Boom Length (aircraft)** - The boom length should not exceed 3/4 of the wing length, using shorter booms decreases drift potential. For helicopters use a boom length and position that prevents droplets from entering the rotor vortices.
- **Boom Height (aircraft)** - Application more than 10 ft above the canopy increases the potential for spray drift.
- **Boom Height (ground)** Setting the boom at the lowest height which provides uniform coverage reduces the exposure of droplets to evaporation and wind. The boom should remain level with the crop and have minimal bounce.

## WIND

Drift potential increases at wind speeds of less than 3 mph (due to variable direction and inversion potential) or more than 10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given wind speed. **AVOID APPLICATIONS DURING GUSTY OR WINDLESS CONDITIONS.**

**NOTE:** Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they effect spray drift.

## TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, set up equipment to produce larger droplets to reduce effects of evaporation.

## SURFACE TEMPERATURE INVERSIONS

Drift potential is high during a surface temperature inversion. Surface inversions restrict vertical air mixing, which causes small suspended droplets to remain close to the ground and move laterally in a concentrated cloud. Surface inversions are characterized by increasing temperature 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. Their presence can be indicated by ground

fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates a surface inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **SHIELDED SPRAYERS**

Shielding the boom or individual nozzles can reduce the effects of wind. However, it is the responsibility of the applicator to verify that the shields are preventing drift and not interfering with uniform deposition of the product.

### **SENSITIVE AREAS**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (eg., residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (eg., when wind is blowing away from the sensitive areas).

## **STORAGE AND DISPOSAL**

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

**Pesticide Storage:** Store product in original container only. Store in a cool, dry place.

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

**Container Handling: Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable Container" or "Refillable Container" designation.**

**Nonrefillable Plastic and Metal Containers (Capacity Equal to or Less Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities

**Nonrefillable Plastic and Metal Containers (Capacity Greater Than 50 Pounds):** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Plastic and Metal Containers, e.g., Intermediate Bulk Containers [IBC] (Size or Shape Too Large to be Tipped, Rolled or Turned Upside Down):** Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying the contents from this container into application equipment or mix tank and before final disposal using the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Nonrefillable Paper or Plastic Bags, Fiber Sacks including Flexible Intermediate Bulk Containers (FIBC) or Fiber Drums With Liners:** Nonrefillable container. Do not reuse or refill this container. Completely empty paper or plastic bag, fiber sack or drum liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer for recycling if available or dispose of empty paper or plastic bag, fiber sack or fiber drum and liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**Refillable Fiber Drums With Liners:** Refillable container (fiber drum only). *Refilling Fiber Drum:* Refill this fiber drum with DuPont™ KROVAR® I DF containing bromacil and diuron only. Do not reuse this fiber drum for any other purpose. Cleaning before refilling is the responsibility of the refiller. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. *Disposing of Fiber Drum and/or Liner:* Do not reuse this fiber drum for any other purpose other than refilling (see preceding). Cleaning the container (liner and/or fiber drum) before final disposal is the responsibility of the person disposing of the container. Offer the liner for recycling if available or dispose of liner in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner. To clean the fiber drum before final disposal, completely empty the fiber drum by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application or manufacturing equipment. Then offer the fiber drum for recycling if available or dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances.

**All Other Refillable Containers:** Refillable container. *Refilling Container:* Refill this container with KROVAR® I DF containing bromacil and diuron only. Do not reuse this container for any other purpose. Cleaning before refilling is the responsibility of the refiller. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn out threads and closure devices. If damage is found, do not use the container, contact DuPont at the number below for instructions. Check for leaks after refilling and before transporting. If leaks are found, do not reuse or transport container, contact DuPont at the number below for instructions. *Disposing of Container:* Do not reuse this container for any other purpose other than refilling (see preceding). Cleaning the container before final disposal is the responsibility of the person disposing of the container. To clean the container before final disposal, use the following pressure rinsing procedure. Insert a lance fitted with a suitable tank cleaning nozzle into the container and ensure that the water spray thoroughly covers the top, bottom and all sides inside the container. The nozzle manufacturer generally provides instructions for the appropriate spray pressure, spray duration and/or spray volume. If the manufacturer's instructions are not available, pressure rinse the container for at least 60 seconds using a minimum pressure of 30 PSI with a minimum rinse volume of 10% of the container volume. Drain, pour or pump rinsate into application equipment or rinsate collection system. Repeat this pressure rinsing procedure two more times. Then, for Plastic Containers, offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn, unless allowed by state and local ordinances. For Metal Containers, offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Outer Foil Pouches of Water Soluble Packets (WSP):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling if available or, dispose of the empty outer foil pouch in the trash as long as WSP is unbroken. If the outer pouch contacts the formulated product in any way, the pouch must be triple rinsed with clean water. Add the rinsate to the spray tank and dispose of the outer pouch as described previously.

Do not transport if this container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, contact DuPont at 1-800-441-3637, day or night.

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