DUPONT

Krovar® I DF

herbicide

Dispersible Granules

	By Weight
Active Ingredients	80%
Bromacil [5-bromo-3-sec-butyl-6-methyluracil]	40%
Diuron [3-(3,4-dichlorophenyl)-1,1-dimethylurea]	40%
Inert Ingredients	20%
TOTAL	100%

EPA Reg. No. 352-505

KEEP OUT OF REACH OF CHILDREN

CAUTION

STATEMENT OF PRACTICAL TREATMENT

If on skin: Wash with plenty of soap and water. Get medical attention if irritation persists.

If in eyes: Flush with plenty of water. Get medical attention if irritation persists.

If swallowed: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person.

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

ACCEPTED
OCT 29 1997
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 352-505

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION ! Harmful if swallowed. Harmful if absorbed through skin. Causes eye irritation.

Avoid breathing dust or spray mist. Avoid contact with skin, eyes or clothing. In case of contact, immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

Long-sleeved shirt and long pants.
Waterproof gloves.
Shoes plus socks.

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

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.

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 by cleaning of equipment or disposal of wastes.

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.

IMPORTANT--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. Do not contaminate any body of water. Keep from contact with fertilizers, insecticides, fungicides and seeds.

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).

PESTICIDE HANDLING

- Loading site precautions and procedures.

- Calibrate sprayers only with clean water away from the well site.
- Make scheduled checks of spray equipment.
- Assure accurate measurement of pesticides by all operation employees.
- Mix only enough product for the job at hand.
- Avoid over-filling of spray tank.
- Do not discharge excess material as a point source.
- Dilute and agitate excess solution and apply at labeled rates.
- Avoid storage of pesticides near well sites.

GENERAL INFORMATION

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

KROVAR I DF controls many annual weeds, and, at higher rates, it controls certain perennial weeds.

Moisture is necessary to move the herbicides 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. The degree and duration of control will vary with the amount applied, soil texture, rainfall, and other soil and water management practices.

Resistance Management

When herbicides with the same mode of action are used repeatedly over several years to control the same weed species in the same field, naturally-occurring resistant weed biotypes may survive a correctly applied herbicide treatment, propagate, and become dominant in that field. These resistant weed biotypes may not be adequately controlled. Cultural practices such as tillage, preventing weed escapes from going to seed, and using herbicides with different modes of action within and between crop seasons can aid in delaying the proliferation and possible dominance of herbicide resistant weed biotypes.

Integrated Pest Management

DuPont recommends the use of Integrated Pest Management (IPM) programs to control pests. This product may be used as part of an Integrated Pest Management (IPM) program which can include biological, cultural, and genetic practices aimed at preventing economic pest damage. Application of this product should be based on IPM principles and practices including 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 should be used only in accordance with recommendations on this label, or in separate published DuPont recommendations available through local dealers.

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

AGRICULTURAL 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.
Waterproof gloves.
Shoes plus socks.

CITRUS

KROVAR I DF controls:

Annual Weeds

barnyard grass	natalgrass (red top)
chickweed	nightshade (annual)
crabgrass	pigweed
filaree	pineappleweed
fleabane	puncturevine
Florida pusley	purslane
foxtail	ragweed
goatweed	Russian thistle
groundsel	sandbur (sandspur)
horseweed	shepherdspurse
johnsongrass seedling	sowthistle (annual)
junglerice	spanishneedles
kochia	wild lettuce
lambsquarter	wild mustard

Perennial Weeds (At maximum rates and repeat treatments)

balsamapple vine (seedlings)	guineagrass
bermudagrass	milkweed (strangler)
heartleaf	vine (seedlings)
drymary	

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.

Apply with a properly calibrated fixed-boom power sprayer as a band or broadcast treatment beneath and/or between trees. Use sufficient water (min. 30 gals. per acre) to obtain uniform coverage; avoid contact of foliage and fruit with spray or mist. Avoid overlapping, and shut off spray boom while starting, turning, slowing or stopping, or injury to trees may result. Continuous agitation in the spray tank is required to keep the material in suspension.

Dosage rates are expressed as broadcast rates. For band treatment, use proportionately less.

Best results are obtained if KROVAR I DF is applied to bare ground. If vegetation is present at application, tank mixes with foliar active herbicides is recommended to control existing weeds (see tank-mixes below).

If dense populations of hard to kill species are present, control of these weeds prior to application of KROVAR I DF is recommended.

Temporary yellowing of citrus leaves may occur following treatment. Because injury to citrus trees may result do not use on soils with less than 1% organic matter (1/2% in Florida), poorly drained soils, gravelly soils, nor thinly covered or exposed subsoils; do not treat trees planted in irrigation furrows; do not treat diseased or stressed trees.

Do not use in citrus groves interplanted with other trees or desirable plants, or in home citrus plantings or in areas where roots of valuable plants or trees may extend as plant injury may result.

Do not replant treated areas to any crop within two years after last application as injury to subsequent crops may result, except that citrus trees may be planted one year after the last application.

Do not graze cattle in treated areas.

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

Use the higher range of rates where groundsel or puncturevine are known to be a problem. The higher rates will also suppress low density stands of bermudagrass and yellow nutsedge. Repeat annually.

FLORIDA

Do not use on citrus in the counties of Hardee, Highlands, Lake, Orange, and Polk, unless the citrus is "bedded".

Use only as a band application; Do not use "Trunk to Trunk".

- Do not use more than 8 lbs. KROVAR I DF per treated acre in any one application.
- Do not apply more than 16 lbs. KROVAR I DF per treated acre per year. This amount corresponds to 6.4 lbs. of bromacil and 6.4 lbs. of diruon, the active ingredients in KROVAR I DF.

The maximum allowable use rate for bromacil is 6.4 lbs. per treated acre per year inclusive of all bromacil formulations used within one year.

The maximum allowable use rate for diuron is 9.6 lbs. per treated acre per year inclusive of all diuron formulations used within one year.

- Multiple applications may improve control of "hard-to-kill" species.
- Do not apply at less than 60 day intervals.

Trees Established Less Than One Year: For control of annuals, apply 2 to 4 lbs. KROVAR I DF per treated acre as needed to maintain weed control. Do not apply more than 6 lbs. per treated acre during any 6-month period nor more than 8 lbs. per treated acre during the first year.

Trees Established One to Three Years: For control of annuals, apply 2 to 4 lbs. "Krovar" I DF per treated acre. A second application may be made when needed to maintain weed control, but do not exceed 8 lbs. per treated acre per year.

Trees Established Three or More Years:

Apply 4 to 8 lbs per treated acre as needed to maintain weed control. Do not apply more than 16 lbs KROVAR I DF per treated acre per year.

Tank Mixtures:

Tank mixtures of KROVAR I DF and paraquat are recommended for weed control in citrus. For rates of individual products, refer to the respective product label. Do not apply tank mixture to foliage or green wood of citrus as injury may result.

LOUISIANA

Trees Established for at least Three Years: Make a single application of 2 to 4 lbs. per acre on coarser soils (sands, loamy sands, sandy loams) and 4 to 6 lbs. per acre on finer soils (silt loams, clay loams, or soils with organic matter of 2 1/2% or more); use the higher rates for maximum suppression of perennials. Alternatively, make two applications per year at rates of 2 lbs. per acre on coarser soils and 3 lbs. per acre on finer soils; make the second application when needed to maintain weed control.

TEXAS

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

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

Trees Established Three or More Years: Make one to two applications per year as needed to maintain weed control. Use 2-4 lbs per acre on coarser soils (sands, loamy sands, sandy loams) and 4-6 lbs 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 lbs per acre per year.

Tank Mixtures:

Tank mixtures of KROVAR I DF and paraquat are recommended for weed control in citrus. For rates of individual products, refer to the respective product label. Do not apply tank mixture to foliage or green wood of citrus, as injury may result.

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.

NON-CROP WEED CONTROL

For short-term control of annual weeds (see Citrus) on non-cropland areas such as railroads, roadsides, storage areas, utilities and plant sites, apply 4 to 6 lbs. per acre in 40 to 100 gals. of water. For extended control of annuals and partial control of perennials such as bermudagrass and nutsedge, apply 7 to 18 lbs.* per acre. For control of hard-to-kill perennials such as bermudagrass, bouncingbet, dogbane, johnsongrass, nutsedge, and saltgrass, apply 19 to 30 lbs. (except Florida) per acre. Use the higher levels of dosage rates on adsorptive soils (high in organic matter or carbon). Best results occur when application is made just before weed emergence or in early stages of weed growth.

Retreatment: Apply 4 to 6 lbs. 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 lbs. per acre.

* **Note - Florida:** Do not use more than 16 lbs per acre per year in East Coast/Flatwoods Areas (low permeable soils), or 10.5 lbs per acre per year in Ridge areas (highly permeable soils).

KROVAR I DF plus surfactant may be used as a tank mixture with 2,4-D amine or glyphosate for control of undesirable vegetation in non-crop areas such as railroads, highways, pipeline and utility right-of-ways, petroleum tank farms, lumberyards, storage areas and industrial plant sites; treatment provides broader spectrum control. See container labels for use rates, additional weeds controlled and use restrictions.

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 tablespoonfuls 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 teaspoonfuls of dry materials to 1 teaspoonful 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. For tank mixtures of other herbicides, follow directions above. When tank mixing with other herbicides, all applicable directions, restrictions and precautions for the additional herbicides are also to be followed.

Thoroughly reagitate before using if allowed to settle.

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.

SPRAY TANK CLEANOUT

Thoroughly clean all traces of 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.

STORAGE AND DISPOSAL

STORAGE: Store product in original container only. Do not contaminate water, other pesticides, fertilizer, food or feed in storage.

PRODUCT DISPOSAL: Do not contaminate water, food, or feed by storage or disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Then dispose of 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.

LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read This 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.

It is impossible to eliminate all risks associated with the use of this product. Such risks arise from weather conditions, soil factors, off target movement, unconventional farming techniques, presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of DuPont. These risks can cause: ineffectiveness of the product; crop injury, or; injury to non-target crops or plants.

DuPont does not agree to be an insurer of these risks. WHEN YOU BUY OR USE THIS PRODUCT, YOU AGREE TO ACCEPT THESE RISKS.

DuPont warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for the purpose stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions.

DUPONT MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR OF MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

IN NO EVENT SHALL DUPONT OR SELLER BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. BUYER'S OR USER'S BARGAINED-FOR EXPECTATION IS CROP PROTECTION. THE EXCLUSIVE REMEDY OF THE USER OR BUYER AND THE EXCLUSIVE LIABILITY OF DUPONT OR SELLER, FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE, TORT OR STRICT LIABILITY), WHETHER FROM FAILURE TO PERFORM OR INJURY TO CROPS OR OTHER PLANTS, AND 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 DUPONT OR SELLER, THE REPLACEMENT OF THE PRODUCT.

DuPont or its Authorized Retailer must have prompt notice of any claim so that an immediate inspection of buyer's or user's growing crops can be made. Buyer and all users shall promptly notify DuPont or a DuPont Authorized Retailer of any claims, whether based on contract, negligence, strict liability, other tort or otherwise or be barred from any remedy.

This Limitation of Warranty and Liability may not be amended by any oral or written agreement.

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