

bag label

GROUP	7	HERBICIDE
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KARMEX® DF
HERBICIDE

DISPERSIBLE GRANULE

COMMERCIAL

REGISTRATION NO. 28543 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED BROCHURE BEFORE USING

ACTIVE INGREDIENT: Diuron 80%

Warning: contains the allergen sulfites

WARNING- EYE IRRITANT

NET CONTENTS: 10 KG

ADAMA Agricultural Solutions Canada Ltd.

300 – 191 Lombard Avenue

Winnipeg, MB R3B 0X1

1-855-264-6262

For emergency medical help and health/safety inquiries call ProPharma at 1-877-250-9291 (24 hours a day)

For spill, leak or fire call INFOTRAC at 1-800-535-5053 (24 hours a day)

PRECAUTIONS:

- KEEP OUT OF REACH OF CHILDREN.
- CAUTION! CAUSES EYE IRRITATION.
- MAY IRRITATE EYES, NOSE, THROAT AND SKIN.
- Do not get in eyes. Avoid breathing dust or spray mist.
- Avoid contact with skin and clothing.
- Wash thoroughly with soap and water after handling.
- Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.
- Wear long pants, a long-sleeved shirt, shoes plus socks, goggles or face shield, chemical-resistant gloves and a dust/mist respirator during mixing, loading, application, clean-up and repair activities. In addition, wear a chemical-resistant apron during mixing, loading, clean-up and repair activities. If applying from inside a closed cab, applicators must wear long pants, a long-sleeved shirt and shoes plus socks. When exiting the cab into the treated area, in addition to this protective equipment, applicators must wear chemical-

resistant gloves and a dust/mist respirator. This protective clothing must be taken off before re-entering the cab and stored in a chemical-resistant container to prevent contamination of the inside of the cab.

- Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours or until sprays have dried.
- Do not apply this product in a way that will cause this product to contact workers or other persons, either directly or through drift. Only handlers (mixers, loaders and applicators) wearing personal protective equipment may be in the area being treated during application.
- Users should wash their hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Users should remove clothing immediately if pesticide comes in contact with skin through soaked clothing or spills. Then wash skin thoroughly and put on clean clothing.
- Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them.

ENVIRONMENTAL HAZARD

- **TOXIC** to aquatic organisms and terrestrial plants. Observe buffer zones specified under **DIRECTIONS FOR USE**.
- Toxic to aquatic organisms. Do not apply directly to aquatic habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs or wetlands) and estuarine/marine habitats. Do not contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
- To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to, heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g. soils that are compacted, fine textured or low in organic matter such as clay).
- Avoid application of this product when heavy rain is forecast.
- The use of this chemical may result in contamination of groundwater, particularly in areas where soils are permeable (e.g. sandy soil) and/or where the depth to the water table is shallow.

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 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 further 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 centre or doctor for treatment advice.

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.

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

TOXICOLOGICAL INFORMATION: Treat symptomatically.

STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed.

DISPOSAL:

1. Completely empty bag into spray mixture tank.
2. Make the empty bag unsuitable for further use.
3. Dispose of the container in accordance with provincial requirements.
4. 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.

NOTICE TO USER: This pest 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.

®/™

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DFU Brochure

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GENERAL INFORMATION

KARMEX® DF Herbicide is a dispersible granule, mixed with water and applied as a spray to the surface of the ground, or irrigation and drainage ditches. Effects are slow to appear and will not become apparent until the chemical has been absorbed into the plant and trans-located into the leaves. KARMEX® DF Herbicide is noncorrosive to equipment, nonvolatile and non-flammable.

IMPORTANT: 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. Prevent drift of dry powder or spray to desirable plants. Do not contaminate domestic waters. Keep from contact with fertilizers, insecticides, fungicides and seeds.

Thoroughly clean all traces of KARMEX® DF from application equipment immediately after use; otherwise, crop injury may result when equipment is used again. Flush tank, pump, hoses and boom with several changes of water after removing nozzle tips and screens (clean these parts separately).

DIRECTIONS FOR USE

KARMEX® DF Herbicide should be used only in accordance with recommendations on this label. Before spraying, calibrate equipment to determine the quantity of water necessary to uniformly cover area to be treated. Accurately weigh amount of KARMEX® DF required and mix into necessary volume of water. Water serves only as a carrier. Except for small areas, use fixed- boom power sprayers properly calibrated to insure constant rate of application. Openings in screens should be equal to or larger than 50 mesh. Material must be kept in suspension at all times by agitation, preferably continuous mechanical or hydraulic means in the spray tank. If bypass or return line is used, it should terminate at bottom of tank to minimize foaming. Do not use air agitation. For general weed control in small areas, tank-type hand sprayer or sprinkling can may be used; shake or stir frequently.

When a second application is performed, observe a minimum interval of 90 days between the first application and retreatment, with the exception of asparagus.

- 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) classification indicated in the table under “Buffer zones”.
- DO NOT apply by air
- For application to rights-of-way, the best available application strategies which minimize off-site drift, including meteorological conditions (e.g. wind direction, low wind speed) and spray equipment (e.g. coarse droplet sizes, minimizing height above canopy), should be used. Do not directly apply to any aquatic habitats that are traversed by the rights-of-way.
- Buffer zones: 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, pastures, rangelands 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	Use	Buffer Zones (m) Required for Protection of:
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Application		Aquatic Habitats at Water Depths of:		Terrestrial Habitats
		Less than 1m	Greater than 1m	
Field Sprayer ^a	Asparagus (medium spray) ^b	15	5	40
	Grapes (medium spray) ^b	15	10	55
	Non-crop areas (coarse spray) ^c	15	10	60 ^d

^a 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 or ground, 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 or ground, the labelled buffer zone can be reduced by 30%.

^b DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification.

^c DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) coarse classification.

^d Buffer zones for protection of terrestrial habitats are not required for applications to rights-of-way including railroad ballast, rail and hydro rights-of-way, utility easements and roads and training grounds on military bases.

CAUTION: Do not graze the treated crops or cut for hay; sufficient data are not available to support such use.

DO NOT APPLY BY AIR.

DIRECTIONS FOR USE IN NON-CROP AREAS

- Do not use in residential areas or areas where bystanders may be in contact with treated foliage.
- Residential areas are defined as sites where bystanders including children may be potentially exposed during or after spraying. This includes around homes, school, parks, playgrounds, playing fields, public buildings.
- Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and parks is minimal. Take into consideration meteorological conditions (e.g. wind speed, wind direction, temperature) as well as application equipment and sprayer settings used for application.

RESISTANCE MANAGEMENT RECOMENDATIONS

For resistance management, KARMEX® DF Herbicide is a Group 7 herbicide. Any weed population may contain or develop plants naturally resistant to KARMEX® DF herbicide and other Group 7 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 KARMEX® DF Herbicide or other Group 7 herbicides 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.
- Herbicide use should be based on an IPM program that includes scouting, historical information related to herbicide use and crop rotation, and considers tillage (or other mechanical), cultural, biological and other chemical control practices.
- Monitor treated weed populations for resistance development.
- Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment and planting clean seed.
- Contact your local extension specialist 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 ADAMA Agricultural Solutions Canada Ltd. at 1-855-264-6262.

NON-CROP WEED CONTROL

KARMEX® DF Herbicide is an effective general herbicide for the control of many annual and perennial grasses and herbaceous weeds such as dandelion, goldenrod, thistle and milkweed, on non-cropland areas where bare ground is desired. After an extended period of time, regrowth of plantain, thistle or wild carrot will indicate that re-treatment is necessary. KARMEX® DF Herbicide may be used at any time, except when ground is frozen, providing adequate moisture is received by rainfall or artificial means. Best results are obtained when applied shortly before weed growth begins. Dense growth should be removed. The degree of control and duration of effect will vary with the amount of chemical applied, soil type, rainfall, and other conditions.

When a second application is performed, observe a minimum interval of 90 days between the first application and retreatment.

GENERAL WEED CONTROL— The rate of KARMEX DF Herbicide required to control weeds is 11.25kg per hectare. For retreatment apply at a rate of 5 kg per hectare. A maximum of 2 applications per season is permitted to a maximum seasonal use rate of 16.25 kg per hectare per year. The level and duration of weed control achieved may be affected by soil type and organic matter. Therefore, a sandier soil that is low in organic matter may exhibit longer periods of weed control versus a heavier clay soil that is high in organic matter.

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NATURE OF RESTRICTION: This product is to be used only in the manner authorized; consult local pesticide regulatory authorities about use permits, which may be required.

NOTE: The use of Karmex® DF requires authorization by Provincial Permit. Provincial permits must include specifications of measures:

- a) To prevent treated water that contains diuron from endangering fish in natural bodies of water and reservoirs used as commercial and recreational fisheries.
- b) To prevent the release of treated water into dugouts used for domestic and livestock water supplies.
- c) To notify downstream users of irrigation water and the public.

RESTRICTED USES-IRRIGATION AND DRAINAGE DITCHES: Apply 0.11 kg per 100 square meters. (11.25 kg per hectare). For irrigation ditches apply during the non-crop season, and when ditch is not in use. To minimize movement of Karmex® DF with irrigation water and avoid crop injury, it is essential that it be fixed in the treated soil by moisture. Apply before expected seasonal rainfall, if possible when soil in the ditch is still moist. If rainfall has not totaled at least 10 cm following treatment and before intended use of irrigation ditch, fill with water and allow to stand for 72 hours; drain off waste and remaining water before using ditch. Do not treat any ditch area into which roots of trees or other desirable plants may extend or in locations where the herbicide may be washed or moved into contact with the roots.

SPOT TREATMENT—To control deep-rooted perennial weeds such as couchgrass and toadflax, spot treat at a rate of 0.11 kg per 100 m². Re-treat as necessary to a maximum of 0.165 kg per 100m² per year. This treatment will result in the loss of soil productivity for an extended period.

FOR SMALL AREAS—11.25 g of KARMEX® DF Herbicide per 10 m² is equivalent to 11.25 kg per ha.

WEED CONTROL IN CROPS

KARMEX® DF controls weed seedlings such as pigweed, ragweed, lamb's-quarters, and grasses such as crabgrass and foxtail. Any well established weeds should first be eliminated by mechanical or other means. For best results, the soil should be well prepared and as free as possible from trash and clods. Unless otherwise directed, surface of the soil should not be cultivated or disturbed after application as efficiency may be reduced and/or crop injury may result. Sufficient moisture in the form of rainfall or irrigation is necessary after treatment to carry the chemical into the root zone of germinating weeds.

Application should be to the surface of the ground by fixed-boom power sprayers properly calibrated to a constant speed and rate of delivery.

Make certain spray equipment is clean (free of scale, rust, dirt, soil, and pesticide deposits). Use sufficient water (250 to 400 L per ha of area actually sprayed) to provide thorough and uniform coverage. Spray booms must be shut off while starting, turning, slowing or stopping or injury to the crop may result.

IMPORTANT: Unless otherwise directed, do not replant treated areas to any crop within two years after last application as injury to subsequent crops may result.

SOIL LIMITATIONS: Crop injury may result from failure to observe the following: Unless otherwise directed, do not use on sand, loamy sand or gravelly soils with less than 1% organic matter.

GRAPES—Apply only to established vineyards (at least three years old) as a band application to grape rows. On soils low in clay or organic matter (1 to 2%), use 2.25 to 3.25 kg/ha (of area actually sprayed); on soil high in clay or organic matter, use 3.25-6.75 kg. Apply just prior to germination and growth of annual weeds, usually in the spring.

It may be desirable to make a fall treatment, or divide applications equally between fall and spring treatment. Do not exceed the above rates per year as injury may result.

When a second application is performed, observe a minimum interval of 90 days between the first application and retreatment.

ASPARAGUS—Do not apply to newly seeded asparagus nor to young plants during the first growing season after setting nor on plants with exposed roots as severe injury may result. Apply as a band or broadcast treatment. On light sandy soils and other soils low in clay or organic matter, apply 1.1 to 2.25 kg/ha. On soils high in clay or organic matter, use 2.25-4.5 kg/ha. Two applications may be used; the first application should be made before weeds become established, but no earlier than 4 weeks before spear emergence and no later than the early cutting period (if weeds are controlled into the cutting period by cultural practices, application may be delayed until immediately after the last cultivation); a second application may be made immediately following completion of harvest provided rainfall is expected. When two applications are used in one season, do not exceed 3.25 kg per ha per application. If irrigation is used, apply only a single treatment of 4.5 kg per ha in late September or October.