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"KARMEX" XP HERBICIDE  
GPA0M533 Revised 24-FEB-2006 Printed 24-FEB-2006  
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CHEMICAL PRODUCT/COMPANY IDENTIFICATION  
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Material Identification

"KARMEX" is a registered trademark of DuPont.

Tradenames and Synonyms

KARMEX IWC HERBICIDE  
KARMEX DF HERBICIDE  
DIREX 80DF HERBICIDE  
NAUTILUS HERBICIDE  
DPX-14740  
DIURON

Company Identification

MANUFACTURER/DISTRIBUTOR

E.I. du Pont Canada Company  
P.O. Box 2200  
Streetsville  
Mississauga, Ontario L5M 2H3

PHONE NUMBERS

Product Information : 1-800-387-2122  
Medical Emergency : 1-800-441-3637 (24 hours)

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COMPOSITION/INFORMATION ON INGREDIENTS  
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Components

Material	CAS Number	%
*DIURON	330-54-1	80 WT%
3-[3,4-DICHLOROPHENYL]-1,1-DIMETHYLUREA		
INERT INGREDIENTS		20 %

\* Disclosure as a toxic chemical is required under Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

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HAZARDS IDENTIFICATION  
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Emergency Overview

Caution! Harmful if swallowed or absorbed through skin.  
Causes moderate eye irritation. Avoid contact with eyes,  
skin, or clothing.

Material Safety Data Sheet  
(HAZARDS IDENTIFICATION - Continued)

Potential Health Effects

Skin contact with Diuron may cause skin irritation with discomfort or rash. Significant skin permeation and systemic toxicity after contact appear unlikely. There are no reports of human sensitization.

Eye contact with Diuron may cause eye irritation with discomfort, tearing, or blurring of vision.

Based on data from animal testing, ingestion of large amounts may cause alterations in red blood cell counts and/or anemia, and spleen and liver effects.

No adequate epidemiologic studies are available for this compound.

Carcinogenicity Information

The following components are listed by IARC, NTP, OSHA or ACGIH as carcinogens.

Material	IARC	NTP	OSHA	ACGIH
DIURON				A4

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FIRST AID MEASURES  
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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

## (FIRST AID MEASURES - Continued)

a poison control center or doctor, or going for treatment.  
For medical emergencies involving this product, call toll  
free 1-800-441-3637.

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FIRE FIGHTING MEASURES  
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## Flammable Properties

Flash Point & Method: Not determined  
Flammable Limits: 0.070 g/L  
Autoignition Temperature: 455°C (851°F)

Like most organic powders or crystals, under severe dusting  
conditions, this material may form explosive mixtures in air.  
Prevent human exposure to fire, smoke, fumes or products of  
combustion.

## Extinguishing Media

Dry Chemical, CO<sub>2</sub>, Water Spray, Foam.

If area is heavily exposed to fire, and conditions permit, let  
fire burn itself out since water may increase the area  
contaminated.

## Fire Fighting Instructions

Wear self-contained breathing apparatus (SCBA) and full protective  
equipment.

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ACCIDENTAL RELEASE MEASURES  
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## Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL)  
sections before proceeding with clean-up. Use appropriate  
PERSONAL PROTECTIVE EQUIPMENT during clean-up.

## Spill Clean Up

Dike spill. Prevent material from entering sewers,  
waterways, or low areas. Shovel or sweep up.

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HANDLING AND STORAGE  
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## Handling (Personnel)

USERS SHOULD: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

## Storage

Do not contaminate water, food or feed by storage.

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

Keep out of reach of children.

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Personal Protective Equipment

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.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves made of any waterproof material such as polyethylene or polyvinylchloride.
- Dust mist respirator.
- Shoes plus socks.

Mixers and Loaders must also wear:

- Apron

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.

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.

## Material Safety Data Sheet

## Exposure Guidelines

## Applicable Exposure Limits

## DIURON

PEL (OSHA) : None Established  
TLV (ACGIH) : 10 mg/m<sup>3</sup>, 8 Hr. TWA, A4  
AEL \* (DuPont) : 1 mg/m<sup>3</sup>, 8 & 12 Hr. TWA, total dust

\* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

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PHYSICAL AND CHEMICAL PROPERTIES  
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## Physical Data

Vapor Pressure : Not determined  
Density : 40 lbs/ft<sup>3</sup>  
Solubility in Water : Dispersible. Diuron's solubility in water is 42 ppm.  
pH : Not determined  
Boiling Point : Not determined  
Melting Point : Not determined  
Odor : Odorless  
Color : Brown  
Physical State : Granule

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal conditions.

## Polymerization

Polymerization will not occur.

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TOXICOLOGICAL INFORMATION  
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## Animal Data

## "KARMEX" XP

Oral LD50: > 5,000 mg/kg in rats  
Dermal LD50: > 5,000 mg/kg in rabbits  
Inhalation LC50, 4 Hr.: > 2.02 mg/L in rats

"Karmex" XP is a moderate eye irritant, and a mild skin irritant. It is not a skin sensitizer in animals.

## DIURON

Repeated ingestion of Diuron led to increased hemolysis (destruction) of red blood cells and hemolytic anemia after continued exposure to high doses. Secondary effects as a result of excessive red blood cell hemolysis included enlarged spleens, pigment deposits in the spleen, changes in

Material Safety Data Sheet  
(TOXICOLOGICAL INFORMATION - Continued)

the bone marrow and kidney. Decreased body weights were also related to repeated ingestion of high doses of Diuron.

In addition to the effects described above, long-term effects observed in rodents after repeated ingestion of high doses also included thickening of the urinary bladder and kidney epithelium and liver toxicity. In chronic feeding studies, an increase in urinary bladder and renal pelvic tumors was observed in high-dose rats. A borderline increase in mammary tumors was observed in high-dose female mice, which is considered equivocal.

The weight of the evidence indicates that Diuron does not produce genetic damage in bacterial or mammalian cell cultures, or in animals. Diuron is not considered a developmental toxicant. There was no evidence of developmental toxicity in rabbits. In rats, developmental effects occurred at doses higher than those which produced maternal toxicity. Testing in rats demonstrate no reproductive toxicity.

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ECOLOGICAL INFORMATION  
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Ecotoxicological Information

ENVIRONMENTAL TOXICITY:

AQUATIC TOXICITY:

96 hour LC50 - Rainbow trout: 190 mg/L.

96 hour LC50 - Bluegill sunfish: > 300 mg/L

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DISPOSAL CONSIDERATIONS  
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Waste Disposal

PESTICIDE DISPOSAL:

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

ENVIRONMENTAL HAZARDS:

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters. Cover or incorporate spills.

Container Disposal

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

## Material Safety Data Sheet

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TRANSPORTATION INFORMATION  
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## Shipping Information

DOT/IMO/ICAO :

Proper Shipping Name : Not regulated.

NOTE: If a single package contains 100  
or more pounds Diuron, classify as:  
Environmentally Hazardous  
Substance, Solid, n.o.s., (Diuron)

Hazard Class : 9

UN/NA Number : 3077

Packaging Group : III

Marine Pollutant : No

Reportable Quantity : Yes (100 pounds) Insert letters RQ  
before or after basic description.

## Shipping Information -- Canada

This material is Not Regulated.

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REGULATORY INFORMATION  
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## U.S. Federal Regulations

TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes

Chronic : Yes

Fire : No

Reactivity : No

In the United States this product is regulated by the US  
Environmental Protection Agency under the Federal Insecticide,  
Fungicide and Rodenticide Act. It is a violation of federal law  
to use this product in a manner inconsistent with its labeling.

EPA Reg. No. 1812-362

## State Regulations (U.S.)

\*\*\*\* CALIFORNIA PROP 65 \*\*\*\*

This material contains Diuron, a chemical known to the state  
of California to cause cancer in laboratory animals.

## Canadian Regulations

WHMIS Classification:

Regulated under the Pest Control Products Act--WHMIS Exempt

Registration No. 21252 Pest Control Products Act

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OTHER INFORMATION  
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NFPA, NPCA-HMIS

HAZARDS CLASSIFICATION:  
(0-minimal, 1-slight, 2-moderate, 3-serious, 4-severe)

HMIS: HEALTH-2 FIRE-1 REACTIVITY-0  
NFPA: HEALTH-1 FIRE-1 REACTIVITY-0

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The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

Responsibility for MSDS  
----- Crop Protection E.I. du Pont Canada Company  
Box 2200, Streetsville  
Mississauga, Ontario L5M 2H3  
(905) 821-3300.

End of MSDS