



The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

DuPont
Material Safety Data Sheet

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"DuPont" "KARMEX" XP HERBICIDE
M0000533 Revised 5-OCT-2006

CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Material Identification

"KARMEX" is a registered trademark of DuPont.

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Tradenames and Synonyms

KARMEX DF
DIREX 80DF
NAUTILUS
DPX-14740
DIURON

Tradenames and Synonyms (Remarks)

Inactive EPA Reg. No.: 1812-362 (Griffin)

Company Identification

MANUFACTURER/DISTRIBUTOR

DuPont
1007 Market Street
Wilmington, DE 19898

PHONE NUMBERS

Product Information : 1-800-441-7515 (outside the U.S.
302-774-1000)
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S.
703-527-3887)
Medical Emergency : 1-800-441-3637 (outside the U.S.
302-774-1000)

COMPOSITION/INFORMATION ON INGREDIENTS

Components

Material	CAS Number	%
*DIURON	330-54-1	80
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.

HAZARDS IDENTIFICATION

Emergency Overview

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

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

FIRST AID MEASURES

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.

(FIRST AID MEASURES - Continued)

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.

FIRE FIGHTING MEASURES

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, CO₂, 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.

ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel)

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

(ACCIDENTAL RELEASE MEASURES - Continued)

Spill Clean Up

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

For minor spills, leaks, etc., follow all precautions indicated on the product label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

HANDLING AND STORAGE

Handling (Personnel)

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.

Storage

Do not contaminate water, food or feed by storage or disposal. Store product in original container only. Store in a cool, dry place.

Keep out of reach of children.

EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls

Refer to the product label.

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.

Pilots, flaggers and groundboom applicators must wear:

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

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

(EXPOSURE CONTROLS/PERSONAL PROTECTION - Continued)

- 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, 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.

Exposure Guidelines

Applicable Exposure Limits

DIURON

PEL (OSHA)	: None Established
TLV (ACGIH)	: 10 mg/m ³ , 8 Hr. TWA, A4
AEL * (DuPont)	: 1 mg/m ³ , 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.

PHYSICAL AND CHEMICAL PROPERTIES

Physical Data

Vapor Pressure	: Not determined
Density	: 40 lbs/ft ³
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

STABILITY AND REACTIVITY

Chemical Stability

Stable at normal conditions.

Polymerization

Polymerization will not occur.

TOXICOLOGICAL INFORMATION

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 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.

ECOLOGICAL INFORMATION

Ecotoxicological Information

ENVIRONMENTAL TOXICITY:

AQUATIC TOXICITY:

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

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

DISPOSAL CONSIDERATIONS

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:

For terrestrial uses, 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 cleaning equipment or disposing of equipment washwaters. Cover or incorporate spills.

Container Disposal

For Plastic Containers: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

For Fiber Sacks: Completely empty fiber sack by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into manufacturing or application equipment. Then dispose of sack in a sanitary landfill or by incineration if allowed by State and local authorities.

For Fiber Drums With Liners: Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by State and local authorities. If drum is contaminated and cannot be reused, dispose of in the same manner.

For Paper and Plastic Bags: 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.

Container Refilling and Disposal (For Containers up to 250

(DISPOSAL CONSIDERATIONS - Continued)

gal): Refer to the product label.

Container Disposal for Bulk Containers: Refer to the product label.

The container must only be refilled with this pesticide product. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Do not transport if the container is damaged or leaking. Disposal of the container must be in compliance with State and local regulations.

TRANSPORTATION INFORMATION

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.

REGULATORY INFORMATION

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. 352-692

SARA/CERCLA Reportable Quantity (RQ):
Diuron - 100 lbs.

(REGULATORY INFORMATION - Continued)

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.

OTHER INFORMATION

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

Additional Information

Inactive EPA Reg. No.: 1812-362 (Griffin)

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: DuPont Crop Protection
Address : Wilmington, DE 19898
Telephone : 1-888-638-7668

Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS