

**DuPont™ Karmex® DF Herbicide**

Version 2.2

Revision Date 02/14/2011

Ref. 130000028870

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : DuPont™ Karmex® DF Herbicide  
Tradename/Synonym : DPX-14740  
Karmex 80 DF / WG  
Direx 80DF  
Karmex XP  
Karmex IWC  
Nautilus  
B10237358  
DIURON: 3-[3,4-Dichlorophenyl]-1,1-dimethylurea

MSDS Number : 130000028870

Product Use : Herbicide

Manufacturer : DuPont  
1007 Market Street  
Wilmington, DE 19898

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)  
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)  
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

**SECTION 2. HAZARDS IDENTIFICATION**

## Emergency Overview

## Caution

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

## Potential Health Effects

This section includes potential acute adverse effects which could occur if this material is not used according to the label.

## Skin


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- Diuron : May cause skin irritation. Discomfort, Rash.
- Eyes  
Diuron : May cause eye irritation. Discomfort, tearing, Blurred vision.
- Ingestion  
Diuron : May cause: Abnormal decrease in number of red blood cells (anaemia) which could produce tiredness, rapid heartbeat, dizziness, pale skin, leg cramps, shortness of breath
- Repeated exposure  
Diuron : Adverse effects from repeated exposure may include: Bladder damage altered blood chemistry
- Target Organs  
Diuron : Blood Urinary system Bladder
- Carcinogenicity  
None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No.	Concentration
Diuron	330-54-1	80 %
Other Ingredients		20 %

**SECTION 4. FIRST AID MEASURES**

- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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- Eye contact : 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.
- Inhalation : Move 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 treatment advice.
- Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.
- General advice : 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. See Label for Additional Precautions and Directions for Use.

**SECTION 5. FIRE-FIGHTING MEASURES**

- Flammable Properties  
Autoignition temperature : 455 °C (851 °F)
- Lower explosion limit : 0.070 g/l
- Fire and Explosion Hazard : Under severe dusting conditions, this material may form explosive mixtures in air.
- Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
- Unsuitable extinguishing media : High volume water jet, (contamination risk)
- Firefighting Instructions : In the event of fire, wear self-contained breathing apparatus. Wear full protective equipment.  
(on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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

- Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus.
- Spill Cleanup : Sweep up and shovel into suitable containers for disposal. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.
- Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

**SECTION 7. HANDLING AND STORAGE**

- Handling (Personnel) : 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 material gets inside. Wash thoroughly and put on clean clothing. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

- Engineering controls : Ensure adequate ventilation. 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. Refer to the product label for additional Engineering Controls.



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**Personal protective equipment**

**Skin and body protection** : Pilots, flaggers and groundboom applicators must wear:  
 Long sleeved shirt and long pants  
 Shoes plus socks  
 Mixers, loaders, applicators and other handlers must wear:  
 Long sleeved shirt and long pants  
 Shoes plus socks  
 Chemical resistant gloves made of any waterproof material  
 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.  
 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

**Protective measures** : 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.

**Exposure Guidelines**

**Exposure Limit Values**

Diuron				
TLV	(ACGIH)	10 mg/m3	TWA	
AEL *	(DUPONT)	1 mg/m3	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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Form : solid, granules  
 Color : brown  
 Density : 40 lb/ft<sup>3</sup>  
 Water solubility : dispersible



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**SECTION 10. STABILITY AND REACTIVITY**

- Stability : Stable at normal temperatures and storage conditions.
- Incompatibility : No materials to be especially mentioned.
- Hazardous reactions : Polymerization will not occur.

**SECTION 11. TOXICOLOGICAL INFORMATION**

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- Inhalation 4 h LC50 : > 2.02 mg/l , rat
- Dermal LD50 Dermal : > 5,000 mg/kg , rabbit
- Oral LD50 Oral : > 5,000 mg/kg , rat
- Skin irritation : slight irritation, rabbit
- Eye irritation : Moderate eye irritation, rabbit
- Sensitisation : Animal test did not cause sensitization by skin contact., guinea pig

Diuron

- Repeated dose toxicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
  - Oral  
rat  
Red blood cell destruction causing abnormal decrease in number of red blood cells (anaemia), Spleen effects, bone marrow changes, Kidney effects, Bladder effects, Reduced body weight gain
  - Oral  
dog  
Red blood cell destruction causing abnormal decrease in number of



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red blood cells (anaemia), Spleen effects, bone marrow changes,  
Reduced body weight gain

Inhalation

rat

Red blood cell destruction causing abnormal decrease in number of  
red blood cells (anaemia), Spleen effects

- Carcinogenicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.  
  
An increased incidence of tumours was observed in laboratory animals.
- Mutagenicity : Overall weight of evidence indicates that the substance is not mutagenic.
- Reproductive toxicity : Animal testing did not show any effects on fertility.
- Teratogenicity : Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

**SECTION 12. ECOLOGICAL INFORMATION**

Aquatic Toxicity

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- 96 h LC50 : Oncorhynchus mykiss (rainbow trout) 190 mg/l
- 96 h LC50 : Lepomis macrochirus (Bluegill sunfish) 300 mg/l

Diuron

- 72 h EC50 : Algae 0.018 mg/l
- 48 h EC50 : Daphnia magna (Water flea) 1.4 mg/l

Toxicity to other organisms

Diuron

- LD50 : Colinus virginianus (Bobwhite quail) 1,104 mg/kg

Additional ecological information : Environmental Hazards: For Terrestrial Uses: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas


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below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

**SECTION 13. DISPOSAL CONSIDERATIONS**

- Waste Disposal : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.
- Container Disposal : Refer to the product label for instructions.  
 Container Refilling and Disposal:  
 Do not transport if this container is damaged or leaking.
- In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

**SECTION 14. TRANSPORT INFORMATION**

- |        |                      |   |
|--------|----------------------|---|
| IATA_C | UN number            | : 3077  |
|        | Proper shipping name | : Environmentally hazardous substance, solid, n.o.s. (Diuron) |
|        | Class                | : 9   |
|        | Packing group        | : III   |
|        | Labelling No.        | : 9MI   |
| IMDG   | UN number            | : 3077  |
|        | Proper shipping name | : Environmentally hazardous substance, solid, n.o.s. (Diuron) |
|        | Class                | : 9   |
|        | Packing group        | : III   |
|        | Labelling No.        | : 9   |
|        | Marine pollutant     | : yes (Diuron)  |

Not regulated by DOT in single packages containing less than 100 pounds.




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**SECTION 15. REGULATORY INFORMATION**

SARA 313 Regulated Chemical(s)	: Diuron
Title III hazard classification	: Acute Health Hazard: Yes Chronic Health Hazard: Yes Fire: No Reactivity/Physical hazard: No Pressure: No
CERCLA Reportable Quantity	: 125 lbs Based on the percentage composition of this chemical in the product.: Diuron
EPA Reg. No.	: 352-692 In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.
California Prop. 65	: WARNING! This product contains a chemical known to the State of California to cause cancer. Diuron
PA Right to Know Regulated Chemical(s)	: Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Kaolin , Diuron
NJ Right to Know Regulated Chemical(s)	: Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Diuron

**SECTION 16. OTHER INFORMATION**

	NFPA	HMIS
Health :	1	2



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Flammability	:	1	1
Reactivity/Physical hazard	:	0	0

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Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

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