

**KARMEX® 80DF**

Version 2.2

Revision Date 10.11.2010

Ref.130000000191

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

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Product name : KARMEX® 80DF

Synonyms : B11160582
: DPX-14740 80WG

Use of the Substance/Mixture : Herbicide

Company : DuPont de Nemours South Africa (Pty) Ltd
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2. HAZARDS IDENTIFICATION

Limited evidence of a carcinogenic effect.

Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	EC-No.	Registration number	Classification	Concentration [%]
Diuron	330-54-1	206-354-4		Carc.Cat.3; R40 Xn; R22 - R48/22 N; R50 -R53	80
Alkyl naphthalenesulfonic acid, sodium salt/formaldehyde polycondensate	68425-94-5			Xi; R36/38	>= 5 - < 10

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For the full text of the R-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

- | | |
|----------------|---|
| General advice | : Never give anything by mouth to an unconscious person. |
| Inhalation | : Move to fresh air. Artificial respiration and/or oxygen may be necessary. Consult a physician after significant exposure. |
| Skin contact | : Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use. |
| Eye contact | : Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist. |
| Ingestion | : Obtain medical attention. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water. |

5. FIRE-FIGHTING MEASURES

- | | |
|--|--|
| Suitable extinguishing media | : Water spray, Foam, Dry chemical, Carbon dioxide (CO ₂), |
| Extinguishing media which shall not be used for safety reasons | : High volume water jet, (contamination risk), |
| Specific hazards during fire fighting | : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO ₂) nitrogen oxides (NO _x) |
| Special protective equipment for fire-fighters | : Wear full protective clothing and self-contained breathing apparatus. |
| Further information | : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

(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. |

6. ACCIDENTAL RELEASE MEASURES

- | | |
|---------------------------|--|
| Personal precautions | : Control access to area. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid breathing dust. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8. |
| Environmental precautions | : Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the |

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- spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.
- Clean-up methods - large spillage Avoid dust formation. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
- If spill area is on ground near valuable plants or trees, remove 5 cm of top soil after initial clean-up.
- Additional advice : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE**Handling**

- Advice on safe handling : Use only according to our recommendations. Use only clean equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist. Wear personal protective equipment. For personal protection see section 8. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Avoid exceeding of the given occupational exposure limits (see section 8).

- Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.

Storage

- Requirements for storage areas and containers : Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep out of the reach of children.
- Advice on common storage : No materials to be especially mentioned.
- Other data : Stable under recommended storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Type Form of exposure	Control parameters	Update	Basis
Diuron	330-54-1	TWA	10 mg/m ³	1995	ZA REL

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Engineering measures

Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery.

Personal protective equipment

- | | | |
|--------------------------|---|---|
| Respiratory protection | : | Manufacturing and processing work: Half mask with a particle filter FFP1 (EN149) |
| Respiratory protection | : | Mixer and loaders must wear: Half mask with a particle filter FFP1 (EN149) |
| Respiratory protection | : | Spray application - outdoor: Half mask with a particle filter FFP1 (EN149) |
| Respiratory protection | : | Spray application - indoor: Half mask with a particle filter FFP1 (EN149) |
| Hand protection | : | Material: Nitrile rubber
Glove thickness: 0,4 - 0,7 mm
Glove length
: Gauntlets
Protection index: Class 6
Wearing time: > 480 min
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it., Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., The suitability for a specific workplace should be discussed with the producers of the protective gloves., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough., Before removing gloves clean them with soap and water. |
| Eye protection | : | Safety glasses with side-shields conforming to EN166 |
| Skin and body protection | : | Manufacturing and processing work: Full protective clothing Type 5 (EN 13982-2)

Mixer and loaders must wear: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034) Rubber apron Rubber or plastic boots

Spray application - outdoor: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots

Spray application - indoor: Full protective clothing Type 4 (EN 14605) Rubber or plastic boots |
| Hygiene measures | : | Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. For environmental protection remove and wash all contaminated protective equipment before re-use. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Dispose of rinse water in accordance with local and national regulations. |

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Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form : granules,
Colour : brown,
Odour : none,
pH : 8,0 at 10 g/l
Flash point : not applicable
Explosive properties : Not explosive
Density : 0,59 g/cm³
Solubility/qualitative : dispersible

10. STABILITY AND REACTIVITY

Conditions to avoid : Temperature : > 180 - 190 °C To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.
Decomposes on heating.

Materials to avoid : No materials to be especially mentioned.

Hazardous reactions : No dangerous reaction known under conditions of normal use. Heating can release hazardous gases. Polymerization will not occur. No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50/ rat: 2 800 mg/kg Method: OECD Test Guideline 401
(Data on the product itself)
Information source: Internal study report

Acute inhalation toxicity : LC50/ 4 h / rat : > 5,6 mg/l
Method: OECD Test Guideline 403
(Data on the product itself)
Information source: Internal study report

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Acute dermal toxicity	: LD50/ rabbit > 2 000 mg/kg Method: OECD Test Guideline 402 (Data on the product itself) Information source: Internal study report
Skin irritation	: rabbit Result: No skin irritation Method: OECD Test Guideline 404 (Data on the product itself) Information source: Internal study report
Eye irritation	: rabbit Result: No eye irritation Method: OECD Test Guideline 405 (Data on the product itself) Information source: Internal study report
Sensitisation	: Buehler Test guinea pig Result: Animal test did not cause sensitization by skin contact. Method: OECD Test Guideline 406 (Data on the product itself) Information source: Internal study report
Mutagenicity assessment Diuron	: Evidence suggests this substance does not cause genetic damage in animals., Did not cause genetic damage in cultured bacterial cells., Genetic damage in cultured mammalian cells was observed in one laboratory test but was not observed in others.
Carcinogenicity assessment	
• Diuron	: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
• Diuron	: An increased incidence of tumours was observed in laboratory animals.
Toxicity to reproduction assessment	
• Diuron	: Animal testing did not show any effects on fertility.
Further information	: Blood disorder may occur after ingestion. Liver injury may occur.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

Biodegradability	: Not readily biodegradable. Estimation based on data obtained on active ingredient.
Bioaccumulation	: This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

Ecotoxicity effects

Toxicity to fish	: static test LC50/ 96 h/ Oncorhynchus mykiss (rainbow trout) :: 190 mg/l Method: US EPA Test Guideline OPP 72-1 (Data on the product itself) Information source: Internal study report
Toxicity to algae	: static test/ ErC50/ 72 h/ Desmodesmus subspicatus (green algae): 0,03715 mg/l Method: OECD Test Guideline 201 (Data on the product itself) Information source: Internal study report

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Toxicity to daphnia : static test / EC50/ 48 h/ Daphnia magna (Water flea): 12 mg/l
 Method: US EPA Test Guideline OPP 72-2
 (Data on the product itself) Information source: Internal study report

Chronic toxicity to fish

- Diuron : / NOEC/ 28 d/ Oncorhynchus mykiss (rainbow trout): 0,41 mg/l
- Diuron : Early Life-Stage/ NOEC/ 21 d/ Cyprinodon variegatus (sheepshead minnow):
1,7 mg/l
Method:

Chronic toxicity to aquatic Invertebrates

- Diuron : Reproduction / NOEC/ 21 d/ Daphnia magna (Water flea): $\geq 1,0$ mg/l

13. DISPOSAL CONSIDERATIONS

Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Do not re-use empty containers.

14. TRANSPORT INFORMATION**ADR**

Class: 9
 Packaging group: III
 Classification Code: M7
 HI No.: 90
 UN number: 3077
 Labelling No.: 9
 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Diuron)

Further information : Not classified as dangerous in the meaning of sea and air transport regulations.,
 Optional classification as per IMDG Special Provision 909., Optional
 classification as per IATA Special Provision A97.

15. REGULATORY INFORMATION**Labelling according to EC Directives**

Symbol(s) : Xn Harmful
 N Dangerous for the environment

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Hazardous components:	Diuron	
R-phrases(s)	: R40 R48/22 R50/53	Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases(s)	: S 2 S13 S20/21 S36/37 S46 S35 S57 SP 1	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this container or label. This material and its container must be disposed of in a safe way. Use appropriate container to avoid environmental contamination. Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).
Special labelling of certain mixtures	: To avoid risks to man and the environment, comply with the instructions for use.	

16. OTHER INFORMATION**Text of R-phrases mentioned in Section 3**

R22	Harmful if swallowed.
R36/38	Irritating to eyes and skin.
R40	Limited evidence of a carcinogenic effect.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

Further information

Before use read DuPont's safety information., Take notice of the directions of use on the label.

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Significant change from previous version is denoted with a double bar.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless



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specified in the text.