



# Safety Data Sheet

Issue Date: 25-Jun-2014

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Version 2

## 1. IDENTIFICATION

### Product Identifier

Product Name **Karmex DF**

### Other means of identification

SDS # ADAMA-022D

Registration Number(s) EPA Reg. No. 66222-51  
UN/ID No UN3077

### Recommended use of the chemical and restrictions on use

Recommended Use EPA registered pesticide.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

Makhteshim Agan of North America, Inc. (d/b/a ADAMA)  
3120 Highwoods Blvd., Suite 100  
Raleigh, NC 27604  
1-919-256-9300

### Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:  
1-800-535-5053 (North America) 1-352-323-3500 (International)  
For medical emergencies and health/safety inquiries, contact PROSAR:  
1-877-250-9291

## 2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-EPA registered chemicals. Please see Section 15 for additional EPA information.

Appearance Beige pellets

Physical State Solid

Odor Odorless

### Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Specific target organ toxicity (repeated exposure)	Category 2

### Signal Word

Warning

### Hazard Statements

Harmful if swallowed  
Harmful if inhaled  
Suspected of causing cancer

**Precautionary Statements - Prevention**

Use personal protective equipment as required  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing  
 Call a poison center/doctor if you feel unwell  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Very toxic to aquatic life with long lasting effects

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Diuron	330-54-1	80

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

### 4. FIRST-AID MEASURES

**First Aid Measures**

<b>General Advice</b>	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician. When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin Contact</b>	Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes.
<b>Inhalation</b>	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Immediately call a poison center or doctor/physician.

**Most important symptoms and effects**

**Symptoms**

Irritating to eyes, respiratory system & skin. Ingestion may cause drowsiness, hyperreflexia, irritability, diarrhea, hyperthermia and weight loss. Extreme overexposure may cause glycosuria, proteinuria, and aciduria. Long term exposure may also cause enlarging of the liver and/or spleen. May aggravate pre-existing skin conditions. Inhalation may aggravate respiratory problems.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Dry chemical. Carbon dioxide (CO2). Water spray (fog). Foam.

**Small Fire**

Dry chemical or CO2.

**Large Fire**

Use foam or water spray.

**Unsuitable Extinguishing Media**

Do not use a heavy water stream. Use of heavy stream of water may spread fire.

**Specific Hazards Arising from the Chemical**

Negligible fire hazard.

**Hazardous Combustion Products**

Smoke, fumes or vapors, and oxides of carbon. Nitrogen oxides (NOx). Hydrogen chloride.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Evacuate area of unprotected personnel. Remain upwind of fire to avoid hazardous vapors and decomposition products. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

**Personal Precautions**

Wear protective clothing as described in Section 8 of this safety data sheet. Isolate hazard area. Keep unnecessary and unprotected personnel from entering.

**Environmental Precautions**

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

**Methods and material for containment and cleaning up**

**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up**

Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with federal, state and local regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

#### **Advice on Safe Handling**

Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Wash face, hands, and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing. Use only outdoors or in a well-ventilated area. Do not eat, drink, smoke, or apply cosmetics while handling this product.

### Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Do not contaminate water, food, or feed by storage or disposal. Keep/store only in original container. Store locked up. Store at ambient conditions. Protect from excessive heat.

#### **Packaging Materials**

Do not reuse container.

#### **Incompatible Materials**

None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diuron 330-54-1	TWA: 10 mg/m <sup>3</sup>	(vacated) TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

### Appropriate engineering controls

#### **Engineering Controls**

Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

### Individual protection measures, such as personal protective equipment

#### **Eye/Face Protection**

Protective eyewear recommended.

#### **Skin and Body Protection**

Wear appropriate clothing to prevent repeated or prolonged skin contact. Wear long-sleeved shirt, long pants, and shoes plus socks. Use chemical resistant gloves, such as P.V.C., butyl-rubber, nitrile-rubber, or neoprene.

#### **Respiratory Protection**

NIOSH-approved respirator or mask in the absence of adequate ventilation.

#### **General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Wash face, hands and any exposed skin thoroughly after handling. Take off all contaminated clothing and wash it before reuse. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b> <b>Appearance</b> <b>Color</b>	Solid Beige pellets Beige	<b>Odor</b> <b>Odor Threshold</b>	Odorless Not determined
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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6.8-9.0	(1% solution)
Melting Point/Freezing Point	158-159 °C / 316-318 °F	
Boiling Point/Boiling Range	Not applicable	
Flash Point	Not applicable	
Evaporation Rate	Not applicable	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	0.61-0.77	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	
Bulk Density	5.17lb/gal	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

#### **Hazardous Polymerization**

Hazardous polymerization does not occur.

### Conditions to Avoid

Keep out of reach of children.

### Incompatible Materials

None known based on information supplied.

### Hazardous Decomposition Products

Smoke, fumes or vapors, and oxides of carbon. Nitrogen oxides (NOx). Hydrogen chloride.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	Avoid contact with skin.
<b>Inhalation</b>	Harmful if inhaled.
<b>Ingestion</b>	Harmful if swallowed.

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Diuron 330-54-1	= 1017 mg/kg ( Rat )	> 5 g/kg ( Rat )	> 0.265 mg/L ( Rat )

### Information on physical, chemical and toxicological effects

**Symptoms** Please see section 4 of this SDS for symptoms.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Carcinogenicity** Not classifiable as a human carcinogen.

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

### Product Information (Numerical measures of toxicity)

**Acute Oral LD50 (Rat):** >1,879 mg/kg

**Acute Dermal LD50 (Rabbit):** >5,000 mg/kg

**Acute Inhalation LC50 (Rat):** >2.03 mg/L (4-hr)

**Eye Irritation:** Mildly irritating.

**Dermal Irritation:** Non-irritating.

**Dermal Sensitization:** Not a skin sensitizer.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by cleaning of equipment or disposal of wastes. Do not apply when weather conditions favor drift from areas treated. Cover or incorporate spills.

### Component Information

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Diuron 330-54-1	0.022: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50 0.036: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 static 0.1: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 0.0007: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static	13.4 - 15: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 13.4 - 15: 96 h <i>Pimephales promelas</i> mg/L LC50 static 2.3 - 3.3: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 4: 96 h <i>Lepomis macrochirus</i> mg/L LC50 1.5 - 2.54: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 14.7: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 2.9: 96 h <i>Cyprinus carpio</i> mg/L LC50	EC50 = 16.38 mg/L 5 min	1.4: 48 h <i>Daphnia magna</i> mg/L EC50 6.3 - 13: 48 h <i>Daphnia magna</i> mg/L EC50 Static

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Chemical Name	Partition Coefficient
Diuron 330-54-1	2.82

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS**

**Waste Treatment Methods**

**Disposal of Wastes**

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.  
 Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.  
 Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION**

**DOT**

Package less than 125 lbs.: Not regulated

Package more than 125 Lbs.:

**UN/ID No**  
**Proper Shipping Name**  
**Hazard Class**  
**Packing Group**  
**Reportable Quantity (RQ)**  
**Marine Pollutant**

UN3077  
 Environmentally hazardous substance, solid, n.o.s. (Diuron), RQ  
 9  
 III  
 Diuron- 100 lbs  
 Yes if package larger than 882 Lbs. (450 Kg)

**IATA**

**UN/ID No**  
**Proper Shipping Name**  
**Hazard Class**  
**Packing Group**

UN3077  
 Environmentally hazardous substance, solid, n.o.s. (Diuron)  
 9  
 III

**IMDG**

**UN/ID No**  
**Proper Shipping Name**  
**Hazard Class**  
**Packing Group**  
**Marine Pollutant**

UN3077  
 Environmentally hazardous substance, solid, n.o.s. (Diuron)  
 9  
 III  
 Yes

**15. REGULATORY INFORMATION**

**International Inventories**

**TSCA** All ingredients are listed or exempt from listing on Chemical Substance Inventory

**Legend:**  
*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

**US Federal Regulations**

**CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Diuron 330-54-1	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

**SARA 311/312 Hazard Categories**

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

**SARA 313**

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Diuron - 330-54-1	330-54-1	77.6-82.4	1.0

**CWA (Clean Water Act)**

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Diuron 330-54-1 ( 77.6-82.4 )	100 lb			X

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Diuron - 330-54-1	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Diuron 330-54-1	X	X	X

**EPA Pesticide Registration Number** EPA Reg. No. 66222-51

**EPA Statement**

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:



**EPA Pesticide Label**

Signal Word: Caution

Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing.

**Difference between SDS and EPA pesticide label**

	EPA	OSHA
<b>Signal Word</b>	Caution	Warning
Acute toxicity - Oral	Harmful if swallowed	Harmful if swallowed
Acute Toxicity – Inhalation	N/A	Harmful if inhaled
Serious eye damage/eye irritation	Causes moderate eye irritation	N/A
Carcinogenicity	N/A	Suspected of causing cancer
STOT - repeated exposure	N/A	May cause damage to organs through prolonged or repeated exposure

**16. OTHER INFORMATION**

**NFPA**

**Health Hazards**

**Flammability**

**Instability**

**Special Hazards**

2

0

0

None

**HMIS**

**Health Hazards**

**Flammability**

**Physical Hazards**

**Personal Protection**

2

0

0

See section 8

**Issue Date:** 25-Jun-2014  
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**Disclaimer**

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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet