1. IDENTIFICATION

**Product identifier**
**Product Name**
Karmex DF

**Other means of identification**

<table>
<thead>
<tr>
<th>SDS #</th>
<th>ADAMA-272</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration Number(s)</td>
<td>Pest Control Product Reg. No. 28543</td>
</tr>
<tr>
<td>UN/ID No</td>
<td>UN3077</td>
</tr>
</tbody>
</table>

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

**Recommended Use**
Pesticide.

**Details of the supplier of the safety data sheet**

**Manufacturer Address**
ADAMA Agricultural Solutions Canada Ltd.
300-191 Lombard Avenue
Winnipeg, Manitoba R3B 0X1
1-855-264-6262

**Emergency telephone number**

**Emergency Telephone**
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 ProPharma Group:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Canadian Pest Control Products Act 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-PCPA registered chemicals. Please see Section 15 for additional information. This product has been classified according to Canada’s Hazardous Product Regulations (WHMIS 2015).

**Appearance** Beige pellets **Physical state** Solid **Odor** Odorless

**Classification**

<table>
<thead>
<tr>
<th>Acute toxicity - Inhalation (Dusts/Mists)</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific target organ toxicity (repeated exposure)</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

**Signal Word**
**Warning**

**Hazard statements**
Harmful if inhaled
May cause damage to organs through prolonged or repeated exposure
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 victim to fresh air and keep at rest in a position comfortable for breathing
Call a poison center or doctor/physician if you feel unwell

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

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron</td>
<td>330-54-1</td>
<td>77.6-82.4</td>
</tr>
</tbody>
</table>

**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

Description of first aid measures
General Advice
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.

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact
Remove contaminated clothing and shoes. Wash off immediately with plenty of water for at least 15 minutes. Consult a physician if necessary.

Inhalation
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, both acute and delayed

**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**
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**

**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. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. 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.

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. Keep container tightly closed and store in a cool, dry and well-ventilated place.

Packaging Materials
Do not reuse container.

Incompatible Materials
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron 330-54-1</td>
<td>TWA: 10 mg/m³</td>
<td>(vacated) TWA: 10 mg/m³</td>
<td>TWA: 10 mg/m³</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls
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
Wear safety glasses with side shields (or goggles).

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

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Appearance</th>
<th>Color</th>
<th>Odor</th>
<th>Odor Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Beige pellets</td>
<td>Beige</td>
<td>Odorless</td>
<td>Not determined</td>
</tr>
<tr>
<td>Property</td>
<td>Values</td>
<td>Remarks • Method</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------</td>
<td>----------------------------------</td>
<td>---------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>6.8-7.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>158-159°C/316-318°F</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Density</td>
<td>0.61-0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other information</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>5.17lb/gal</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 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. Excessive heat.

**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**

  - **Eye Contact**  Avoid contact with eyes.
  - **Skin Contact** Avoid contact with skin.
Inhalation
Avoid breathing vapors or mists.

Ingestion
Harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron 330-54-1</td>
<td>= 1017 mg/kg (Rat) = 4990 mg/kg (Rat)</td>
<td>&gt; 2000 mg/kg (Rat) &gt; 5 g/kg (Rat)</td>
<td>&gt; 0.265 mg/L (Rat)</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics
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
Group 3 - Not Classifiable as to Carcinogenicity in Humans.

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

Numerical measures of toxicity

Acute Oral LD50 (Rat): >5,000 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.

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron 330-54-1</td>
<td>2.82</td>
</tr>
</tbody>
</table>

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes
Canadian manufacturers should dispose of unwanted active ingredients and containers in accordance with municipal or provincial regulations. For additions details and clean up of spills, contact the manufacturer or the provincial regulatory agency.

Contaminated Packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.
14. TRANSPORT INFORMATION

**Note**: Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**
- **UN/ID No**: UN3077
- **Proper Shipping Name**: Environmentally hazardous substance, solid, n.o.s. (Diuron)
- **Hazard class**: 9
- **Packing Group**: III
- **Reportable Quantity (RQ)**: Diuron- 100 lbs
- **Marine Pollutant**: Yes if package larger than 882 lbs. (400 Kg).

**IATA**
- **UN number**: UN3077
- **Proper Shipping Name**: Environmentally hazardous substance, solid, n.o.s. (Diuron)
- **Transport hazard class(es)**: 9
- **Packing Group**: III
- **Marine Pollutant**: Marine Pollutant

**IMDG**
- **UN number**: UN3077
- **Proper Shipping Name**: Environmentally hazardous substance, solid, n.o.s. (Diuron)
- **Transport hazard class(es)**: 9
- **Packing Group**: III
- **Marine Pollutant**: Yes

**TDG**
- **UN/ID No**: UN3077
- **Proper Shipping Name**: Environmentally Hazardous Substance, solid, n.o.s. (Diuron)
- **Hazard class**: 9
- **Packing Group**: III
- **Marine Pollutant**: Yes

15. REGULATORY INFORMATION

### International Inventories

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diuron</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**
- **TSCA**: United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL**: Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS**: European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS**: Japan Existing and New Chemical Substances
- **IECSC**: China Inventory of Existing Chemical Substances
- **KECL**: Korean Existing and Evaluated Chemical Substances
- **PICCS**: Philippines Inventory of Chemicals and Chemical Substances
- **AICS**: Australian Inventory of Chemical Substances
US Federal Regulations

CERCLA
Not applicable

SARA 311/312 Hazard Categories
Not applicable

SARA 313
Not applicable

CWA (Clean Water Act)
Not applicable

US State Regulations

California Proposition 65
Not applicable

U.S. State Right-to-Know Regulations
Not applicable

Pesticide Registration Number
Pest Control Product Reg. No. 28543

Product Statement
This chemical is a product registered by the Canadian Pest Control Products Act 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-PCPA registered chemicals. Read the approved label, authorized under the Pest Control Products Act, prior to using or handling the pest control product. Following is the hazard information as required on the pesticide label:

**Pesticide Label**
Warning- Eye irritant

<table>
<thead>
<tr>
<th>Difference between SDS and pesticide label</th>
<th>PCPA</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal Word</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Toxicity – Inhalation</td>
<td>N/A</td>
<td>Harmful if inhaled</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Eye irritant</td>
<td>N/A</td>
</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>N/A</td>
<td>May cause damage to organs through prolonged or repeated exposure</td>
</tr>
</tbody>
</table>
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>0</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>

Issue Date: 07-Nov-2018
Revision Date: 07-Nov-2018
Revision Note: New format

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 a 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