

**1. IDENTIFICATION**

Product name: **Direx 4L**  
 Chemical name of active ingredient(s): Diuron: 3-(3,4-Dichlorophenyl)-1,1-dimethylurea  
 Manufacturer/Registrant: Makhteshim Agan of North America, Inc.  
 4515 Falls of Neuse Road, Suite 300  
 Raleigh, NC 27609  
 Phone: 919-256-9300  
 For fire, spill, and/or leak emergencies, contact Infotrac: Phone: 1-800-535-5053  
 For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

CHEMICAL NAME	CAS #	%	OSHA/PEL	ACGIH/TLV	OTHER	NTP/IARC/OSHA (Carcinogen)
Diuron	330-54-1	40.7	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	NA	NA
Monoethylene Glycol	107-21-1	5.93	NA	100 mg/m <sup>3</sup>	NA	NA
NA=not available						

**3. HAZARDS IDENTIFICATION**

**PHYSICAL PROPERTIES**

Appearance: White liquid, emulsion  
 Odor: Odorless

**EMERGENCY OVERVIEW:** Caution. Hazards to humans and domestic animals. Harmful if swallowed.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may release toxic and/or hazardous gases.

**SYMPTOMS OF ACUTE EXPOSURE:**

**Inhalation:**

Diuron: Overexposure by inhalation may cause liver enlargement, spleen, and thyroid effects, red blood cell destruction, reduction of the blood's oxygen carrying capacity with cyanosis, weakness, or shortness of breath by formation of methemoglobin.  
 Ethylene Glycol: The low vapor pressure of this component minimizes the risk of excessive exposure to the vapors at room temperature. Exposure to vapor and mists is possible at elevated temperatures and adverse effects have been reported from exposure to mists. Inhalation of high concentrations of this component can cause irritation to the respiratory tract.

**Eye Irritation:**

May cause irritation.

**Skin Absorption:**

Diuron: Slightly toxic on absorption through skin. Temporary skin swelling and redness may occur on contact. Significant skin permeation after contact appears unlikely.  
 Ethylene Glycol: May be absorbed through the skin, which may cause damage to kidneys and depression of central nervous system.

**Ingestion:**

Slightly toxic. Based on animal data, ingestion of ½ pound or more of Diuron (1 pint of formulation) could be fatal to a person.

**SYMPTOMS OF CHRONIC EXPOSURE:**

Diuron: Long-term exposure to low levels of Diuron is not known to cause any ill effects in humans.  
 Ethylene Glycol: Prolonged or repeated exposure to this component's vapors may cause damage to kidneys, liver, lungs, blood, or the central nervous system.

**4. FIRST AID**

**FIRST AID**

<b>IF SWALLOWED:</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> </ul>
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	<ul style="list-style-type: none"> <li>Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING:</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES:</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED:</b>	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>Call a poison control center or doctor for further treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact PROSAR at 1-877-250-9291 for emergency medical treatment information.</p>	

**5. FIRE FIGHTING MEASURES**

**FLASHPOINT:** >200°F (TCC)

**FLAMMABLE LIMITS (% in air):** Not determined

**AUTOIGNITION TEMPERATURE:** Not determined

**FIRE FIGHTING PROCEDURES:** Negligible fire hazard when exposed to heat or flame. Prevent human exposure to fire, smoke, fumes, or products of combustion.

**SUITABLE EXTINGUISHING MEDIA:** Use dry chemical, carbon dioxide, water spray, or foam.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Thermal decomposition may release toxic and/or hazardous gases.

**6. ACCIDENTAL RELEASE MEASURES**

**ACTION TO TAKE FOR SPILLS/LEAKS:** Cover spill with absorbent material such as sweeping compound or clay. Sweep up and place in suitable (fiberboard) containers for later disposal. Ensure that the disposal is in compliance with federal requirements and state or local regulations.

**7. HANDLING AND STORAGE**

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Read label carefully before use. In case of skin contact, carefully remove contaminated clothing and wash affected area with soap and water. Do not contaminate water, food, or feed by storage or disposal or cleaning of equipment. Wash thoroughly with soap and water after handling. Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Store product in original container only, away from other pesticides, fertilizer, food, or feed.

**STORAGE TEMPERATURE (MIN/MAX):** Normal ambient temperatures.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATION AND ON-FARM APPLICATIONS, CONSULT THE PRODUCT LABEL.**

**EYE PROTECTION:** Wear protective eyewear to prevent contact with this substance.

**SKIN PROTECTION:** Wear long sleeved shirt, long pants and shoes plus socks.

**HAND PROTECTION:** Use chemical resistant gloves made of any waterproof material such as polyethylene or polyvinyl chloride.

**RESPIRATORY PROTECTION:** In enclosed spaces where the TLV or PEL may be exceeded, wear NIOSH/MSHA approved dust or mist respirator.

**ADDITIONAL PROTECTIVE MEASURES:** 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.

**USER SAFETY RECOMMENDATIONS:**

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.

**EXPOSURE GUIDELINES:** Refer to Section 2.

**ENGINEERING CONTROLS:** Refer to product label.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** White liquid, emulsion

**ODOR:** Odorless

**pH:** 6.24 @ 25°C

**RELATIVE DENSITY:** 1.1786 @ 23°C

**VISCOSITY:** 494.0 mPa·s (cp)

**OXIDATION REDUCTION:** Slight oxidizing agent and slight reducing agent

**10. STABILITY AND REACTIVITY**

**GENERAL:** Stable under normal conditions.

**INCOMPATIBLE MATERIALS:** Not determined.

**HAZARDOUS DECOMPOSITION:** Thermal decomposition may release toxic and/or hazardous gases.

**HAZARDOUS POLYMERIZATION:** Material is not known to polymerize

**11. TOXICOLOGICAL INFORMATION**

**ACUTE TOXICITY/IRRITATION STUDIES:**

- |                              |                       |
|------------------------------|-----------------------|
| Acute Oral LD50 (Rat):       | 1,919 mg/kg           |
| Acute Dermal LD50 (Rabbit):  | >5,000 mg/kg          |
| Acute Inhalation LC50 (Rat): | >2.02 mg/L            |
| Eye Irritation (Rabbit):     | Minimally irritating. |
| Dermal Irritation (Rabbit):  | Non-irritating.       |
| Dermal Sensitization:        | Not a skin sensitizer |

**12. ECOLOGICAL INFORMATION**

**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 disposing of equipment washwaters. Apply this product only as specified on this label.

**13. DISPOSAL CONSIDERATIONS**

**PRODUCT DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

**14. TRANSPORT INFORMATION**

**DOT CLASSIFICATION:**

**Packaging < 25 gallons:** Not regulated

**Packaging >= 25 gallons:** UN3082, Environmentally hazardous substances, liquid, N.O.S. (diuron), 9, PGIII, RQ

MATERIAL SAFETY DATA SHEET

**DIREX 4L**

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**INTERNATIONAL TRANSPORTATION:**

**IMO (vessel):**

**Packaging < 25 gallons:** Not regulated

**Packaging >/ = 25 gallons:** UN3082, Environmentally hazardous substances, liquid, N.O.S. (diuron), 9, PGIII, RQ

**IATA (air):**

**Packaging < 25 gallons:** Not regulated

**Packaging >/ = 25 gallons:** UN3082, Environmentally hazardous substances, liquid, N.O.S. (diuron), 9, PGIII, RQ

**15. REGULATORY INFORMATION**

**SARA TITLE III CLASSIFICATION:**

**Section 302** Not applicable

**Section 311/312:** Acute Health Hazard  
Chronic Health Hazard

**Section 313 chemical(s):** Diuron (40.7%) CAS #: 330-54-1  
Monoethylene glycol (5.93%) CAS #: 107-21-1

**CA PROPOSITION 65:** This material contains diuron, a chemical known to the state of California to cause cancer.

**CERCLA REPORTABLE QUANTITY (RQ):**

Diuron: RQ = 100 lbs (25 gallons of product)

Monoethylene glycol: RQ = 5,000 lbs. (8,621 gallons of product)

**RCRA CLASSIFICATION:** 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.

**TSCA STATUS:** The ingredients of this product are listed on the TSCA inventory or are exempt.

**16. OTHER INFORMATION**

**NFPA HAZARD RATINGS:**

<b>HEALTH:</b> 2	0 LEAST
<b>FLAMMABILITY:</b> 0	1 SLIGHT
<b>REACTIVITY:</b> 0	2 MODERATE
	3 HIGH
	4 SEVERE

**MSDS DATE:** 5-12-11.

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult Makhteshim Agan of North America, Inc. for further information.