



# Safety Data Sheet

Issue Date: 12-May-2011

Revision Date: 25-Sept-2015

Version 2

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Direx 4L

### Other means of identification

**SDS #** ADAMA-019D

**Registration Number(s)** EPA Reg. No. 66222-54

**UN/ID No** UN3082

### 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** White liquid

**Physical State** Liquid

**Odor** Odorless

### Classification

|  |            |
|--|------------|
| Acute toxicity - Oral                              | Category 4 |
| Carcinogenicity                                    | Category 2 |
| Specific target organ toxicity (repeated exposure) | Category 2 |

### Signal Word

**Warning**

### Hazard Statements

Harmful if swallowed  
Suspected of causing cancer  
May cause damage to organs through prolonged or repeated exposure



### **Precautionary Statements - Prevention**

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

### **Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 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**

| <b>Chemical Name</b> | <b>CAS No</b> | <b>Weight-%</b> |
|----------------------|---------------|-----------------|
| Diuron               | 330-54-1      | 40.7            |
| Proprietary Solvent  | Proprietary   | <6              |

## **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.   |
| <b>Ingestion</b>      | 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.   |

### **Most important symptoms and effects**

|                 |  |
|-----------------|--|
| <b>Symptoms</b> | Irritating to eyes, respiratory system & skin. |
|-----------------|--|

**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 (CO<sub>2</sub>). Water spray (fog). Foam.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Negligible fire hazard.

**Hazardous Combustion Products** Smoke, fumes or vapors, and oxides of carbon.

**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. 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.

**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.

**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<br>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> |
| Proprietary Solvent | Ceiling: 100 mg/m <sup>3</sup> aerosol only | (vacated) Ceiling: 50 ppm<br>(vacated) Ceiling: 125 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 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. Follow all label instructions. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|                                     |  |                                |                |
|-------------------------------------|--|--------------------------------|----------------|
| <b>Physical State</b>               | Liquid   | <b>Odor</b>                    | Odorless       |
| <b>Appearance</b>                   | White liquid                                     | <b>Odor Threshold</b>          | Not determined |
| <b>Color</b>                        | White  |                                |                |
| <b><u>Property</u></b>              | <b><u>Values</u></b>                             | <b><u>Remarks • Method</u></b> |                |
| <b>pH</b>                           | 6.25   | @ 25°C                         |                |
| <b>Melting Point/Freezing Point</b> | Not determined                                   |                                |                |
| <b>Boiling Point/Boiling Range</b>  | Not determined                                   |                                |                |
| <b>Flash Point</b>                  | >93 °C / 200 °F                                  | Tag Closed Cup                 |                |
| <b>Evaporation Rate</b>             | Not determined                                   |                                |                |
| <b>Flammability (Solid, Gas)</b>    | Not determined                                   |                                |                |
| <b>Upper Flammability Limits</b>    | Not determined                                   |                                |                |
| <b>Lower Flammability Limit</b>     | Not determined                                   |                                |                |
| <b>Vapor Pressure</b>               | Not determined                                   |                                |                |
| <b>Vapor Density</b>                | Not determined                                   |                                |                |
| <b>Specific Gravity</b>             | 1.1786   | @ 75°F (23°C)                  |                |
| <b>Water Solubility</b>             | Not determined                                   |                                |                |
| <b>Solubility in other solvents</b> | Not determined                                   |                                |                |
| <b>Partition Coefficient</b>        | Not determined                                   |                                |                |
| <b>Auto-ignition Temperature</b>    | Not determined                                   |                                |                |
| <b>Decomposition Temperature</b>    | Not determined                                   |                                |                |
| <b>Kinematic Viscosity</b>          | Not determined                                   |                                |                |
| <b>Dynamic Viscosity</b>            | 494.0 mPa s                                      |                                |                |
| <b>Explosive Properties</b>         | Not determined                                   |                                |                |
| <b>Oxidizing Properties</b>         | Slight oxidizing agent and slight reducing agent |                                |                |

## 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

None known based on information supplied.

## 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

| Chemical Name       | Oral LD50            | Dermal LD50             | Inhalation LC50      |
|---------------------|----------------------|-------------------------|----------------------|
| Diuron<br>330-54-1  | = 1017 mg/kg ( Rat ) | > 5 g/kg ( Rat )        | > 0.265 mg/L ( Rat ) |
| Proprietary Solvent | = 4000 mg/kg ( Rat ) | = 9530 µL/kg ( Rabbit ) | -                    |

### 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**                         Suspected of causing cancer.

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

### Numerical measures of toxicity

**Acute Oral LD50 (Rat):** >1,919 mg/kg

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

**Acute Inhalation LC50 (Rat):** >2.02 mg/L (4-hr)

**Eye Irritation:** Minimally irritating.

**Dermal Irritation:** Non-irritating.

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

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic life with long lasting effects. For terrestrial uses only. 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 when disposing of equipment wash water or rinsate. Do not clean equipment or dispose of equipment washwaters in a manner that will contaminate water sources. Apply this product only as specified on this label.

### Component Information

| Chemical Name       | Algae/aquatic plants   | Fish   | Toxicity to microorganisms   | Crustacea  |
|---------------------|--|--|--|--|
| Diuron<br>330-54-1  | 0.022: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50<br>0.036: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 static<br>0.1: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static<br>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<br>13.4 - 15: 96 h <i>Pimephales promelas</i> mg/L LC50 static<br>2.3 - 3.3: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static<br>4: 96 h <i>Lepomis macrochirus</i> mg/L LC50<br>1.5 - 2.54: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static<br>14.7: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50<br>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<br>6.3 - 13: 48 h <i>Daphnia magna</i> mg/L EC50 Static |
| Proprietary Solvent | 6500 - 13000: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50  | 41000: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50<br>14 - 18: 96 h <i>Oncorhynchus mykiss</i> mL/L LC50 static<br>27540: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static<br>40761: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static<br>40000 - 60000: 96 h <i>Pimephales promelas</i> mg/L LC50 static<br>16000: 96 h <i>Poecilia reticulata</i> mg/L LC50 static  | EC50 = 10000 mg/L 16 h<br>EC50 = 620 mg/L 30 min<br>EC50 = 620.0 mg/L 30 min | 46300: 48 h <i>Daphnia magna</i> mg/L EC50   |

### Persistence/Degradability

Not determined.

### Bioaccumulation

Not determined.

### Mobility

| Chemical Name       | Partition Coefficient |
|---------------------|-----------------------|
| Diuron<br>330-54-1  | 2.82                  |
| Proprietary Solvent | -1.93                 |

### 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 25 gallons: Not regulated

Package more than 25 Gallons:

|                                 |  |
|---------------------------------|--|
| <b>UN/ID No</b>                 | UN3082   |
| <b>Proper Shipping Name</b>     | Environmentally hazardous substance, liquid, n.o.s. (Diuron) |
| <b>Hazard Class</b>             | 9  |
| <b>Packing Group</b>            | III  |
| <b>Reportable Quantity (RQ)</b> | Diuron- 100 lbs (25 gallons of Diuron 4L ®)                  |
| <b>Marine Pollutant</b>         | Yes if package over 119 Gallons (450 L)                      |

#### IATA

|                             |  |
|-----------------------------|--|
| <b>UN/ID No</b>             | UN3082   |
| <b>Proper Shipping Name</b> | Environmentally hazardous substance, liquid, n.o.s. (Diuron) |
| <b>Hazard Class</b>         | 9  |
| <b>Packing Group</b>        | III  |

#### IMDG

|                             |  |
|-----------------------------|--|
| <b>UN/ID No</b>             | UN3082   |
| <b>Proper Shipping Name</b> | Environmentally hazardous substance, liquid, n.o.s. (Diuron)                                 |
| <b>Hazard Class</b>         | 9  |
| <b>Packing Group</b>        | III  |
| <b>Marine Pollutant</b>     | This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO |

### 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

| Chemical Name       | Hazardous Substances RQs | CERCLA/SARA RQ | Reportable Quantity (RQ)                   |
|---------------------|--------------------------|----------------|--|
| Diuron<br>330-54-1  | 100 lb                   |                | RQ 100 lb final RQ<br>RQ 45.4 kg final RQ  |
| Proprietary Solvent | 5000 lb                  |                | RQ 5000 lb final RQ<br>RQ 2270 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 | 40.7     | 1.0                           |
| Glycol - 107-21-1 | 107-21-1 | 5.93     | 1.0                           |

**CWA (Clean Water Act)**

| Component                   | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|-----------------------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Diuron<br>330-54-1 ( 40.7 ) | 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<br>330-54-1  | X          | X             | X            |
| Proprietary Solvent | X          | X             | X            |

**EPA Pesticide Registration Number** EPA Reg. No. 66222-54**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.



**Difference between SDS and EPA pesticide label**

|                          | EPA                  | OSHA  |
|--------------------------|----------------------|---|
| <b>Signal Word</b>       | Caution              | Warning   |
| Acute toxicity - Oral    | Harmful if swallowed | Harmful if swallowed  |
| 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**

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None

**HMIS****Health Hazards****Flammability****Physical Hazards****Personal Protection**

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See section 8

**Issue Date:**

12-May-2011

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25-Sept-2015

**Revision Note:**

Updated format from 19-Jun-2014

**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**