

MATERIAL SAFETY DATA SHEET

DIURON 4L HERBICIDE

FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CALL CHEMTREC - DAY OR NIGHT 1-800-424-9300

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

FORMULATED FOR:

LOVELAND PRODUCTS, INC.
P.O. Box 1286 • Greeley, CO 80632-1286

24-Hour Emergency Phone: 1-800-424-9300
Medical Emergencies: 1-800-301-7976
U.S. Coast Guard National Response Center: 1-800-424-8802

PRODUCT NAME: DIURON 4L HERBICIDE
CHEMICAL NAME: Diuron; 3-[3,4-dichlorophenyl]-1,1-dimethylurea]
CHEMICAL FAMILY: Substituted Urea Herbicide
EPA REG. NO.: 34704-854
MSDS Number: 000854-04-LPI

MSDS Revisions: All sections reviewed

Date of Issue: 01/11/08

Supersedes: 07/19/04

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION – Harmful if swallowed. Causes moderate eye irritation. Avoid breathing spray mist. Avoid contact with skin, eyes and clothing.

This product is white liquid emulsion with no odor.

POTENTIAL HEALTH EFFECTS

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.

Eye Contact: May cause irritation.

Skin Contact: Diuron—Slightly toxic on absorption through skin. Temporary skin swelling and redness may occur on contact. Significant skin permeation after contact appears unlikely.

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

NOTE TO PHYSICIAN:

Absorption of Diuron into the body may lead to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversal of methemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails is of utmost importance. If cyanosis is severe IV injection of methylene blue @ 1 mg/kg of body weight, may be of value. Cyanocobalamin (Vitamin B₁₂) @ 1 mg intramuscularly may speed recovery. IV fluids and blood transfusions may be indicated in very severe exposures.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV Units</u>
Diuron	40.00	330-54-1	10 mg/m ³
Inert Ingredients	60.00		

4. FIRST AID MEASURES

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-800-301-7976. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES

FLASH POINT (^oF/Test Method): >200^oF / >93.3^oC (TCC).
FLAMMABLE LIMITS (LFL & UFL): None established
EXTINGUISHING MEDIA: Dry chemical, carbon dioxide, foam, water spray or foam.
HAZARDOUS COMBUSTION PRODUCTS: Oxides of nitrogen and other unknown hazardous material may be formed in a fire situation. Oxides of carbon and/or other asphyxiants may be formed from incomplete combustion.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus with full protective clothing.
UNUSUAL FIRE AND EXPLOSION HAZARDS: If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:

Control the spill at its source. Sweep up material and place in a container for possible land application according to label use or for proper disposal. Check local, state and federal regulations for proper disposal.

CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

7. HANDLING AND STORAGE

HANDLING: Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
STORAGE: Store product in original container only, away from other pesticides, fertilizer, food or feed. Do not contaminate water, food or feed by storage or disposal.

Personal Protective Equipment (PPE): All pilots, flaggers and groundboom applicators must wear: Long-sleeved shirt and long pants, and shoes plus socks. **All mixers, loaders, other applicators, and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, chemical resistant gloves such as polyethylene or polyvinylchloride and a NIOSH approved particulate filtering respirator equipped with any N, R, or P class filter media with NIOSH approval number prefix TC-84A. It is recommended that the respirator wearer be fit tested, and trained in the use, maintenance, and limitations of the respirator. A chemical-resistant apron with mixing, loading, or cleaning equipment or spills. See Engineering controls for additional requirements. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR170.240(d)(6)]. Flaggers supporting aerial applications must use an enclosed cab that meets the definition in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240(d)(5)] for dermal protection. In addition, flaggers must wear long-sleeved shirt, long pants, shoes and socks.
RESPIRATORY PROTECTION: Not normally required, if dusts or mists exceed acceptable levels, wear a NIOSH approved respirator with cartridges and dust pre-filters for pesticides.
EYE PROTECTION: Chemical goggles or shielded safety glasses.
SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes plus socks. Wear chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Diuron	not established	10 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: White liquid emulsion with no odor	SOLUBILITY: Emulsifies
SPECIFIC GRAVITY (Water = 1): 1.1786 g/ml	pH: 6.24
VAPOR PRESSURE: 1.0 E-09 kPa @ 25 ^o C	BULK DENSITY: 9.84 lbs/gal
PERCENT VOLATILE (by volume): Not established	BOILING POINT: Not established
Note: These physical data are typical values based on material tested but may vary from sample to sample.	EVAPORATION RATE: Not established
Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.	

10. STABILITY AND REACTIVITY

STABILITY: Stable
INCOMPATIBILITY: Strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of nitrogen and other unknown hazardous material may be formed in a fire situation. Oxides of carbon and/or other asphyxiants may be formed from incomplete combustion.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Excessive heat and moisture.

11. TOXICOLOGICAL INFORMATION**Acute Oral LD₅₀ (rat):** 1919 mg/kg**Eye Irritation (rabbit):** Minimal eye irritant**Inhalation LC₅₀ (rat):** >2.02 mg/L (4 hr) (Diuron).**Carcinogenic Potential:** None listed in OSHA, NTP or IARC; ACGIH: Not classifiable as a Human Carcinogen**Target Organs:** Diuron: eyes, skin, respiratory system, and blood.**Acute Dermal LD₅₀ (rabbit):** >5000 mg/kg**Skin Irritation (rabbit):** Not irritating to skin**Skin Sensitization (guinea pig):** Not a sensitizer**12. ECOLOGICAL INFORMATION**

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 cleaning equipment or disposing of equipment wash waters.

13. DISPOSAL CONSIDERATIONS

Do not reuse empty product containers Triple rinse (or equivalent), then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or by reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, if allowed by State and local authorities, by burning. If burned, stay out of smoke. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. Do not contaminate water, food or feed by storage or disposal.

14. TRANSPORT INFORMATION**DOT Shipping Description:** < 30 GALLONS NOT REGULATED BY USDOT**DOT Shipping Description:** > 30 GALLONS: RQ ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DIURON), 9, UN3082, III, ERG GUIDE 171**U.S. Surface Freight Classification:** COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2:CLASS: 60)

Consult appropriate ICAO/IATA and IMDG regulations for shipment requirements in the Air and Maritime shipping modes.

15. REGULATORY INFORMATION**NFPA & HMIS Hazard Ratings:****NFPA**

1 Health	0 Least
1 Flammability	1 Slight
0 Instability	2 Moderate
	3 High
	4 Severe

HMIS

1 Health
1 Flammability
0 Reactivity
H PPE

SARA Hazard Notification/Reporting

SARA Title III Hazard Category:	Immediate	<u>Y</u>	Fire	<u>N</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Diuron (CAS: 330-54-1) 100 pounds**SARA, Title III, Section 313:** Diuron (CAS: 330-54-1) 40.0%**RCRA Waste Code:** Not listed**CA Proposition 65: WARNING:** This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.**16. OTHER INFORMATION****MSDS STATUS:** All sections reviewed and/or revised**PREPARED BY:** Registrations and Regulatory Affairs**REVIEWED BY:** Environmental/ Regulatory Services

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