

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: 1-866-944-8565
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: 000854-12-LPI

MSDS Revisions: Sections 14 and 15

Date of Issue: 11/29/12

Supersedes: 08/26/09

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: 1-866-944-8565. 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 (°F/Test Method): >200°F / >93.3°C (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. 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.
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	BULK DENSITY: 9.84 lbs/gal	SOLUBILITY: Emulsifies
SPECIFIC GRAVITY (Water = 1): 1.1786 g/ml	BOILING POINT: Not established	pH: 6.24
VAPOR PRESSURE: 1.0 E-09 kPa @ 25°C	EVAPORATION RATE: Not established	
PERCENT VOLATILE (by volume): Not established		

Note: These physical data are typical values based on material tested but may vary from sample to sample.
 Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Excessive heat and moisture.
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.

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. Apply this product only as specified on the product 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: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact The Agricultural Container Recycling Council (ACRC) at www.acrecycle.org. If not recycled, then puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **For packages up to 5 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For packages greater than 5 gallons and less than 56 gallons: Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. **For packages greater than 56 gallons:** To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. **For refillable containers:** Refill this container with pesticide only. Do not reuse the container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. 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 UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (DIURON), 9, 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		HMIS
	1 Health	0 Least	1 Health
	1 Flammability	1 Slight	1 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	G PPE
		4 Severe	

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.
CAUTION – This chemical is a pesticide product registered by the United States 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 (SDS), and for workplace labels of non-pesticide chemicals.

16. OTHER INFORMATION

MSDS STATUS: Section 15 revised
PREPARED BY: Registrations and Regulatory Affairs
REVIEWED BY: Environmental Health and Safety

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