

**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:** BROZINE®  
**CHEMICAL NAME:** Octanoic acid ester of Bromoxynil: (3,5-dibromo-4-hydroxybenzoxynil); Atrazine: (2-chloro-4-ethylamino-6-isopropylamine-S-triazine)  
**CHEMICAL FAMILY:** Nitrile Herbicide-Triazine Herbicide  
**EPA REG. NO.:** 34704-892  
**MSDS Number:** 000892-06-LP I      **MSDS Revisions:** New      **Date of Issue:** 06/08/06      **Supersedes:** New

**2. HAZARDS IDENTIFICATION SUMMARY**

**KEEP OUT OF REACH OF CHILDREN – CAUTION – Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle (If you do not understand the label, find someone to explain it to you in detail.)** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

This product is tan liquid with an aromatic odor.

**Warning Statements:**

**NOTE TO PHYSICIAN:** This product contains a petroleum distillate – vomiting may cause aspiration pneumonia. All treatment should be based on observed signs and symptoms of distress in the patient. Treat symptomatically. No specific antidote is available. This product is irritating to the mucous membranes. If large amounts (greater than 1 ml/kg body weight) of the product have been ingested, the stomach should be evacuated by gastric intubation with the aid of a cuffed endotracheal tube to prevent exposure to the esophagus. After removal of stomach contents, wash stomach by instilling 30-50g of activated charcoal in 3-4 ounces of water through the stomach tube and again remove stomach contents. Avoid oily laxatives.

**3. COMPOSITION, INFORMATION ON INGREDIENTS**

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Bromoxynil Octanoate	15.74	1689-99-2	none established
Atrazine	21.62	1912-24-9	5 mg/m <sup>3</sup>
Inert Ingredients, contains	62.64		
Aromatic Hydrocarbons, containing		64742-95-6	none established
1,2,4 Trimethylbenzene		95-63-6	123 mg/m <sup>3</sup>
Xylene		1330-20-7	434 mg/m <sup>3</sup>
Ethyl benzene		100-41-4	434 mg/m <sup>3</sup>

This product is hazardous according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

**4. FIRST AID MEASURES**

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

**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 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.

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

**5. FIRE FIGHTING MEASURES**

**FLASH POINT (°F/Test Method):** 131°F/ 55°C (TCC)  
**FLAMMABLE LIMITS (LFL & UFL):** Not established  
**EXTINGUISHING MEDIA:** Large fires: Foam, water spray. Small fires: Dry chemical, CO<sub>2</sub> (carbon dioxide).  
**HAZARDOUS COMBUSTION PRODUCTS:** Hydrogen bromide, hydrogen cyanide, oxides of nitrogen, and oxides of carbon acetonitrile.  
**SPECIAL FIRE FIGHTING PROCEDURES:** Wear self-contained breathing apparatus with full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area.  
**UNUSUAL FIRE AND EXPLOSION HAZARDS:** If water is used to fight fire and cool the containers, contain run-off by diking to prevent contamination of water supplies. Containers in fire may burst or explode from excessive heat. Vapors may travel a considerable distance to source of ignition and flash back along vapor trail.

**6. ACCIDENTAL RELEASE MEASURES**

**STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED:**

For small spills, absorb with an absorbent material such as pet litter. Sweep up and transfer to containers for possible land application according to label use or for proper disposal. Wash the spill with water containing a strong detergent, absorb with pet litter or other absorbent material, sweep up and place in a chemical container. Check local, state and federal regulations for proper disposal. Flush the area with water to remove any residue. For large spills: contain liquid by diking the area, keep product out of water supplies. Large spills that soak into ground should be dug up to a depth of 1 to 2 inches, placed in drums and disposed of in accordance with instructions provided under DISPOSAL, section 13 of this MSDS. Any recovered spilled liquid should be similarly collected and disposed of. **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:** Do not store near fertilizers or seeds. Store at temperatures above 32°F/0°C. If exposed to freezing temperatures, store at temperatures above 55°F/12.8°C for 24 hours or until completely thawed. Shake well before using. This product is Do not use or store near heat or open flame. Do not contaminate water, food or feed by storage or disposal.

**Personal Protective Equipment (PPE): Mixers, loaders, applicators, flaggers and other handlers must wear:** long sleeved shirt and long pants, chemical-resistant gloves, such as nitrile rubber, Viton® or barrier laminate, shoes plus socks, and chemical-resistant apron, when mixing and loading, cleaning up spills, or cleaning equipment, or otherwise exposed to the concentrate. Follow manufacturer's instructions for cleaning and maintaining PPE. If no instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. **User Safety Requirements:** Discard clothing or other absorbent materials that have been heavily drenched with this product's concentrate. Do not reuse them. To reduce exposure to residues, wash the spray rig, tractor, and all other equipment used to handle or apply this product with water daily or before using the equipment for any other purpose.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**ENGINEERING CONTROLS:** When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS. See product label for additional engineering controls.

**RESPIRATORY PROTECTION:** Not normally required; if vapors or mists become excessive, wear a NIOSH approved pesticide respirator with cartridges for pesticide vapors.

**EYE PROTECTION:** Chemical goggles or shielded safety glasses.

**SKIN PROTECTION:** Wear protective clothing: long-sleeved shirts and pants, chemical resistant footwear plus socks. Wear chemical-resistant gloves.

	OSHA PEL 8 hr TWA	ACGIH TLV-TWA
Atrazine	not listed	5 mg/m <sup>3</sup>
Xylene (mixed isomers)	435 mg/m <sup>3</sup>	434 mg/m <sup>3</sup>
Trimethylbenzene	not listed	123 mg/m <sup>3</sup>
Ethyl Benzene	435 mg/m <sup>3</sup>	434 mg/m <sup>3</sup>

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE AND ODOR:** Tan liquid with aromatic odor.

**SPECIFIC GRAVITY (Water = 1):** 1.11 g/ml

**VAPOR PRESSURE:** 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.

**BULK DENSITY:** 9.26 lbs/gal.

**BOILING POINT:** 204.8 – 208.4°F / 96 – 98°C

**EVAPORATION RATE:** Not established

**SOLUBILITY:** Emulsifies

**pH:** 5 - 7 (100 wt/wt%)

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable

**CONDITIONS TO AVOID:** Temperatures above 110°F/43.3°C.

**INCOMPATIBILITY:** Alkaline and acidic conditions and materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen bromide, hydrogen cyanide, oxides of nitrogen, and oxides of carbon acetonitrile.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Acute Oral LD<sub>50</sub> (rat):** 3600 mg/kg

**Eye Irritation (rabbit):** Moderate irritant

**Inhalation LC<sub>50</sub> (rat):** 3.8 mg/L (4 hr).

**Carcinogenic Potential:** Nothing listed in NTP or OSHA. ACGIH and IARC have classified Atrazine and Xylene in Group A4\*\* and 3\*\*\*\*, respectively; Ethyl Benzene is Group A3\* and 2B\*\*\*, respectively. EPA has classified Bromoxynil in Group C (Possible Human Carcinogen – Limited evidence of carcinogenicity in animals in the absence of human data). Bromoxynil is considered a developmental toxicant. Women of childbearing age should avoid handling this product.

**Acute Dermal LD<sub>50</sub> (rabbit):** >2,000 mg/kg

**Skin Irritation (rabbit):** Minimal irritant

**Skin Sensitization (guinea pig):** Possible sensitizer

**12. ECOLOGICAL INFORMATION**

This pesticide is toxic to wildlife and fish. Use with care when applying to areas frequented by wildlife or adjacent to any body of water. For terrestrial uses, 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 apply when weather conditions favor drift from target areas. Do not contaminate water by disposing of equipment wash waters.

**13. DISPOSAL CONSIDERATIONS**

Do not reuse container. **Plastic:** Triple rinse (or equivalent), then puncture and dispose of in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke. **Metal:** Triple rinse (or equivalent) then offer for recycling and reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, if allowed by state and local authorities. **Bulk/Mini-Bulk Containers:** When the container is empty, replace the cap and seal all openings that have been opened during use; and return the container to the point of purchase, or to a designated location named at the time of purchase of product. This container must only be refilled with this pesticide product. **DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE.** 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: 119 GALLONS AND LESS:** NOT REGULATED BY USDOT  
**DOT Shipping Description: GREATER THAN 119 GALLONS:** COMBUSTIBLE LIQUID, N.O.S. (XYLENE RANGE SOLVENTS), NA1993, III, ERG GUIDE 128  
**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**

<b>NFPA &amp; HMIS Hazard Ratings:</b>	NFPA		HMIS
	2 Health	0 Least	2 Health
	2 Flammability	1 Slight	2 Flammability
	0 Instability	2 Moderate	0 Reactivity
		3 High	H PPE
		4 Severe	

**SARA Hazard Notification/Reporting**

**SARA Title III Hazard Category:** Immediate Y Fire Y Sudden Release of Pressure N  
 Delayed Y Reactive N

**Reportable Quantity (RQ) under U.S. CERCLA:** Xylene (mixed isomers) (CAS: 1330-20-7) 100 pounds

**SARA, Title III, Section 313:** Bromoxynil Octanoate (CAS: 1689-99-2); Atrazine (CAS: 1912-24-9); 1,2,4-Trimethylbenzene (CAS: 95-63-6); Xylene (mixed isomers) (CAS: 1330-20-7); Ethyl Benzene (CAS: 100-41-4)

**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:** New

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental/ Regulatory Services

®Brozine is a registered trademark of Loveland Products, Inc.

®Viton is a registered trademark of DUPONT DOW ELASTOMERS L.L.C.

**This product is a Restricted Use Pesticide (Ground and Surface Water Concerns)**

\*Confirmed Animal Carcinogen with Unknown Relevance to Humans; \*\*Not Classifiable as Human Carcinogen; \*\*\*Possibly Carcinogenic to Humans; \*\*\*\*Unclassifiable as to Carcinogenicity to Humans.

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