

# SAFETY DATA SHEET

SDS NUMBER: 000891-15-LPI

SDS REVISIONS: FORMAT

DATE OF ISSUE: 01/12/15

**BROCLEAN®**

SUPERSEDES: 07/15/11

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

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 PRODUCT IDENTIFIER:

TRADE NAME: **BROCLEAN®**

### 1.2 RECOMMENDED USE:

 AGRICULTURAL HERBICIDE

### 1.3 SUPPLIER DETAILS:

LOVELAND PRODUCTS, INC.

P.O. Box 1286 • Greeley, CO 80632-1286

### 1.4 24 Hour Emergency Phone:

 1-800-424-9300 - **Medical Emergencies:** 1-866-944-8565 – **Product Information:** 1-888-574-2878 (LPI-CUST)**U.S. Coast Guard National Response Center:** 1-800-424-8802

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to 29 CFR 1910.1200

Eye Damage/Irritation	Category 2A	H319
Acute Toxicity - Oral	Category 4	H302
Sensitization – Skin	Category 1	H317
Aquatic Toxicity - Acute	Category 2	H401

### 2.2 Label elements



Signal word:

WARNING

Hazard Statement:

H319 – Causes serious eye irritation.

H302 – Harmful if swallowed.

H317 – May cause an allergic skin reaction.

H401 – Toxic to aquatic life.

Precautionary

Statement:

P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 – Wash thoroughly after handling.

(Prevention):

P272 – Contaminated work clothing must not be allowed out of the workplace.

P280 – Wear protective gloves / eye protection / face protection.

P102 – Keep out of reach of children.

P273 – Avoid release to the environment.

Precautionary

Statement:

P305+P351+P338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P301+P310+P331: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

P333+P313: IF skin irritation or rash occurs: Get medical advice attention.

(Response):

P101 – If medical advice is needed, have the product container or label at hand.

P363 – Wash contaminated clothing before reuse.

P391 – Collect spillage.

Precautionary

Statement:

(Storage):

P401+P233+P234 – Store in a dry place. Store at temperatures above 30°F (-1.1°C). If allowed to freeze, remix before using. Keep container tightly closed. Keep only in original container.

P405 – Store locked up.

### 2.3 Other hazards

None known

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## Potential Health effects

### Routes of exposure

Eye contact. Ingestion.

### Eyes

Causes serious eye irritation.

### Skin

Irritant.

### Inhalation

No data available.

### Ingestion

Harmful if swallowed.

### Target organs

Eyes. Ingestion.

### Signs and symptoms

Causes serious eye irritation.

### Potential environmental effects

This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have harmful or damaging effect on the environment.

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

### 3.1 Substances

### 3.2 Mixtures

#### Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Classification	Concentration [%]
Bromoxynil Octanoate	1689-99-2	Eye Dam. 1; H318	33.40
Naphthalene (contained in other ingredients)	91-20-3	Oral tox. 4; H302	6.0 – 8.0
*Other ingredients	n/a	Aquatic Acute. 2; H401 Sens. Skin; 1; H317	< 70.00

\*Ingredients not specifically listed are non-hazardous or are to be considered proprietary or confidential business information per 29 CFR 1910.1200(i)

## 4. FIRST AID MEASURES

### 4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

**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 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.

**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 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.

### 4.2 Most Important Symptoms and Effects, Acute and Delayed

Symptoms: Eyes: Causes serious eye irritation.  
Oral: Harmful if swallowed.

### 4.3 Immediate Medical Attention and Special Treatment

Treatment: Treat symptomatically. Symptoms may be delayed.

**FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT CALL: 1-866-944-8565**

Take container, label or product name with you when seeking medical attention.

**NOTES TO PHYSICIAN:** If in eyes, specialized ophthalmologic attention may be necessary. If swallowed probable mucosal damage may contraindicate gastric lavage. There is no specific antidote; treat symptomatically.

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## 5. FIRE FIGHTING MEASURES

### 5.1 EXTINGUISHING MEDIA:

Suitable Extinguishing Media: Use medium appropriate to surrounding fire. Dry chemical, carbon dioxide (CO<sub>2</sub>), alcohol foam, foam, water spray or fog.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Specific Hazards During Firefighting: Unknown materials may be formed in a fire situation.

### 5.3 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

Special Protective Equipment for Firefighters: Self-contained breathing apparatus and full protective gear should be worn in fighting large fires involving chemicals. Use water spray to keep fire exposed containers cool. Keep people away. Isolate fire and deny unnecessary entry.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions: Avoid inhalation of vapors and spray mist and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: This pesticide is toxic to wildlife and fish. Use care when applying to areas frequented by wildlife or adjacent to any body of water. 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 when disposing of equipment washwaters.

### 6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEAN-UP

Methods for Clean-Up: Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. After removal flush contaminated area thoroughly with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to Remove residual contamination. Never return spills to original containers for re-use.

## 7. HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe 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.

### 7.2 CONDITIONS FOR SAFE STORAGE:

Requirements for Storage Areas and Containers: Do not store near fertilizers or seed. Do not store below temperature of 30° F. If allowed to freeze, remix before using. Do not contaminate water, food or feed by storage or disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS:

#### OCCUPATIONAL EXPOSURE LIMITS

##### U.S. Workplace Exposure Level (ACGIH) TLVs

Components	Type	Value
Naphthalene	TLV	10 ppm / 52 mg/m <sup>3</sup>

##### U.S. Workplace Exposure Level (OSHA) PELs

Components	Type	Value
Naphthalene	TLV	10 ppm / 50 mg/m <sup>3</sup>

#### Biological limit values

##### ACGIH Biological Exposure Indices

Components	Value	Specimen
Naphthalene	Under study	Skin

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## 8.2 EXPOSURE CONTROLS:

### Engineering Measures

Provide adequate general and local exhaust ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors and spray mists. Provide eyewash station and safety shower.

### Individual Protection Measures:

Eye / Face Protection: Goggles or shielded safety glasses are recommended.

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves, such as polyethylene or polyvinylchloride. Shoes plus socks.

Respiratory Protection: In case of inadequate ventilation or risk of inhalation of mists or vapors, use suitable respiratory equipment such as MSHA/NIOSH TC-84A with NIOSH equipped N, R, or P class filter media. Wear respiratory protection during operations where spraying or misting occurs. If respirators are used, a program should be in place to assure compliance with 29 CFR 1910.134, the OSHA Respiratory Protection standard. Wear air supplied respiratory protection if exposure concentrations are unknown.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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- 9.1 APPEARANCE :** Liquid  
**ODOR:** Aromatic hydrocarbon.  
**ODOR THRESHOLD:** No data available.  
**COLOR:** Dark amber.  
**pH:** 4.38  
**MELTING POINT / FREEZING POINT:** No data available  
**BOILING POINT:** No data available  
**FLASH POINT:** 148.5°F (64.7°C).  
**FLAMMABILITY (solid, gas):** No data available.  
**UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS:** No data available.  
**VAPOR PRESSURE:**  $1.9 \times 10^{-1}$  mPa (25°C) (Bromoxynil Octanoate).  
**SOLUBILITY:** Emulsifies.  
**PARTITION CO-EFFICIENT, n-OCTANOL / WATER:** log Pow: 5.4 (25°C) (Bromoxynil Octanoate).  
**AUTO-IGNITION TEMPERATURE:** No data available.  
**DECOMPOSITION TEMPERATURE:** No data available.  
**VISCOSITY:** 6.05 cps  
**SPECIFIC GRAVITY (Water = 1):** 1.05 g/ml  
**BULK DENSITY:** 8.74 lbs./gal / 1.05 kg/L

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.

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## 10. STABILITY AND REACTIVITY

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- 10.1 REACTIVITY**  
Stable
- 10.2 CHEMICAL STABILITY**  
Stable under normal temperature conditions
- 10.3 POSSIBILITY OF HAZARDOUS REACTIONS**  
No data available. Will not polymerize.
- 10.4 CONDITIONS TO AVOID**  
Temperatures above 115°F / 46.1°C and below 25°F / -3.8°C.
- 10.5 INCOMPATIBLE MATERIALS**  
Acidic and oxidizing materials, halogenated organics, brass, copper, zinc, and aluminum metals.
- 10.6 HAZARDOUS DECOMPOSITION PRODUCTS**  
Oxides of nitrogen, hydrogen chloride, and chlorinated pyridine.

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## 11 TOXICOLOGICAL INFORMATION

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### 11.3 LIKELY ROUTES OF EXPOSURE

Eye contact. Harmful if swallowed.

**LC<sub>50</sub> (rat):** >1.1 mg/L (4 HR)

**LD<sub>50</sub> Oral (rat):** 750 mg/kg

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

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** Moderate irritant.

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

**Specific Target Organ Toxicity:** No data available.

**Aspiration:** No data available

**Skin Sensitization (guinea pig):** Sensitizer

**Carcinogenicity:** ACGIH TLV-A4: Not Classifiable as a Human Carcinogen.

**Germ Cell Mutagenicity:** No data available

**Interactive Effects:** None known

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**12 ECOLOGICAL INFORMATION****12.3 ECOTOXICITY**

The product is toxic to wildlife and fish.

**Ecotoxicological Data**

	Species	Test Results
Bromoxynil Octanoate	Rainbow trout	0.05 ppm – 96-hour LC <sub>50</sub>
	Bluegill	0.05 ppm – 96-hour LC <sub>50</sub>
	Bobwhite quail	1,150 ppm – 96-hour LC <sub>50</sub>
	Mallard duck	1,180 ppm – 96-hour LC <sub>50</sub>
	Bee toxicity	14 µ/bee

Drift or runoff may adversely affect non-target plants.

Do not apply directly to water.

Do not contaminate water when disposing of equipment wash water.

Do not apply when weather conditions favor drift from target area.

**12.2 PERSISTENCE AND DEGRADABILITY**

Biodegradability: Bromoxynil Octanoate de-estifies rapidly to the parent phenol after application. Bromoxynil phenol is slightly persistent with a half-life of 1 – 35 days depending on soil type and weather conditions.

**12.3 BIOACCUMULATIVE POTENTIAL**

Bioaccumulation: No data available.

**12.4 MOBILITY IN SOIL**

Very mobile in soil.

**12.5 OTHER ADVERSE EFFECTS**

Assessment: No data available.

**13 DISPOSAL CONSIDERATIONS****13.1 WASTE TREATMENT METHODS**

Wastes may be disposed of on site or at an approved waste disposal facility. Triple rinse (or equivalent), adding rinse water to spray tank. Offer container for recycling or dispose of in a sanitary landfill or by other procedures approved by appropriate authorities. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

**14 TRANSPORT INFORMATION****14.3 LAND TRANSPORT**

DOT Shipping Description: 119 GALLONS AND LESS: NOT REGULATED BY DOT

DOT Shipping Description: GREATER THAN 119 GALLONS: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (BROMOXYNIL, OCTANOATE), 9, III MARINE POLLUTANT ERG GUIDE 171

U.S. Surface Freight Classification: COMPOUND, TREE OR WEED KILLING, NOI (NMFC 50320, SUB 2: CLASS: 60)

**15 REGULATORY INFORMATION****15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS****NFPA & HMIS Hazard Ratings:****NFPA**

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

**HMIS**

2	Health
2	Flammability
0	Reactivity
H	PPE

**SARA Hazard Notification/Reporting****SARA Title III Hazard Category:**

Immediate	<u>Y</u>
Delayed	<u>Y</u>

Fire	<u>Y</u>
Reactive	<u>N</u>

Sudden Release of Pressure N

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Reportable Quantity (RQ) under U.S. CERCLA: Naphthalene (CAS: 91-20-3) 100 pounds. (Approximately 115 gallons of the finished product.)

SARA, Title III, Section 313: Bromoxynil Octanoate (CAS: 1689-99-2) 33.4%; Naphthalene (CAS: 91-20-3)

RCRA Waste Code: Not listed.

CA Proposition 65: Not listed.

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. Following is the hazard information as required on the pesticide label:

## CAUTION

Harmful if swallowed.

Causes moderate eye irritation.

Avoid contact with eyes or clothing.

## 16 OTHER INFORMATION

**SDS STATUS:** Format revised.

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

**EPA REG. NO.:** 34704-891

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