

**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:** EPA REGISTRATION NUMBER: 34704-1052  
TRADE NAME: BROMAC® ADVANCED
- 1.2 **RECOMMENDED USE:** GROUP 4 | 6 SELECTIVE HERBICIDES FOR BROADLEAF WEED CONTROL
- 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**

Acute Toxicity – Oral	Category 4	H302
Aspiration Hazard	Category 1	H304
Sensitization - Skin	Category 1	H317
Eye Damage/Irritation	Category 2B	H320
Toxic to Reproduction	Category 2	H361
Carcinogenicity	Category 2	H351
Specific Target Organ Toxicity – Repeated Exposure	Category 2	H373
Aquatic Acute, Chronic	Category 1	H410

**2.2 Label elements**



- Signal word: DANGER
- Hazard Statement:  
H302 – Harmful if swallowed.  
H304 – May be fatal if swallowed and enters airways.  
H317 – May cause an allergic skin reaction.  
H320 – Causes eye irritation.  
H361 – Suspected of damaging fertility or the unborn child.  
H351 – Suspected of causing cancer.  
H373 – May cause damage to organs (liver, kidneys) through prolonged or repeated exposure.  
H410 – Very toxic to aquatic life with long lasting effects.
- Precautionary Statement: (Prevention):  
P264 – Wash hands and face thoroughly after handling.  
P270 – Do not eat, drink or smoke when using this product.  
P261 – Avoid breathing dust/fume/gas/mist/vapors/spray.  
P272 – Contaminated work clothing must not be allowed out of the workplace.  
P280 – Wear protective gloves/protective clothing/eye protection/face protection.  
P201 – Obtain special instructions before use.  
P202 – Do not handle until all safety precautions have been read and understood.
- Precautionary Statement: (Response):  
P301+P312: IF SWALLOWED: Call a poison center/doctor/physician if you feel unwell.  
P330 – Rinse mouth.  
P301+P310: IF SWALLOWED: Immediately call a poison center/doctor/physician.  
P331 – Do NOT induce vomiting.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P333+P313 – If skin irritation or rash occurs: Get medical advice/attention.  
P321 – Specific treatment (see Note To Physician on the product label).  
P363 – Wash contaminated clothing before reuse.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minute. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 – If eye irritation persists: Get medical advice/attention.  
P308+P313: If exposed or concerned: Get medical advice/attention.  
P314 – Get medical advice/attention if you feel unwell.



# SAFETY DATA SHEET

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Precautionary Statement: (Storage): P405 – Store locked up.

Precautionary Statement: (Disposal): P501 – Dispose of contents/container according to local, state and federal requirements.

### 2.3 Other hazards

None known

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## 3. COMPOSITION, INFORMATION ON INGREDIENTS

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### 3.1 Substances

### 3.2 Mixtures

#### Classification according to 29 CFR 1910.1200

Chemical Name:	CAS No.	Concentration [%]
Isooctyl ester of MCPA	29450-45-1	33 - 35
Bromoxynil octanoate	1689-99-2	17.8 – 19.4
Bromoxynil heptanoate	56634-95-8	17.2 – 18.6
Solvent Naphtha, Heavy Aromatic	64742-94-5	10.6 – 11.7
1-Methylnaphthalene	90-12-0	<3
2-Methylnaphthalene	91-57-6	<5
Naphthalene	91-20-3	<0.1
*Other ingredients	Trade Secret	Trade Secret

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

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## 4. FIRST AID MEASURES

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### 4.1 Description of First Aid Measures

General Advice: Get medical attention if symptoms occur.

- 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 a 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 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.

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

Symptoms: Minimally irritating to the eye. Vapors and mist may cause irritation. Slightly irritating to the skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Harmful or fatal if swallowed – Aspiration hazard. Suspected of causing cancer and adverse reproductive effects.

### 4.3 Immediate Medical Attention and Special Treatment

Treatment: Immediate medical attention is required for ingestion. There is no specific antidote. Treat symptomatically.

**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:** May pose and aspiration pneumonia hazard. Contains petroleum distillate.



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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: May produce gases such as hydrogen chloride, other chlorine compounds, hydrogen bromide gas, oxides of nitrogen and oxides of carbon.

### 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 mists and vapors, and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing.

### 6.2 ENVIRONMENTAL PRECAUTIONS

Environmental Precautions: This pesticide is toxic to fish and wildlife, and may be toxic to aquatic invertebrates and aquatic plants. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. The active ingredient in this product can be persistent for several months or longer. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark, or other sensitive areas that may be exposed to spray drift. Do not contaminate water when disposing of equipment washwaters or rinsate.

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

Methods for Clean-Up: Absorb and/or contain spill with inert material, then place in a suitable container. Check local, state and federal regulations for proper disposal. Never return spills to original containers for re-use. **CAUTION:** Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

## 7. HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING:

Advice on Safe Handling: Do not breathe mist, vapors or spray. 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: Store at temperatures below 100°F (37.8°C) If allowed to freeze, remix before reusing. 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	TWA	10 ppm (skin)
1-Methylnaphthalene	TWA	0.5 ppm (skin)
2-Methylnaphthalene	TWA	0.5 ppm (skin)

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

Components	Type	Value
Naphthalene	TWA	10 ppm (skin)

#### Biological limit values

##### ACGIH Biological Exposure Indices

Components	Value	Specimen
No data available		



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### 8.2 EXPOSURE CONTROLS:

#### Engineering Measures

When engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation or engineering controls specific to the task at hand (refer to product labeling for specific information).

#### Individual Protection Measures:

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

Skin Protection: Long-sleeved shirt and long pants. Chemical-resistant gloves. Shoes plus socks. Chemical resistant apron (for mixers loaders, and cleaners).

Respiratory Protection: Not normally required, if vapors or dusts exceed acceptable levels, wear a MSHA/NIOSH approved dust mist filtering respirator with any N, R, P, or HE filter. 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: Pungent.  
ODOR THRESHOLD: No data available.  
COLOR: Transparent brown.  
pH: 3.61 (1% solution)  
MELTING POINT / FREEZING POINT: No data available  
BOILING POINT: No data available  
FLASH POINT: 227 °F (108.3 °C).  
FLAMMABILITY (solid, gas): No data available.  
UPPER / LOWER FLAMMABILITY OR EXPLOSIVE LIMITS: No data available.  
VAPOR PRESSURE: No data available.  
SOLUBILITY: Soluble.  
PARTITION CO-EFFICIENT, n-OCTANOL / WATER: No data available.  
AUTO-IGNITION TEMPERATURE: No data available.  
DECOMPOSITION TEMPERATURE: No data available.  
VISCOSITY: (kinematic): 32.695 cSt @ 20 °C | 12.750 cSt @ 40 °C  
SPECIFIC GRAVITY (Water = 1): 1.165 g/ml  
DENSITY: 9.72 lbs/gal | 1.16 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

Will not polymerize. Reaction with oxidizers may cause fire.

### 10.4 CONDITIONS TO AVOID

Excessive heat. Do not store near heat of flame.

### 10.5 INCOMPATIBLE MATERIALS

Strong oxidizing agents. Bases and acids.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Thermal decomposition products include, but are not limited to, hydrogen chloride, hydrogen bromide gas, oxides of carbon and oxides of nitrogen.



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## 11 TOXICOLOGICAL INFORMATION

### 11.3 LIKELY ROUTES OF EXPOSURE

Skin contact. Eye contact. Inhalation.

**LC<sub>50</sub> (rat):** > 2.13 mg/L (4 HR)

**LD<sub>50</sub> Oral (female rat):** 550 mg/kg

**LD<sub>50</sub> Dermal (rabbit):** > 5,000 mg/kg

**Acute Toxicity Estimates:** No data available

**Skin Irritation (rabbit):** Slightly irritating.

**Eye Irritation (rabbit):** Mildly irritating.

**Specific Target Organ Toxicity:** Repeated overexposure may cause damage to liver, kidneys, blood chemistry, testes and gross motor function.

**Aspiration:** May be fatal if swallowed and enters airways

**Skin Sensitization (guinea pig):** May cause an allergic skin reaction. Sensitizer.

**Carcinogenicity:** ACGIH TLV-A4 (Not Classifiable as a Human Carcinogen); IARC-2B (Possibly Carcinogenic to Humans); NTP-R (Reasonably Anticipated to Be a Human Carcinogen).

**Germ Cell Mutagenicity:** No data available

**Interactive Effects:** None known

## 12 ECOLOGICAL INFORMATION

### 12.3 ECOTOXICITY

The product is very toxic to aquatic life.

#### Ecotoxicological Data

	<b>Species</b>	<b>Test Results</b>
MCPA 2EHE	Rainbow trout	3.2 mg/L – 96-hour LC <sub>50</sub>
	Bluegill	3.9 mg/L – 96-hour LC <sub>50</sub>
	Daphnia Magna	0.28 mg/L – 48-hour EC <sub>50</sub>
Bromoxynil Octanoate	Rainbow trout	0.06 mg/L – 96-hour LC <sub>50</sub>
	Bluegill	0.041 mg/L – 96-hour LC <sub>50</sub>
	Daphnia Magna	0.046 mg/L – 48-hour EC <sub>50</sub>
Bromoxynil Heptanoate	Bluegill	29 ppb – 96-hour LC <sub>50</sub>
	Daphnia Magna	31 ppb – 48-hour EC <sub>50</sub>

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: No data available.

### 12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

### 12.4 MOBILITY IN SOIL

Bromoxynil is mobile and nonpersistent.

### 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.



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## 14 TRANSPORT INFORMATION

### 14.3 LAND TRANSPORT

**DOT Shipping Description:** 119 AND LESS: NOT REGULATED.

**DOT Shipping Description:** GREATER THAN 119 GALLONS: UN 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (BROMOXYNIL OCTANOATE/HEPTONOATE), 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		HMIS			
1	Health	0	Least	1	Health
1	Flammability	1	Slight	1	Flammability
0	Instability	2	Moderate	0	Reactivity
		3	High	B	PPE
		4	Severe		

**SARA Hazard Notification/Reporting**

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

**Reportable Quantity (RQ) under U.S. CERCLA:** Naphthalene (CAS: 91-20-3) 100 pounds.

**SARA, Title III, Section 313:** Bromoxynil Octanoate (CAS: 1689-99-2) 17.8 – 19.4%.; Naphthalene (CAS: 91-20-3) <0.01%.

**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.

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 skin or clothing.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or chewing tobacco.

Avoid contact with eyes or clothing.

Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

## 16 OTHER INFORMATION

**SDS STATUS:** Section 2 revised.

**PREPARED BY:** Registrations and Regulatory Affairs

**REVIEWED BY:** Environmental Health and Safety

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