

MATERIAL SAFETY DATA SHEET

BROMOTRIL II 240EC

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1. IDENTIFICATION

Product name: **BROMOTRIL II 240EC (PCP REG. NO. 30371)**
Chemical name of active ingredient(s): **Bromotril:** Bromoxynil, present as the octanoate ester
Manufacturer/Registrant: ADAMA Agricultural Solutions Canada, Ltd.
302 - 179 McDermot Ave
Winnipeg, MB R3B 0S1
Téléphone : 1 855-264-6262

For fire, spill, and/or leak emergencies, contact
Infotrac:

For medical emergencies and health and safety inquiries, contact Prosar: Phone: 1-877-250-9291

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMMON NAME	CAS NO.	%	OSHA PEL	ACGIH TLV	OTHER	NTP/IARC/OSHA (CARCINOGEN)
Bromoxynil octanoate	1689-99-2	30-35	NA	NA	NA	NA
Aromatic hydrocarbon solvent containing:	64742-94-5	50-60	525 mg/m ³ (TWA)	NE	NA	NA
Naphthalene	91-20-3	< 1	10 ppm 50 mg/m ³	10 ppm 52 mg/m ³	15 ppm 75 mg/m ³ (STEL)	NTP – 2* IARC –2B**
Emulsifiers and other proprietary ingrediesnts		5-15	NA	NA	NA	

NA=Not applicable

*Percentage of total amount.

**IARC Group 3: The agent (mixture, or exposure circumstance) is unclassifiable as to carcinogenicity to humans.

3. HAZARDS IDENTIFICATIONS

PHYSICAL PROPERTIES:

Appearance: Amber to brown liquid

Odor: Hydrocarbon

EMERGENCY OVERVIEW: KEEP OUT OF REACH OF CHILDREN. Warning Poison. Danger: Eye and Skin Irritant. Potential skin sensitizer. Do not get into eyes, on skin or on clothing.

PRIMARY ROUTES OF EXPOSURE: Eye contact. Skin absorption. Inhalation. Oral.

SYMPTOMS OF EXPOSURE:

INGESTION: Harmful if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation, weakness, central nervous system depression, unconsciousness, respiratory failure, or in extreme cases, death. Small amounts of liquid aspirated into the respiratory system during ingestion or from vomiting may cause mild to severe pulmonary injury and possibly death.

SKIN CONTACT: Causes moderate skin irritation. Harmful if absorbed through the skin. Overexposure by skin absorption may cause symptoms similar to those for ingestion. May cause allergic reaction in sensitive individuals.

INHALATION: Low to moderate inhalation toxicity based on laboratory animal testing of a similar formulation as a mist. Inhalation toxicity by vapour is unlikely under normal conditions, however, high concentrations of vapours from undiluted product may cause headache, dizziness, respiratory tract irritation and symptoms similar to those from ingestion.

EYE CONTACT: May cause at least moderate eye irritation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin exposure may aggravate preexisting skin conditions. Inhalation of spray mist may aggravate preexisting respiratory conditions.

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4. FIRST AID

FIRST AID:

IN CASE OF INGESTION: Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

IN CASE OF EYE CONTACT: 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 centre or doctor for treatment advice.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: This product contains PETROLEUM DISTILLATES. Vomiting may cause aspiration pneumonia. Treat symptomatically.

5. FIRE FIGHTING MEASURES

FLASH POINT: > 94°C

FLAMMABLE LIMITS (IN AIR):

LFL: NA. Approximately 11-13 for hydrocarbon component.

UFL: NA. Approximately 1.5-2.1 for hydrocarbon component.

EXTINGUISHING MEDIA: Water fog, alcohol foam, carbon dioxide, dry chemical.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen bromide, other bromine compounds, carbon dioxide, carbon monoxide, oxides of nitrogen, oxides of sulfur and other potentially toxic combustion products may be present.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible mixture. When heated above the flash point, this material emits vapours which, when mixed with air, can burn or be explosive. Heavier than air vapours may travel to an ignition source.

FIRE-FIGHTING PROCEDURES: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: Use safety equipment and procedures appropriate to the size of the spill. Keep potential ignition sources and unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Store the container, tightly closed, away from seeds, fertilizer, plants and foodstuffs. Wash concentrate from skin or eyes immediately. Do not inhale spray mist. After use wash hands and other exposed skin. Avoid spray drift onto crops other than those recommended. Avoid contamination of ponds, streams, rivers and other water sources. Wear goggles or a face shield during mixing/loading operations.

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PRECAUTIONS TO BE TAKEN IN STORAGE: BROMOTRIL II 240 EC will solidify below minus 20°C but will become usable at temperatures above 0°C. Insecticides and fungicides should be segregated from herbicides so as to prevent the possibility of cross-contamination.

STORAGE TEMPERATURE (MIN/MAX): Normal ambient temperatures.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

EYE PROTECTION: Protective eyewear if necessary (e.g., goggles or full-face shield).

SKIN PROTECTION: Coveralls over long-sleeved shirt and long pants, chemical-resistant footwear plus socks and head covering (for overhead exposure).

HAND PROTECTION: Chemical-resistant nitrile gloves.

RESPIRATOR REQUIREMENTS: Use an approved pesticide respirator if ventilation is not adequate or exposure to sprays, mists or concentrated vapours is likely.

ENGINEERING CONTROLS: Use in a well ventilated area. General ventilation with a good source of make-up air recommended as minimum for indoor situations. Ventilation should be adequate to maintain air concentrations below flammable limits.

ADDITIONAL PROTECTIVE MEASURES: Discarded clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS:

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

EXPOSURE GUIDELINES: Refer to Section 2.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Amber to brown liquid

ODOR: Hydrocarbon

FLASH POINT: >94°C

pH: 4-5 (1% aqueous)

BOILING POINT: NA. Hydrocarbon solvent 235°C-278°C.

MELTING POINT: Approximately 0°C.

SOLUBILITY IN H₂O (20°C): Product is emulsifiable in water

DENSITY: 1.049 g/mL@25°C

COEFFICIENT OF WATER/OIL DISTRIBUTION: NA. Product is oil soluble.

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal use and storage conditions.

CONDITIONS TO AVOID: None known.

MATERIALS TO AVOID: Avoid contact with strong acidic, basic or oxidizing agents.

HAZARDOUS POLYMERIZATION: Will not occur.

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HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen bromide, other bromine compounds, carbon dioxide, carbon monoxide, oxides of nitrogen, oxides of sulfur and other potentially toxic combustion products may be present.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

Acute Oral LD50 (Rat):	500 mg/kg
Acute Dermal LD50 (Rabbit):	2,000 mg/kg
Acute Inhalation LC50 (Rat):	>1 mg/L (4-hr)
Eye Irritation (Rabbit):	Moderately irritating.
Dermal Irritation (Rabbit):	Moderately irritating.
Dermal Sensitization (Guinea Pig):	A potential skin sensitizer

SUBCHRONIC (TARGET ORGAN) EFFECTS: (An adverse effect with symptoms that develop slowly over a long period of time): Repeated overexposure may cause chronic dermatitis, reproductive and developmental effects. See below.

CHRONIC EFFECTS/CARCINOGENICITY: Bromoxynil phenol has been classified by U.S. EPA in Group C, limited evidence of carcinogenicity in animals. A minor ingredient in this product, naphthalene, has been reported by the U.S. National Toxicology Program to be associated with increased nose/lung tumors in laboratory animals via inhalation exposure.

REPRODUCTIVE TOXICITY: Animal studies on bromoxynil phenol did not indicate a pattern of reproductive toxicity, but a study on bromoxynil octanoate indicated possible mild male reproductive toxicity at high doses.

DEVELOPMENTAL TOXICITY: Based on the results of studies in laboratory animals, bromoxynil phenol is considered to be a developmental toxicant. Women of childbearing age should avoid excessive exposure.

GENOTOXICITY: There have been some positive and some negative studies, but the weight of evidence is that bromoxynil is not mutagenic.

TOXICOLOGICALLY SYNERGISTIC MATERIALS: None known.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: Toxic to aquatic organisms and non-target terrestrial plants.

ECOTOXICOLOGICAL INFORMATION: Data on bromoxynil octanoate:

96-HOUR LC₅₀ (mg/L):	0.1 (Rainbow Trout)
96-HOUR LC₅₀ (mg/L):	0.053 (Bluegill)
48-HOUR EC₅₀ (mg/L):	0.096 (Daphnia)
DIETARY LC₅₀ (ppm):	1150 (Bobwhite Quail)
DIETARY LC₅₀ (ppm):	1880 (Mallard Duck)

CHEMICAL FATE INFORMATION: Bromoxynil octanoate ester degrades readily to bromoxynil phenol in the environment. Representative soil half-lives are 2 days for the octanoate and 14 days for the phenol.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for cleanup of spills.

CONTAINER DISPOSAL: Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable container, dispose of at a container collection site. Contact local distributor, dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site, triple or pressure rinse the empty container adding rinsings to spray tank, and make container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

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14. TRANSPORT INFORMATION

CANADIAN TDG DESCRIPTION (Road & Rail):

Not Regulated.

15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the CPR.

INGREDIENT DISCLOSURE LIST:

Naphthalene CAS #:91-20-3 (< 1%)

DOMESTIC SUBSTANCES LIST:

Heavy aromatic petroleum hydrocarbons CAS #: 64742-94-5 (50%-60%)

NON-DOMESTIC SUBSTANCES LIST:

Bromoxynil (present as octanoate ester) CAS #:1689-99-2 (30%-35%)

U.S. FEDERAL REGULATIONS:

REGULATIONS UNDER FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.

Section 311/312: Acute health hazard (immediate)

Delayed health hazard (chronic)

Fire

Section 313: Bromotril technical CAS #: 1689-99-2 (30%-50%)

CERCLA RQ: Naphthalene RQ=100 lbs

CA Prop 65: This material contains a substance (Bromotril Technical) known to the State of California to cause development toxicity.

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: The ingredients of this product are listed on the TSCA inventory or are exempt.

16. OTHER INFORMATION

NFPA HAZARD RATINGS:

HEALTH:	2	0 Least
FLAMMABILITY:	2	1 Slight
REACTIVITY:	0	2 Moderate
		3 High
		4 Severe

MSDS DATE: 07-10-16. Supersedes version dated 9-17-12.

The information contained herein is given in good faith and is believed to be correct, but no warrant, express or implied, is made. Consult ADAMA Agricultural Solutions Canada, Ltd. for further information.

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