

# MATERIAL SAFETY DATA SHEET

## BROMOTRIL 240EC

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### 1. IDENTIFICATION

Product name: **BROMOTRIL 240EC (PCP REG. NO. 28276)**  
Chemical name of active ingredient(s): **Bromotril:** Bromoxynil, present as the octanoate ester  
Manufacturer/Registrant: Makhteshim Agan of North America, Inc.  
4515 Falls of Neuse Road, Suite 300  
Raleigh, NC 27609  
Phone: 919-256-9300  
For fire, spill, and/or leak emergencies, contact Phone: 1-800-535-5053  
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	ACIGH TLV	OTHER	NTP/IARC/OSHA (CARCINOGEN)
Bromoxynil octanoate	1689-99-2	34.85	NA	NA	NA	NA
Aromatic solvent containing:	64742-95-6	59.35	NA	NA	NA	NA
1,2,4-Trimethylbenzene	95-63-6	19.0*	125 mg/m <sup>3</sup> (TWA)	123 mg/m <sup>3</sup> (TWA)	NA	NA
Xylene	1330-20-7	1.8*	435 mg/m <sup>3</sup> (TWA)	434 mg/m <sup>3</sup> (TWA) 651 mg/m <sup>3</sup> (STEL)	NA	IARC: 3*

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: Brown liquid

Odor: Aromatic

**EMERGENCY OVERVIEW:** WARNING! Causes eye irritation, DO NOT get in eyes. Avoid contact with skin and clothing. Harmful or fatal if swallowed. Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. Wash concentrate from skin or eyes immediately. Wear goggles or face shield during mixing/loading. Avoid breathing spray mist. After use wash hands and other exposed skin. Avoid spray drift onto crops other than those recommended.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposition Type: thermal

Hydrogen bromide; Oxides of nitrogen; Oxides of sulfur; Carbon oxides

**PRIMARY ROUTES OF EXPOSURE:** Inhalation, skin, eye contact and ingestion.

#### SYMPTOMS OF EXPOSURE:

**EYES:** May cause redness, tearing. Vapors and mists can cause irritation.

**SKIN:** May cause irritation, redness, swelling.

**INGESTION:** Harmful if ingested. May cause nausea, vomiting, abdominal pain, weakness of arms and/or legs, dizziness, loss of coordination. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

**INHALATION:** Harmful if inhaled. May cause upper respiratory tract irritation, coughing, wheezing, nausea, headache, and depression.

**CHRONIC OR DELAYED LONG-TERM EXPOSURE:** Prolonged contact may cause chronic dermatitis, reproductive disorders, and developmental problems.

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**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin disease.

**FIRE AND EXPLOSION HAZARDS:** Product will burn under fire conditions. Under fire conditions, toxic, corrosive fumes are emitted. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.

### 4. FIRST AID

#### FIRST AID:

**IF SWALLOWED:** 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.

**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 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.

**IF INHALED:** 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 the 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.

### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 110° F (43.3° C)

#### FLAMMABLE LIMITS:

LFL/UFL: Not applicable

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub>, dry chemical.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposition Type: thermal

Hydrogen bromide; Oxides of nitrogen; Oxides of sulfur; Carbon oxides

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Product will burn under fire conditions. Under fire conditions, toxic, corrosive fumes are emitted. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.

**FIRE-FIGHTING PROCEDURES:** Firefighters should wear NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Evacuate residents who are downwind of fire. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

### 6. ACCIDENTAL RELEASE MEASURES

**ACTION TO TAKE FOR SPILLS/LEAKS:** Dike spill using absorbent or impervious materials such as earth, sand, or clay. Prevent material from entering public sewer system or any waterway. If spilled on the ground, the affected area should be removed to a depth of one or two inches and placed in an appropriate container for disposal. Clean up small spills immediately, use proper personal protection. Absorb spill with absorbent material such as pet litter. After removal, flush contaminated area thoroughly with water containing a strong detergent. Sweep up and place in a chemical container. Seal the container and handle in an approved manner. Keep spills out of streams and domestic water supplies. Dike to prevent contamination of local water sources. Take special care to

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avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Dispose of all waste and rinsate in the appropriate manner. Decontaminate tools and equipment following cleanup.

### 7. HANDLING AND STORAGE

**PRECAUTIONS TO BE TAKEN IN HANDLING:** Keep container closed when not in use. Handle and open container in a manner as to prevent spillage. Do not get on skin or in eyes. Do not ingest. Avoid breathing vapors and mists. If freezing occurs, thaw and remix before using. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet. Wash exposed skin promptly to remove accidental splashes of contact with this material.

**PRECAUTIONS TO BE TAKEN IN STORAGE:** Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. This product will solidify at temperatures below -20° C but will become useable again 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 gloves.

**RESPIRATOR REQUIREMENTS:** In areas with inadequate ventilation a NIOSH-approved chemical cartridge respirator with organic vapor cartridges and pesticide pre-cartridges or a self-contained breathing apparatus may be required when working with this product.

**ENGINEERING CONTROLS:** Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: local exhaust ventilation at the point of generation.

**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

#### **PHYSICAL PROPERTIES**

**Appearance:** Brown liquid

**Odor:** Aromatic

**FLASH POINT:** 110° F (43.3° C)

**pH:** 3-5

**BOILING POINT:** NA

**MELTING POINT:** NA

**SOLUBILITY IN H2O:** NA

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**DENSITY:** 1.042 g/mL

**VISCOSITY:** 2.933 centistokes @ 20° C; 1.950 centistokes @ 40° C

### 10. STABILITY AND REACTIVITY

**STABILITY:** Stable under normal use and storage conditions.

**CONDITIONS TO AVOID:** Elevated temperatures; Open flame; Spark; Static electricity.

**MATERIALS TO AVOID:** Strong oxidizing agents; Bases; Mineral acids.

**HAZARDOUS POLYMERIZATION:** Will not occur.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Decomposition Type: thermal  
Hydrogen bromide; Oxides of nitrogen; Oxides of sulfur; Carbon oxides

### 11. TOXICOLOGICAL INFORMATION

#### ACUTE TOXICITY/IRRITATION STUDIES

Acute Oral LD50 (Rat):	780 mg/kg
Acute Dermal LD50 (Rat):	2,000 mg/kg
Acute Inhalation LC50 (Rat):	>1.1 mg/L (4-hr)
Eye Irritation (Rabbit):	Moderately irritating.
Dermal Irritation (Rabbit):	Moderately irritating.
Dermal Sensitization (Guinea Pig):	Not a skin sensitizer

**CHRONIC TOXICITY: BROMOXYNIL COMPOUNDS:** EPA has classified Bromoxynil as a Class D carcinogen. Based upon the results of rat and rabbit teratogenicity studies, Bromoxynil phenol is considered to be a developmental toxicant. Women of childbearing age should be particularly careful when handling this product to avoid ingestion and skin contact. Although three in vitro genetic toxicity studies were positive for Bromoxynil phenol, four additional in vitro studies and two in vivo studies were negative. Therefore, the weight of evidence indicates that Bromoxynil phenol does not produce genetic toxicity.

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL HAZARDS:** Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Specified buffer zones should be observed. Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift. Do not spray when the wind is blowing towards a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat. This product contains a petroleum distillate, which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems during application. DO NOT contaminate these systems through direct application, disposal of waste or cleaning equipment. Avoid contamination of ponds, streams, rivers and other water sources.

#### ECOLOGICAL EFFECTS (provided by EXTUNET):

**BROMOXYNIL:** Bromoxynil is highly toxic to moderately toxic to birds. Bromoxynil is very highly toxic to moderately toxic to freshwater fish. Bromoxynil is not toxic to bees.

Quail LD50:	100 mg/kg
Pheasants LD50:	50 mg/kg
Hens LD50:	240 mg/kg
Mallard ducks LD50:	200 mg/kg
Rainbow Trout LC50:	0.05 mg/L

### 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: RECYCLABLE CONTAINER DISPOSAL:** Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your 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. Add the rinsings to the spray mixture in the tank.

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Make the empty, rinsed container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements. FOR RETURNABLE-REFILLABLE CONTAINERS: For disposal, this container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not reuse this container for any other purpose.

### 14. TRANSPORT INFORMATION

#### DOT CLASSIFICATION:

NA 1993, Combustible liquid, N.O.S. (contains aromatic hydrocarbons, Bromoxynil), PGIII, Marine Pollutant  
*NOTE: DOT Exception 49 CFR 173.150(f) applies.*

#### INTERNATIONAL TRANSPORTATION:

**IMO (vessel):** UN1993, Flammable liquid, N.O.S. (contains aromatic hydrocarbons, Bromoxynil), 3, PGIII, Marine Pollutant

**IATA (air):** UN1993, Flammable liquid, N.O.S. (contains aromatic hydrocarbons), 3, PGIII

### 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:

1,2,4-Trimethylbenzene  
Xylene

#### 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 (34.85%)  
1,2,4-Trimethylbenzene CAS #: 95-63-6 (19.0%)  
Xylene CAS #: 1330-20-7 (1.8%)

**CERCLA RQ:** Xylene (1330-20-7) RQ=100 lbs (Product= 5,618 lbs/646 gals)

**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:

<b>HEALTH:</b>	2	0 Least
<b>FLAMMABILITY:</b>	2	1 Slight
<b>REACTIVITY:</b>	0	2 Moderate
		3 High
		4 Severe

**MSDS DATE:** 3-31-09. Supersedes versions dated 3-2-06 and 5-4-06. Changes made to all sections.

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