



Safety Data Sheet

Issue Date: 13-Dec-2016

Revision Date: 21-Apr-2017

Version 2

1. IDENTIFICATION

Product Identifier

Product Name Bromotril II 240 EC

Other means of identification

SDS # ADAMA-208

Registration Number(s) Not Registered in the US
Pest Control Product Reg. No. 30371

UN/ID No UN3082

Recommended use of the chemical and restrictions on use

Recommended Use Herbicide.

Details of the supplier of the safety data sheet

Manufacturer Address

ADAMA Agricultural Solutions Canada Ltd.
302 – 179 McDermot Avenue
Winnipeg, MB R2B 0S1
1-855-264-6262

Emergency Telephone Number

Emergency Telephone (24 hr) For fire, spill and/or leak contact INFOTRAC:
1-800-535-5053 (North America) 1-352-323-3500 (International)
For medical emergencies and health/safety inquiries, contact PROSAR:
1-877-250-9291

2. HAZARDS IDENTIFICATION

This chemical is a product registered by the Canadian Pest Control Products Act and is subject to certain labeling requirements under federal law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-PCPA registered chemicals. Please see Section 15 for additional information. This product has been classified according to Canada's Hazardous Product Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Appearance Amber to brown liquid

Physical state Liquid

Odor Hydrocarbon

Classification

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1
Carcinogenicity	Category 2
Aspiration toxicity	Category 1

Signal Word**Danger****Hazard statements**

Harmful if swallowed
Toxic if inhaled
Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing cancer
May be fatal if swallowed and enters airways

**Precautionary Statements - Prevention**

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Contaminated work clothing must not be allowed out of the workplace

Precautionary Statements - Response

If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor/physician
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage

Keep container tightly closed
Store locked up
Keep out of the reach of children

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester)	1689-99-2	30-35
Solvent 1	Proprietary	50-60
Solvent 2	Proprietary	<1
Emulsifiers	Proprietary	5-15

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures

General Advice	If exposed or concerned: Get medical advice/attention.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact	Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician.
Ingestion	Immediately call a poison center or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects

Symptoms	Harmful if swallowed. Toxic if inhaled. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing cancer. May be fatal if swallowed and enters airways.
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Indication of any immediate medical attention and special treatment needed

Notes to Physician	This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray (fog). Alcohol resistant foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

None known.

Explosion Data

Sensitivity to Mechanical Impact No sensitivity expected based on similar products.

Sensitivity to Static Discharge Sensitivity possible based on solvent data.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use safety equipment and procedures appropriate to the size of the spill. Keep potential ignition sources and unnecessary people away.

Environmental precautions

Environmental precautions Avoid runoff to natural waters and sewers.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up 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 for safe handling

Advice on Safe Handling Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed. Store locked up. Keep out of the reach of children.

Incompatible Materials Avoid contact with strong acidic, basic or oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Solvent 2	TWA: 10 ppm S* (Skin)	TWA: 10 ppm TWA: 50 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ (vacated) STEL: 15 ppm (vacated) STEL: 75 mg/m ³	IDLH: 250 ppm TWA: 10 ppm TWA: 50 mg/m ³ STEL: 15 ppm STEL: 75 mg/m ³

Appropriate engineering controls

Engineering Controls Please refer to the product label. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection	Goggles or face shield when handling concentrate.
Skin and Body Protection	Chemical-resistant gloves such as nitrile. Long sleeved shirt, long pants, socks and shoes suggested as minimum work clothing. Coveralls or a chemical-resistant apron should also be worn when open pouring from containers greater than 5L. Use other equipment appropriate to specific situations.
Respiratory Protection	Use an approved pesticide respirator if ventilation is not adequate or exposure to sprays, mists or concentrated vapors is likely.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Liquid	Odor	Hydrocarbon
Appearance	Amber to brown liquid	Odor Threshold	Not determined
Color	Amber to brown		
Property	Values	Remarks • Method	
pH	Approximately 4-5 (1% aqueous)		
Melting Point/Freezing Point	Approximately 0°C		
Boiling Point/Boiling Range	NA		
Flash Point	>94°C/201.2°F		
Evaporation Rate	NA		
Flammability (Solid, Gas)	Liquid-Not applicable		
Flammability Limits in Air			
Upper Flammability Limits	NA		
Lower Flammability Limit	NA		
Vapor Pressure	NA		
Vapor Density	NA		
Relative Density	About 1.049		
Water Solubility	Product is emulsifiable in water		
Solubility in other solvents	NA		
Partition Coefficient	Not determined		
Auto-ignition Temperature	NA		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		
Explosive Properties	Not determined		
Oxidizing Properties	Not determined		

10. STABILITY AND REACTIVITY**Reactivity**

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to Avoid

None known.

Incompatible Materials

Avoid contact with strong acidic, basic or oxidizing agents.

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**Information on likely routes of exposure****Product Information****Eye Contact** Causes serious eye irritation.**Skin Contact** Causes skin irritation.**Inhalation** Toxic if inhaled.**Ingestion** Harmful if swallowed.**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Solvent 1	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m ³ (Rat) 4 h
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester) CAS No. 1689-99-2	= 250 mg/kg (Rat) = 238 mg/kg (Rat)	= 1675 mg/kg (Rabbit) > 2 mg/kg (Rat)	-
Emulsifiers	> 90 mL/kg (Rat)	-	-
Solvent 2	= 1110 mg/kg (Rat) = 490 mg/kg (Rat)	(= 1120 mg/kg (Rabbit) > 20 g/kg (Rabbit)	> 340 mg/m ³ (Rat) 1 h

Information on physical, chemical and toxicological effects**Symptoms** Please see section 4 of this SDS for symptoms.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Sensitization** May cause an allergic skin reaction.**Carcinogenicity** Suspected of causing cancer.

Chemical Name	ACGIH	IARC	NTP	OSHA
Solvent 2	A3	Group 2B	Reasonably Anticipated	X

Legend*ACGIH (American Conference of Governmental Industrial Hygienists)**A3 - Animal Carcinogen**IARC (International Agency for Research on Cancer)**Group 2B - Possibly Carcinogenic to Humans**NTP (National Toxicology Program)**Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**X - Present***Aspiration hazard** May be fatal if swallowed and enters airways.

Numerical measures of toxicity**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:** Moderately to severely irritating.**Dermal Irritation:** Moderately irritating.**Dermal Sensitization:** Skin sensitizer.**12. ECOLOGICAL INFORMATION****Ecotoxicity**

This product is toxic to aquatic organisms and non-target terrestrial plants. Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Solvent 1	2.5: 72 h Skeletonema costatum mg/L EC50	41: 96 h Pimephales promelas mg/L LC50 1740: 96 h Lepomis macrochirus mg/L LC50 static 2.34: 96 h Oncorhynchus mykiss mg/L LC50 19: 96 h Pimephales promelas mg/L LC50 static 45: 96 h Pimephales promelas mg/L LC50 flow-through	0.95: 48 h Daphnia magna mg/L EC50
Solvent 2	0.4: 72 h Skeletonema costatum mg/L EC50	5.74 - 6.44: 96 h Pimephales promelas mg/L LC50 flow-through 1.99: 96 h Pimephales promelas mg/L LC50 static 0.91 - 2.82: 96 h Oncorhynchus mykiss mg/L LC50 static 1.6: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 31.0265: 96 h Lepomis macrochirus mg/L LC50 static	1.09 - 3.4: 48 h Daphnia magna mg/L EC50 Static 1.96: 48 h Daphnia magna mg/L EC50 Flow through 2.16: 48 h Daphnia magna mg/L LC50

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Solvent 1	2.9 - 6.1
Solvent 2	3.6

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations. Please review product label for Canadian container disposal requirements.

Other Information

Do not contaminate water, food or feed by storage or disposal.

US EPA Waste Number

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Solvent 2	U165	Included in waste streams: F024, F025, F034, F039, K001, K035, K060, K087, K145		U165

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Solvent 2			Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	

California Hazardous Waste Status

Chemical Name	California Hazardous Waste Status
Solvent 2	Toxic

14. TRANSPORT INFORMATION**DOT**

UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, n.o.s. (Bromoxynil)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

TDG

Section 1.45.1 of the TDG Regulations provides an exemption from documentation and safety marks only for this product and only when transported by a road or railway vehicle.

IATA

UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, n.o.s. (Bromoxynil)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

IMDG

UN/ID No UN3082
Proper Shipping Name Environmentally Hazardous Substance, liquid, n.o.s. (Bromoxynil)
Hazard Class 9
Packing Group III
Marine Pollutant Yes

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Solvent 1	X	X	X		X	Present	X	X
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester)	X	X	X					X
Emulsifiers	X	X	X		X	Present	X	X
Solvent 2	X	X	X	Present	X	Present	X	X

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Solvent 2	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

SARA 313

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester)	1689-99-2	30-35	1.0
Solvent 2	91-20-3	<1	0.1

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Solvent 2	100 lb	X	X	X

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester) – CAS No. 1689-99-2	Developmental
Solvent 2	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester) CAS No. 1689-99-2	X		
Emulsifiers			X
Solvent 2	X	X	X

Pesticide Registration Number Pest Control Product Reg. No. 30371

Pesticide Statement

This chemical is a pest product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets.

Read the approved label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

Pesticide Label

WARNING POISON
DANGER - EYE AND SKIN IRRITANT
POTENTIAL SKIN SENSITIZER
KEEP OUT OF THE REACH OF CHILDREN

Difference between SDS and product label

	PCPA	OSHA
Signal Word	Warning/Poison	Danger
Acute toxicity - oral	N/A	Harmful if swallowed
Acute toxicity - inhalation	N/A	Toxic if inhaled
Skin corrosion/irritation	Skin Irritant	Causes skin irritation
Eye damage/irritation	Eye irritant	Causes serious eye irritation
Skin sensitization	Potential skin sensitizer	May cause an allergic skin reaction
Carcinogenicity	N/A	Suspected of causing cancer
Aspiration	N/A	May be fatal if swallowed and enters airway

16. OTHER INFORMATION

NFPA	Health Hazards	Flammability	Instability	Special Hazards
	2	2	0	None
HMIS	Health Hazards	Flammability	Physical hazards	Personal Protection
	2	2	0	See Section 8

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet