Safety Data Sheet

Issue Date: 13-Dec-2016 **Revision Date:** 21-Apr-2017 **Version** 2

1. IDENTIFICATION

Product Identifier

Product Name **Badge II**

Other means of identification

SDS # ADAMA-209

Registration Number(s) Not registered in the US
Pest Control Product Reg. No. 30370

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** Characteristic phenolic and hydrocarbon

Classification

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

Signal Word
Danger

Hazard statements
Harmful if swallowed
Harmful if inhaled
Causes 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
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage
Store locked up. Keep out of the reach of children.

Precautionary Statements - Disposal
Dispose of in accordance with federal, state and local regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
MCPA, 2-ethylhexyl ester	29450-45-1	30-35
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester)	1689-99-2	30-35
Solvent #1	Proprietary	25-30
Emulsifiers	Proprietary	5-10
Solvent #2	Proprietary	<1

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 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.

Skin Contact IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting.

Most important symptoms and effects

Symptoms Harmful if swallowed. Harmful 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.

Indication of any immediate medical attention and special treatment needed

Notes to Physician This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. High concentrations of MCPA may cause severe irritation to the eyes. Symptoms of overexposure to MCPA could include slurred speech, twitching, jerking and spams, drooling, low-blood pressure and unconsciousness. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

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

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

When heated above the flash point, this material emits vapors which, when mixed with air, can burn or be explosive. Heavier than air, vapors may travel to an ignition source.

Hazardous Combustion 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.

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 affect 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 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*	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. Generally, a second layer such as coveralls suggested for handling concentrate. Use other equipment to specific situation.

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		
Appearance	Amber to brown liquid	**Odor**	Characteristic phenolic and hydrocarbon
Color	Amber to brown	**Odor Threshold**	NA

Property	**Values**	**Remarks • Method**
pH	Approximately 7-8 (1% aqueous)	
Melting Point/Freezing Point	Approximately 0ºC/-20ºC	
Boiling Point/Boiling Range	NA. Hydrocarbon solvent 235°C -278°C.	
Flash Point	>100ºC	
Evaporation Rate	NA	
Flammability (Solid, Gas)	NA	
Flammability Limits in Air		
Upper Flammability Limits	NA	
Lower Flammability Limit	NA	
Vapor Pressure	NA	
Vapor Density	NA	
Relative Density	1.127 @25 ° C	
Water Solubility	Product is emulsifiable in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
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 normal use and recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

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 eye irritation.

Skin Contact May cause an allergic skin reaction.

Inhalation Harmful if inhaled.

Ingestion Harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester) 1689-99-2	= 250 mg/kg (Rat) = 238 mg/kg (Rat)	= 1675 mg/kg (Rabbit) > 2 mg/kg (Rat)	-
MCPA, 2-ethylhexyl ester 29450-45-1	= 1300 mg/kg (Rat)	-	-
Solvent #1	> 5000 mg/kg (Rat)	> 2 mL/kg (Rabbit)	> 590 mg/m^3 (Rat) 4 h
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

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): >700 mg/kg
Acute Dermal LD50 (Rabbit): >5,050 mg/kg
Acute Inhalation LC50 (Rat): 2.34 mg/L (4-hr)
Eye Irritation: Moderately irritating.
Dermal Irritation: Slightly irritating.
Dermal Sensitization: Not a skin contact sensitizer.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxic to aquatic organisms and non-target terrestrial plants.
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.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
MCPA, 2-ethylhexyl ester 29450-45-1	0.46: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.43: 96 h Pseudokirchneriella subcapitata mg/L EC50	3.2 - 4.6: 96 h Lepomis macrochirus mg/L LC50 flow-through 3.2: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.55: 96 h Lepomis macrochirus mg/L LC50 static	0.29: 48 h Daphnia magna mg/L EC50
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
Bromoxynil octanoate ester degrades readily to bromynil phenol in the environment. Representative soil half-lives are 2 days for the octanoate and 14 days for the phenol.

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.

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.	

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/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester)	X	X	X					X
MCPA, 2-ethylhexyl ester			X		X			X
Solvent #1	X	X	X		X	Present	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

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	
Solvent #2	100 lbs	**100 lbs**	

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 -		<1	0.1

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

US State Regulations

Chemical Name	California Proposition 65
Bromoxynil octanoate (octanoic acid,2,6-dibromo-4-cyanophenyl ester) - 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) 1689-99-2	X		
Emulsifiers			X
Solvent #2	X	X	X

Pesticide Registration Number Pest Control Product Reg. No. 30370

Pest Control Product 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.

Product Label
DANGER POISON
WARNING - SKIN IRRITANT
POTENTIAL SKIN SENSITIZER
CAUTION – EYE IRRITANT
KEEP OUT OF THE REACH OF CHILDREN

Difference between SDS and product label

	Product Label	**SDS**
Signal Word	Danger/Warning/Caution	Danger
Acute toxicity – Oral	N/A	Harmful if swallowed
Acute toxicity - Inhalation	N/A	Harmful if inhaled
Skin irritation/corrosion	Skin irritant	N/A
Eye damage/irritation	Eye irritant	Causes serious eye irritation
Skin sensitization	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 airways

16. OTHER INFORMATION

NFPA	**Health Hazards**	**Flammability**	**Instability**	**Special Hazards**
	2	2	0	None
HMIS	**Health Hazards**	**Flammability**	**Physical hazards**	**Personal Protection**
	2	2	2	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