

BATALIUMTM Herbicide Safety Data Sheet Canada HPR Date of issue: 10/03/2018 Revision date: 04/02/2019

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Version: 2.0

SECTION 1: Identification	
1.1. Identification	
Product form	: Mixture
Product name	: BATALIUM™ Herbicide
Other means of identification	: PMRA# 33372
1.2. Relevant identified use	s of the substance or mixture and uses advised against
Recommended use	: Herbicide
Restrictions on use	: No additional information available
1.3. Details of the supplier of Arysta LifeScience Canada, Inc. 400 Michener Road, Unit 2 Guelph, Ontario N1K 1E4 - Canada T 1-866-761-9397 sds@arysta.com	of the safety data sheet
1.4. Emergency telephone	number
Emergency number	: Exposure calls (PROPHARMA): 1-866-303-6952 or +1-651-603-3432 (international) Spill calls (CHEMTREC) (Contract # CCN1779): +1-800-424-9300 or +1-703-527-3887 (international)
SECTION 2: Hazards ident	tification
2.1. Classification of the su	ibstance or mixture
GHS-US classification	
Acute Tox. 4 (Oral) Acute Tox. 4 (Inhalation:dust,mist) Skin Irrit. 2 Eye Irrit. 2A Skin Sens. 1 Repr. 2 STOT RE 2 Aquatic Acute 1 Aquatic Chronic 1	H302 H332 H315 H319 H317 H361 H373 H400 H410
Full text of hazard classes and H-s	tatements : see section 16
2.2. Label elements	
GHS-US labelling	
Hazard pictograms (GHS-US)	CHS07 CHS08 CHS09
Signal word (GHS-US)	: Warning
Hazard statements (GHS-US)	 H302+H332 - Harmful if swallowed or if inhaled H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H361 - Suspected of damaging fertility or the unborn child. H373 - May cause damage to organs through prolonged or repeated exposure. H400 - Very toxic to aquatic life. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (GHS-US	
	P272 - Contaminated work clothing must not be allowed out of the workplace

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 P273 - Avoid release to the environment. P280 - Wear eye protection, protective gloves, protective clothing. P301+P312 - If swallowed: Call a doctor if you feel unwell P302+P352 - If on skin: Wash with plenty of soap and water P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P312 - Call a doctor if you feel unwell P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see First aid measures on this label) P330 - Rinse mouth. P332+P313 - If skin irritation occurs: Get medical advice/attention. P332+P313 - If skin irritation persits: Get medical advice/attention. P337+P313 - If eye irritation persits: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P363 - Wash contaminated clothing before reuse. P363 - Wash contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P363 - Wash contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing and wash it before reuse. P365 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation 			
2.3. Other hazards			 P280 - Wear eye protection, protective gloves, protective clothing. P301+P312 - If swallowed: Call a doctor if you feel unwell P302+P352 - If on skin: Wash with plenty of soap and water P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 - If exposed or concerned: Get medical advice/attention. P312 - Call a doctor if you feel unwell P314 - Get medical advice/attention if you feel unwell. P321 - Specific treatment (see First aid measures on this label) P330 - Rinse mouth. P332+P313 - If skin irritation occurs: Get medical advice/attention. P332+P313 - If skin irritation or rash occurs: Get medical advice/attention. P362+P364 - Take off contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P393 - Collect spillage. P405 - Store locked up. P501 - Dispose of contents/container to hazardous or special waste collection point, in
	2.3.	Other hazards	

No additional information available

2.4. Unknown acute toxicity (GHS US)

1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral)

1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal)1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))

SECTION 3: Composition/information on ingredients

Substances 3.1.

Not applicable

3.2. **Mixtures**

Name	Product identifier	% (w/w)	GHS-US classification
MCPA-2-ethylhexyl ester	(CAS-No.) 29450-45-1	34.05	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400
bromoxynil octanoate (Active)	(CAS-No.) 1689-99-2	30.4	Acute Tox. 3 (Oral), H301 Acute Tox. 4 (Dermal), H312 Acute Tox. 3 (Inhalation:dust,mist), H331 Skin Sens. 1, H317 Repr. 2, H361 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
fluroxypyr-meptyl (ISO) (Active)	(CAS-No.) 81406-37-3	11.38	Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Surfact active agent	(CAS-No.) trade secret	1 – 5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Polymeric ester	(CAS-No.) trade secret	1 – 5	Skin Irrit. 2, H315 Eye Dam. 1, H318
Flucarbazone sodium (Active)	(CAS-No.) 181274-17-9	1.91	Not classified
Petroleum distillates	(CAS-No.) trade secret	1 – 2	Flam. Liq. 3, H226 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
Safener	(CAS-No.) trade secret	0.38	Acute Tox. 3 (Inhalation), H331 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of H-statements: see section 16

SECTION 4: First aid measures		
4.1. Description of first aid measures		
First-aid measures general	: Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.	

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First-aid measures after inhalation	: Assure fresh air breathing. Allow the victim to rest. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
First-aid measures after skin contact	: Wash with plenty of water/ Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a POISON CENTER/doctor if you feel unwell.
4.2. Most important symptoms and eff	ects, both acute and delayed
Symptoms/effects	: Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.
4.3. Indication of any immediate medic	al attention and special treatment needed
Treat symptomatically.	
SECTION 5: Firefighting measures	
5.1. Extinguishing media	
Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.
5.2. Special hazards arising from the s	ubstance or mixture
Fire hazard	: Burning produces irritating, toxic and noxious fumes.
Reactivity	: No dangerous reactions known.
5.3. Advice for firefighters	-
Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any
5 5	chemical fire. Prevent fire fighting water from entering the environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
SECTION 6: Accidental release me	asures
	equipment and emergency procedures
General measures	: Avoid all eye and skin contact and do not breathe vapour and mist. Use personal protective equipment as required. Ensure adequate ventilation.
6.1.1. For non-emergency personnel	
Emergency procedures	: Evacuate unnecessary personnel.
6.1.2. For emergency responders	
Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.
6.2. Environmental precautions	
Prevent entry to sewers and public waters. Not	ify authorities if liquid enters sewers or public waters. Avoid release to the environment.
6.3. Methods and material for containing	nent and cleaning up
For containment	: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

See Heading 8. Exposure controls and personal protection.

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SECTION 7: Handling	and storage
7.1. Precautions for s	
Precautions for safe handling	
Hygiene measures	: Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.
7.2. Conditions for sa	ife storage, including any incompatibilities
Storage conditions	: Keep only in the original container. Keep container tightly closed.
ncompatible products	: Strong bases. Strong acids. Strong oxidizers.
ncompatible materials	: Sources of ignition. Direct sunlight.
Storage area	: Store in dry, cool, well-ventilated area.
7.3. Specific end use((s)
No additional information ava	ailable
SECTION 8: Exposure	e controls/personal protection
3.1. Control paramete	
BATALIUM™ Herbicide	
ACGIH	Not applicable
OSHA	Not applicable
Flucarbazone sodium (18	
ACGIH	Not applicable
OSHA	Not applicable
	Not applicable
fluroxypyr-meptyl (ISO) (8	81406-37-3)
ACGIH	Not applicable
OSHA	Not applicable
bromoxynil octanoate (16	389-99-2)
ACGIH	Not applicable
OSHA	Not applicable
	ινοι αμριτσαντο
Safener (trade secret)	
ACGIH	Not applicable
OSHA	Not applicable
Surfact active agent (trad	le secret)
ACGIH	Not applicable
OSHA	Not applicable
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Polymeric ester (trade secret)		
ACGIH	Not applicable	
OSHA	Not applicable	
Petroleum distillates (trade secret)		
ACGIH	Not applicable	
OSHA	Not applicable	
MCPA-2-ethylhexyl ester (29450-45-1)		
ACGIH	Not applicable	
OSHA	Not applicable	

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8.2. Appropriate engineering controls

Appropriate engineering controls

: Avoid splashing. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide local exhaust or general room ventilation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear suitable gloves resistant to chemical penetration. barrier laminate. Butyl rubber. Nitrile rubber. neoprene. Natural rubber. Polyethylene. PVC. Viton. (>= 14 mils)

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of inadequate ventilation wear respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemica	l properties
9.1. Information on basic physical and	d chemical properties
Physical state	: Liquid
Colour	: Gray
Odour	: mild characteristic
Odour threshold	: No data available
pH	: 4.98 (1% solution)
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: > 93 °C
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Density	: 1.1808 g/ml @ 25 °C
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 620 cP @ 25 °C

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity	ty
10.1. Reactivity	
No dangerous reactions known.	
10.2. Chemical stability	
Stable under normal conditions.	
10.3. Possibility of hazardous reaction	S
Hazardous polymerization will not occur.	
10.4. Conditions to avoid	
Direct sunlight. Extremely high or low tempera	atures.
10.5. Incompatible materials	
Strong acids. Strong bases. Strong oxidizers.	
10.6. Hazardous decomposition produ	CIS
Carbon monoxide. Carbon dioxide.	
SECTION 11: Toxicological inform	ation
11.1. Information on toxicological effe	ts
Likely routes of exposure	: Inhalation. Skin and eye contact.
Acute toxicity (oral)	: Oral: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:dust,mist: Harmful if inhaled.
BATALIUM™ Herbicide	
LD50 oral rat	550 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 2.12 mg/l/4h
ATE US (oral)	550 mg/kg bodyweight
ATE US (dust,mist)	2.368 mg/l/4h
Unknown acute toxicity (GHS US)	 1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Oral) 1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 1.4% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Dust/Mist))
Flucarbazone sodium (181274-17-9)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 5.13 mg/l/4h
fluroxypyr-meptyl (ISO) (81406-37-3)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
bromoxynil octanoate (1689-99-2)	
LD50 oral rat	238 mg/kg female, 400 mg/kg male
LD50 dermal rabbit	1310 mg/kg female; > 2000 mg/kg male
LC50 inhalation rat (mg/l)	0.72 mg/l/4h female; 0.81 mg/l/4h male
ATE US (oral)	238 mg/kg bodyweight
ATE US (dermal)	1310 mg/kg bodyweight
ATE US (vapours)	0.72 mg/l/4h
ATE US (dust,mist)	0.72 mg/l/4h
Safener (trade secret)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat (mg/l)	> 0.935 mg/l/4h
ATE US (gases)	700 ppmv/4h
ATE US (vapours)	3 mg/l/4h
ATE US (dust,mist)	0.5 mg/l/4h
Surfact active agent (trade secret)	
LD50 oral rat	501 - 1000 mg/kg
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Surfact active agent (trade secret)			
LD50 dermal rat	> 2000 mg/kg female		
ATE US (oral)	501 mg/kg bodyweight		
Polymeric ester (trade secret)			
LD50 oral rat	> 3000 mg/kg		
LD50 dermal rabbit	> 10000 mg/kg male		
Petroleum distillates (trade secret)			
LD50 oral rat	> 5000 mg/kg		
LD50 dermal rabbit	> 2000 mg/kg		
MCPA-2-ethylhexyl ester (29450-45-1)			
LD50 oral rat	700 mg/kg		
LD50 dermal rat	> 2000 mg/kg		
ATE US (oral)	700 mg/kg bodyweight		
Skin corrosion/irritation	: Causes skin irritation.		
Serious eye damage/irritation	: Causes serious eye irritation.		
Respiratory or skin sensitisation	: May cause an allergic skin reaction.		
Germ cell mutagenicity	: Not classified		
Carcinogenicity	: Not classified		
Reproductive toxicity	: Suspected of damaging fertility or the unborn child.		
STOT-single exposure	: Not classified		
Petroleum distillates (trade secret)			
STOT-single exposure	May cause drowsiness or dizziness.		
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.		
bromoxynil octanoate (1689-99-2)			
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.		
Aspiration hazard	: Not classified		
Viscosity, kinematic	: 525.068 mm²/s		
Symptoms/effects	: Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.		
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled.		
Symptoms/effects after skin contact	: Causes skin irritation. May cause an allergic skin reaction.		
Symptoms/effects after eye contact	: Causes serious eye irritation.		
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard. Harmful if swallowed.		

I2.1. Toxicity		
Ecology - water	: Very toxic to aquatic life with long lasting effects.	
Flucarbazone sodium (181274-17-9)		
LC50 fish 1	> 96.7 mg/l 96 h oncorhynchus mykiss	
LC50 other aquatic organisms 1	6.4 mg/l 96 h green algae	
EC50 Daphnia 1	38.8 mg/l 48 h	
LC50 fish 2	> 99.3 mg/l 96 h bluehill	
fluroxypyr-meptyl (ISO) (81406-37-3)		
LC50 fish 1	13.4 - 100 mg/l 96 h Rainbow trout	
LC50 other aquatic organisms 1	> 100 mg/l 96h Onchorhynchus mykiss, Leuciscus idus	
EC50 Daphnia 1	> 0.183 mg/l 48 h; > 100 mg/l 96-hr	
LC50 fish 2	> 14.3 mg/l 96 h Blue gill sunfish	
NOEC (chronic)	0.06 mg/l 21 day Daphnia magna	
NOEC chronic fish	0.2 mg/l 21 day Oncorhynchus mykiss	
Additional ecotoxicological information	solubility limit : > 0.9 mg/l	
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bromoxynil octanoate (1689-99-2)	
LC50 fish 1	0.041 mg/l 96 h Rainbow trout
EC50 Daphnia 1	0.046 mg/l 48 h
EC50 other aquatic organisms 1	0.043 mg/l 120 h, Algae (Navicula)
LC50 fish 2	0.06 mg/l 96 h Bluegill
EC50 other aquatic organisms 2	0.22 mg/l 120 h, Algae (Selenastrum)
Safener (trade secret)	
LC50 fish 1	> 0.97 ppm 96 h Rainbow trout
EC50 Daphnia 1	> 0.82 ppm 48 h
NOEC (acute)	3.74 mg/l
Surfact active agent (trade secret)	
LC50 fish 1	1.1 mg/l 96 h
EC50 Daphnia 1	7.07 mg/l 48 h
EC50 other aquatic organisms 1	>= 10 mg/l 72 h
LC50 fish 2	1 - 10 mg/l 96 h
Polymeric ester (trade secret) LC50 fish 1	27 mg/l 96 h
EC50 Daphnia 1	6.6 mg/l 48 h
EC50 Daphnia 1 EC50 Daphnia 2	10.3 mg/l 48 h
•	
Petroleum distillates (trade secret)	25 mall 06 h Oncorburghus multi-
LC50 fish 1	25 mg/l 96 h Oncorhynchus mykiss 1.4 mg/l 48 h
EC50 Daphnia 1	1.4 mg/l 48 n
MCPA-2-ethylhexyl ester (29450-45-1)	
LC50 fish 1	3.2 mg/l 96 h Rainbout trout
EC50 Daphnia 1	0.29 mg/l 48 h
EC50 other aquatic organisms 1	0.11 mg/l 72 h Algae
2.2. Persistence and degradability	
BATALIUM™ Herbicide	
Persistence and degradability	Not established.
fluroxypyr-meptyl (ISO) (81406-37-3)	
Persistence and degradability	Not expected to persist.
bromoxynil octanoate (1689-99-2)	
Porsistance and degradability	Not expected to persist
Persistence and degradability	Not expected to persist.
Safener (trade secret)	
° ,	Not expected to persist. Vot readily biodegradable.
Safener (trade secret)	
Safener (trade secret) Persistence and degradability	
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1)	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide	Not readily biodegradable. 100 % 28 d Readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide	Not readily biodegradable. 100 % 28 d Readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 12.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential	Not readily biodegradable.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential Flucarbazone sodium (181274-17-9) Bioconcentration factor (BCF REACH)	Not readily biodegradable. 100 % 28 d Readily biodegradable. Not established.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential Flucarbazone sodium (181274-17-9) Bioconcentration factor (BCF REACH) Safener (trade secret)	Not readily biodegradable. 100 % 28 d Readily biodegradable. Not established. 3 (estimated)
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential Flucarbazone sodium (181274-17-9) Bioconcentration factor (BCF REACH)	Not readily biodegradable. 100 % 28 d Readily biodegradable. Not established.
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 12.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential Flucarbazone sodium (181274-17-9) Bioconcentration factor (BCF REACH) Safener (trade secret) Bioconcentration factor (BCF REACH)	Not readily biodegradable. 100 % 28 d Readily biodegradable. Not established. 3 (estimated)
Safener (trade secret) Persistence and degradability Polymeric ester (trade secret) Biodegradation MCPA-2-ethylhexyl ester (29450-45-1) Persistence and degradability 2.3. Bioaccumulative potential BATALIUM™ Herbicide Bioaccumulative potential Flucarbazone sodium (181274-17-9) Bioconcentration factor (BCF REACH) Safener (trade secret)	Not readily biodegradable. 100 % 28 d Readily biodegradable. Not established. 3 (estimated)

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Flucarbazone sodium (181274-17-9)		
Mobility in soil	mobile in soil; Koc = 36 (estimated)	
fluroxypyr-meptyl (ISO) (81406-37-3)		
Ecology - soil	Slightly mobile in soil.	
bromoxynil octanoate (1689-99-2)		
Ecology - soil	Very mobile.	
MCPA-2-ethylhexyl ester (29450-45-1)		
Ecology - soil	Slightly mobile in soil.	
12.5. Other adverse effects		
Other information	: Avoid release to the environment.	
SECTION 13: Disposal considerati	ons	
13.1. Waste treatment methods		
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.	
Ecology - waste materials	: Avoid release to the environment.	
SECTION 14: Transport informatio	n	
Transportation of Dangarous Goods		
Transportation of Dangerous Goods		
Transport document description	: UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bromoxynil	
	octanoate, MCPA-2-ethylhexyl ester), 9, III : UN3082	
UN-No. (TDG) Proper Shipping Name (Transportation of	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.	
Dangerous Goods)	. ENVIRONMENTALET HAZARDOOG SOBGTANCE, EIGOID, N.O.S.	
TDG Primary Hazard Classes	: 9 - Class 9 - Miscellaneous Products, Substances or Organisms	
Packing group	: III - Minor Danger	
TDG Special Provision	: Small means of containment (< = 450 L) Not Regulated; Large means of containment (> 450 L)	
	Regulated as stated	
Transport by sea		
IMDG		
Transport hazard class(es) (IMDG)	: 9	
Marine pollutant	: Yes	
UN-No. (IMDG)	: 3082	
Transport document description (IMDG)	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bromoxynil	
	octanoate, MCPA-2-ethylhexyl ester), 9, III, MARINE POLLUTANT	
Class (IMDG)	: 9 - Miscellaneous dangerous substances and articles	
Packing group (IMDG)	: III - substances presenting low danger	
EmS-No. (Fire)	: F-A	
EmS-No. (Spillage)	: S-F	
Air transport		
ΙΑΤΑ		
Transport hazard class(es) (IATA)	: 9	

EN (English)

: Yes

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UN-No. (IATA)	: 3082
Transport document description (IATA)	: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bromoxynil octanoate, MCPA-2-ethylhexyl ester), 9, III
Class (IATA)	: 9 - Miscellaneous Dangerous Goods
Packing group (IATA)	: III - Minor Danger

SECTION 15:	Regulatory	information
CANADA		

CANADA

Flucarbazone sodium (181274-17-9) Not listed on the Canadian DSL (Domestic Substances List) inventory.

fluroxypyr-meptyl (ISO) (81406-37-3)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

bromoxynil octanoate (1689-99-2)

Listed on the Canadian NDSL (Non-Domestic Substances List)

Safener (trade secret)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

Surfact active agent (trade secret)

Listed on the Canadian DSL (Domestic Substances List) inventory.

Polymeric ester (trade secret)

Listed on the Canadian DSL (Domestic Substances List) inventory.

MCPA-2-ethylhexyl ester (29450-45-1)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

SECTION 16: Other information

Data sources

: European Chemicals Agency (ECHA) Registered Substances list. Accessed at http://echa.europa.eu/. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition. OSHA 29CFR 1910.1200 Hazard Communication Standard. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. TSCA Chemical Substance Inventory. Accessed at http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html.

Other information

: None.

Safety Data Sheet

Full text of H-statements:

ext of H-statements:	
Acute Tox. 3 (Inhalation)	Acute toxicity (inhal.), Category 3
Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 3 (Oral)	Acute toxicity (oral), Category 3
Acute Tox. 4 (Dermal)	Acute toxicity (dermal), Category 4
Acute Tox. 4 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Acute 1	Hazardous to the aquatic environment — Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment — Chronic Hazard, Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity — Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

-	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration
	TSCA: Toxic Substances Control Act

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product