

Version 2.0 / CDN 102000003062

LER 1/13 Revision Date: 09/06/2018 Print Date: 09/06/2018

# SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

THUMPER® EMULSIFIABLE SELECTIVE WEEDKILLER
05944856
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22659
e substance or mixture and uses advised against
Herbicide
See product label for restrictions.
Bayer CropScience Inc #200, 160 Quarry Park Blvd, SE Calgary, Alberta T2C 3G3 Canada
Email: SDSINFO.BCS-NA@bayer.com
1-800-334-7577
1-888-283-6847

### **SECTION 2: HAZARDS IDENTIFICATION**

Classified in accordance with Part 2 of the Hazardous Products Regulations

Skin sensitisation: Category 1 Carcinogenicity: Category 2 Acute toxicity(Oral, Inhalation): Category 3 Specific target organ toxicity - single exposure: Category 3 Acute toxicity(Dermal): Category 4 Flammable liquids: Category 4

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Danger Hazard statements



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May cause an allergic skin reaction. Suspected of causing cancer. Toxic if swallowed. Toxic if inhaled. May cause drowsiness or dizziness. Harmful in contact with skin. Combustible liquid.

### **Precautionary statements**

Avoid breathing mist/ spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Keep away from open flames/hot surfaces. - No smoking. IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. Rinse mouth. IF ON SKIN: Wash with plenty of water/ soap. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label). Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor/physician. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified. No health hazards not otherwise classified.

### **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous Component Name Bromoxynil octanoate, heptanoate mixed ester	CAS-No.	Concentration % by weight 24.04
2,4-D 2-ethylhexyl ester	1928-43-4	24.04
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	19.1
Naphthalene	91-20-3	2.2
2-Methylpropan-1-ol	78-83-1	1.6
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### **SECTION 4: FIRST AID MEASURES**

Description of first aid measures			
General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.		
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.		
Skin contact	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.		
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 physician or poison control center immediately.		
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.		
Most important symptoms a	nd effects, both acute and delayed		
Symptoms	The following symptoms may occur:, Cough, Burning sensation, Dizziness, Tiredness, Muscular weakness, Lack of coordination, Nausea		
Indication of any immediate medical attention and special treatment needed			
Risks	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.		
Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.		

### **SECTION 5: FIREFIGHTING MEASURES**

Extinguishing media	
Suitable	Carbon dioxide (CO2), Dry chemical, Foam
Unsuitable	None known.
Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.
Advice for firefighters	
Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.



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Further information	Avoid contact with spilled product or contaminated surfaces. Fight fire from upwind position. Keep out of smoke. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.
	After fire is extinguished, do not turn on any ignition source until the area is determined to be free from explosion or fire hazard.
Flash point	63 °C
Auto-ignition temperature	443 °C / 829.4 °F
Lower explosion limit	No data available
Upper explosion limit	7 %(V)
Explosivity	Not applicable

### SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

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Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Remove all sources of ignition.
Methods and materials for con	ntainment and cleaning up
Methods for cleaning up	Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Collect and transfer the product into a properly labelled and tightly closed container. Contaminated soil may have to be removed and disposed.
Additional advice	If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non- target plants.
Reference to other sections	Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

### SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Advice on safe handling	Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.
Advice on protection against fire and explosion	Keep away from heat and sources of ignition.
Hygiene measures	Wash hands thoroughly with soap and water after handling and before



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eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

### Conditions for safe storage, including any incompatibilities

**Requirements for storage** areas and containers Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Protect from freezing.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### **Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
2,4-D 2-ethylhexyl ester	1928-43-4	10 mg/m3 (TWA)	09 2011	CAD BC OEL
2,4-D 2-ethylhexyl ester	1928-43-4	20 mg/m3 (STEL)	09 2011	CAD BC OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	200 mg/m3 (TWA)	07 2009	CAD AB OEL
(Vapor.)				
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	200 mg/m3 (TWA)	05 2013	CAD BC OEL
(Non-aerosol.)				
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	200 mg/m3 (TWA)	03 2014	CAD MB OEL
(Non-aerosol.)				
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	525 mg/m3 (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	200 mg/m3 (TWA)	11 2010	CAD ON OEL
(Non-aerosol.)				
Solvent Naphtha (petroleum), heavy aromatic (Vapor.)	64742-94-5	200 mg/m3 (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	250 mg/m3 (15 MIN ACL)	05 2009	CAD SK OEL



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(Vapor.)				
Naphthalene	91-20-3	52 mg/m3/10 ppm (TWA)	07 2009	CAD AB OEL
Naphthalene	91-20-3	79 mg/m3/15 ppm (STEL)	07 2009	CAD AB OEL
Naphthalene	91-20-3	10 ppm (TWA)	09 2011	CAD BC OEL
Naphthalene	91-20-3	15 ppm (STEL)	09 2011	CAD BC OEL
Naphthalene	91-20-3	10 ppm (TWA)	03 2011	CAD MB OEL
Naphthalene	91-20-3	10 ppm (TWA)	11 2010	CAD ON OEL
Naphthalene	91-20-3	15 ppm (STEL)	11 2010	CAD ON OEL
Naphthalene	91-20-3	10 ppm (8 HR ACL)	05 2009	CAD SK OEL
Naphthalene	91-20-3	15 ppm (15 MIN ACL)	05 2009	CAD SK OEL
Naphthalene	91-20-3	79 mg/m3/15 ppm (STEL)	11 2011	OEL (QUE)
Naphthalene	91-20-3	52 mg/m3/10 ppm (TWA)	11 2011	OEL (QUE)
Naphthalene	91-20-3	10 ppm (TLV)		OES BCS*
2-Methylpropan-1-ol	78-83-1	152 mg/m3/50 ppm (TWA)	07 2009	CAD AB OEL
2-Methylpropan-1-ol	78-83-1	50 ppm (TWA)	09 2011	CAD BC OEL
2-Methylpropan-1-ol	78-83-1	50 ppm (TWA)	03 2011	CAD MB OEL
2-Methylpropan-1-ol	78-83-1	50 ppm (TWA)	11 2010	CAD ON OEL
2-Methylpropan-1-ol	78-83-1	60 ppm (15 MIN ACL)	05 2009	CAD SK OEL



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2-Methylpropan-1-ol	78-83-1	50 ppm (8 HR ACL)	05 2009	CAD SK OEL
2-Methylpropan-1-ol	78-83-1	152 mg/m3/50 ppm (TWA)	11 2011	OEL (QUE)

\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

### **Exposure controls**

### Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection	When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.
Hand protection	Chemical resistant nitrile rubber gloves
Eye protection	Chemical resistant goggles must be worn.
Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks. Chemical resistant apron when cleaning equipment, mixing or loading.
General protective measures	Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	brown
Physical State	Liquid
Odor	aromatic solvent-like
Odour Threshold	No data available
рН	ca. 3.9 at 1 % (23 °C) (deionized water)
Vapor Pressure	3.99 hPa / 3 mm Hg at 37 °C
Vapor Density (Air = 1)	No data available
Density	1.17 g/cm³ at 20 °C
Evaporation rate	No data available
Boiling Point	149 °C / 300.2 °F
Melting / Freezing Point	< 0 °C / < 32 °F
Water solubility	at 20 °C emulsifiable



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Minimum Ignition Energy	Not applicable
Decomposition temperature	Not applicable
Partition coefficient: n- octanol/water	No data available
Viscosity	25 - 30 mPa.s at 25 °C Velocity gradient 20 /s
Flash point	63 °C
Auto-ignition temperature	443 °C / 829.4 °F
Lower explosion limit	No data available
Upper explosion limit	7 %(V)
Explosivity	Not applicable

### SECTION 10: STABILITY AND REACTIVITY

Reactivity	
Thermal decomposition	Not applicable
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Extremes of temperature and direct sunlight. freezing
Incompatible materials	Oxidizing agents, Acids, Bases
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

### SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation, Ingestion
Immediate Effects Eye	Moderate eye irritation may occur.
Skin	May cause slight irritation.
Ingestion	Harmful or fatal if swallowed.
Information on toxicological effects	

Acute oral toxicity	LD50 (male Rat) 400 mg/kg
	LD50 (female Rat) 238 mg/kg



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Acute inhalation toxicity	LC50 (male Rat) 0.81 mg/l Exposure time: 4 h Determined in the form of liquid aerosol
	LC50 (female Rat) 0.72 mg/l Exposure time: 4 h Determined in the form of liquid aerosol
Acute dermal toxicity	LD50 (male Rabbit) > 2,000 mg/kg LD50 (female Rabbit)  1,310 mg/kg
Skin corrosion/irritation	slight irritation (Rabbit)
Serious eye damage/eye irritation	slight irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Sensitising (Guinea pig)

### Assessment STOT Specific target organ toxicity - repeated exposure

Bromoxynil octanoate, heptanoate mixed ester caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver. The observed effects do not appear to be relevant for humans.

2,4-D-2-ethylhexylester did not cause specific target organ toxicity in experimental animal studies.

#### Assessment mutagenicity

Bromoxynil octanoate, heptanoate mixed ester was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

2,4-D-2-ethylhexylester was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

#### Assessment carcinogenicity

Bromoxynil octanoate, heptanoate mixed ester caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism of tumour formation is not considered to be relevant to man.

2,4-D-2-ethylhexylester was not carcinogenic in lifetime feeding studies in rats and mice.

### ACGIH

Solvent Naphtha (petroleum), heavy aromatic Naphthalene	64742-94-5 91-20-3	Group A3 Group A3
NTP		
Naphthalene	91-20-3	
IARC		
Naphthalene	91-20-3	Overall evaluation: 2B
OSHA		

None.

#### Assessment toxicity to reproduction

Bromoxynil octanoate, heptanoate mixed ester did not cause reproductive toxicity in a two-generation



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study in rats.

2,4-D-2-ethylhexylester caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals.

#### Assessment developmental toxicity

Bromoxynil octanoate, heptanoate mixed ester caused a delayed foetal growth, an increased incidence of non-specific malformations. Bromoxynil octanoate, heptanoate mixed ester caused developmental toxicity only at dose levels toxic to the dams.

2,4-D-2-ethylhexylester caused developmental toxicity only at dose levels toxic to the dams.

### **Further information**

Acute toxicity studies have been bridged from a similar formulation(s). The non-acute information pertains to the active ingredient(s).

### SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.029 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient bromoxynil octanoate.
	LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.029 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient bromoxynil heptanoate.
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 0.046 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient bromoxynil octanoate.
	EC50 (Daphnia magna (Water flea)) 0.031 mg/l Exposure time: 48 h The value mentioned relates to the active ingredient bromoxynil heptanoate.
Toxicity to aquatic plants	EC50 (Navicula pelliculosa (Freshwater diatom)) 0.043 mg/l Exposure time: 120 h The value mentioned relates to the active ingredient bromoxynil octanoate.
	EC50 (Lemna gibba (gibbous duckweed)) 0.073 mg/l The value mentioned relates to the active ingredient bromoxynil octanoate.
	EC50 (Pseudokirchneriella subcapitata (microalgae)) 0.083 mg/l Exposure time: 120 h The value mentioned relates to the active ingredient bromoxynil heptanoate.
Biodegradability	Bromoxynil octanoate, heptanoate mixed ester:



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	Not rapidly biodegradable 2,4-D-2-ethylhexylester: Not rapidly biodegradable
Кос	Bromoxynil octanoate: Koc: 630 2,4-D-2-ethylhexylester: Koc: 33000
Bioaccumulation	Bromoxynil octanoate: Bioconcentration factor (BCF) 230 Does not bioaccumulate. 2,4-D-2-ethylhexylester: Bioconcentration factor (BCF) 10 Does not bioaccumulate.
Mobility in soil	Bromoxynil octanoate, heptanoate mixed ester: Slightly mobile in soils 2,4-D-2-ethylhexylester: Slightly mobile in soils
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Drift or runoff from treated areas may adversely affect non-target plants. Do not allow to get into surface water, drains and ground water. Do not apply when weather conditions favor runoff or drift. Apply this product as specified on the label.

### **SECTION 13: DISPOSAL CONSIDERATIONS**

Waste treatment methods	
Product	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Follow container label instructions for disposal of wastes generated during use in compliance with the product label.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Add washings to sprayer at time of filling. Puncture container to avoid re-use. Follow advice on product label and/or leaflet.

### **SECTION 14: TRANSPORT INFORMATION**

TDG	
UN number	2902
Labels	6.1
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S. (BROMOXYNIL)



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49CFR	
UN number	2902
Class	6.1
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	PESTICIDES, LIQUID, TOXIC, N.O.S. (BROMOXYNIL, NAPHTHALENE)
RQ	Reportable Quantity is reached with 7,142 lb of product.
IMDG	
UN number	2902
Class	6.1
Packaging group	III
Marine pollutant	YES
Proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S.
	(BROMOXYNIL SOLUTION)
ΙΑΤΑ	
UN number	2902
Class	6.1
Packaging group	III
Environm. Hazardous Mark	NO
Proper shipping name	PESTICIDE, LIQUID, TOXIC, N.O.S.
	(BROMOXYNIL SOLUTION)
This transportation information is no	t intended to convey all specific regulatory information relati
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This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Further Information

In accordance with TDG regulations 3.6(3) and 4.22 this product does not require marine pollutant safety marks or shipping documentation reference when transported on land by road or rail.

### **SECTION 15: REGULATORY INFORMATION**

PCP Registration No. 22659

### **SECTION 16: OTHER INFORMATION**

Abbreviations and acronyms

49CFRCode of Federal Regulations, Title 49ACGIHUS. ACGIH Threshold Limit Values



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ATE CAS-Nr. CERCLA EINECS ELINCS IARC IATA IMDG N.O.S. NTP OECD TDG TWA UN WHO	Acute toxicity estimate Chemical Abstracts Service number Comprehensive Environmental Response, Compensation, and Liability Act European inventory of existing commercial substances European list of notified chemical substances International Agency for Research on Cancer International Air Transport Association International Maritime Dangerous Goods Not otherwise specified US. National Toxicology Program (NTP) Report on Carcinogens Organization for Economic Co-operation and Development Transportation of Dangerous Goods Time weighted average United Nations World health organisation		
NFPA 704 (National Fire Protection Association): Health - 2 Flammability - 2 Instability - 1 Others - none			
HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide) Health - 2 Flammability - 2 Physical Hazard - 1 PPE -			
0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard			

Reason for Revision: Revised according to the current Canadian WHMIS standard (WHMIS 2015).

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

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