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THUMPER® EMULSIFIABLE SELECTIVE WEEDKILLER

Version 2.0 / CDN Revision Date: 09/06/2018 102000003062 Print Date: 09/06/2018

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

Product identifier

Trade name THUMPER® EMULSIFIABLE SELECTIVE WEEDKILLER

Product code (UVP) 05944856

SDS Number 102000003062

PCP Registration No. 22659

Relevant identified uses of the substance or mixture and uses advised against

Use Herbicide

Restrictions on useSee product label for restrictions.

Information on supplier

Supplier Bayer CropScience Inc

#200, 160 Quarry Park Blvd, SE Calgary, Alberta T2C 3G3

Canada

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

Product Information Telephone Number

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	CAS-No.	Concentration % by weight
Bromoxynil octanoate, heptanoate mixed ester		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.

Hold eye open and rinse slowly and gently with water for 15-20 Eye contact

> 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 and effects, both acute and delayed

The following symptoms may occur:, Cough, Burning sensation, **Symptoms**

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

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 containment and cleaning up

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 (Vapor.)	64742-94-5	200 mg/m3 (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	05 2013	CAD BC OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	03 2014	CAD MB OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	525 mg/m3 (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	11 2010	CAD ON OEL
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 glovesEye 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

pH 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 availableDensity1.17 g/cm³ at 20 °CEvaporation rateNo data availableBoiling Point149 °C / 300.2 °FMelting / Freezing Point< 0 °C / < 32 °F</th>

Water solubility at 20 °C

emulsifiable



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Minimum Ignition EnergyNot applicableDecompositionNot applicable

temperature

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
Serious eye damage/eye

irritation

slight irritation (Rabbit) 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 64742-94-5 Group A3 Naphthalene 91-20-3 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

Koc 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 Ш

Marine pollutant Marine pollutant

PESTICIDES, LIQUID, TOXIC, N.O.S. Proper shipping name

(BROMOXYNIL, NAPHTHALENE)

RQ Reportable Quantity is reached with 7,142 lb of product.

IMDG

UN number 2902 Class 6.1 Packaging group Ш Marine pollutant YES

PESTICIDE, LIQUID, TOXIC, N.O.S. Proper shipping name

(BROMOXYNIL SOLUTION)

IATA

UN number 2902 Class 6.1 Packaging group Ш Environm. Hazardous Mark NO

Proper shipping name PESTICIDE, LIQUID, TOXIC, N.O.S.

(BROMOXYNIL SOLUTION)

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

49CFR Code of Federal Regulations, Title 49 US. ACGIH Threshold Limit Values **ACGIH**



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ATE Acute toxicity estimate

CAS-Nr. Chemical Abstracts Service number

CERCLA Comprehensive Environmental Response, Compensation, and Liability Act

EINECS European inventory of existing commercial substances

ELINCS European list of notified chemical substances IARC International Agency for Research on Cancer IATA International Air Transport Association

IATA International Air Transport Association
IMDG International Maritime Dangerous Goods

N.O.S. Not otherwise specified

NTP US. National Toxicology Program (NTP) Report on Carcinogens
OECD Organization for Economic Co-operation and Development

TDG Transportation of Dangerous Goods

TWA Time weighted average

UN United Nations

WHO 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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