

SAFETY DATA SHEET



PARDNER® HERBICIDE

Version 3.0 / CDN
102000023743

1/14
Revision Date: 05/16/2018
Print Date: 09/04/2018

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

Product identifier

Trade name PARDNER® HERBICIDE

Product code (UVP) 79933169

SDS Number 102000023743

PCP Registration No. 18001

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

Use Herbicide

Restrictions on use See 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

Carcinogenicity, Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 3
Acute toxicity(Oral): Category 4
Flammable liquids: Category 4

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Warning

Hazard statements

Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.

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May cause drowsiness or dizziness.
Harmful if swallowed.
Combustible liquid.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Avoid breathing mist/ spray.
Use only outdoors or in a well-ventilated area.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Keep away from open flames/hot surfaces. - No smoking.
IF exposed or concerned: Get medical advice/ attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
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 health hazards not otherwise classified.
No physical hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Bromoxynil octanoate, heptanoate mixed ester		35.4
Naphthalene	91-20-3	5.6
2-Methylpropan-1-ol	78-83-1	1.75
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., calcium salts	84989-14-0	2.4
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	49.2

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.

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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 and effects, both acute and delayed	
Symptoms	Aspiration may cause pulmonary oedema and pneumonitis.
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.

Further information Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses.

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

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SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Remove all sources of ignition. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.

Additional advice Use personal protective equipment. 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. Use only in area provided with appropriate 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 eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly and put on clean clothing. Avoid contact with skin, eyes and clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers 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. Store in original container and out of the reach of children, preferably in a locked storage area.
Protect from freezing.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Bromoxynil octanoate	1689-99-2	0.21 mg/m ³ (SK-SEN)		OES BCS*
Naphthalene	91-20-3	52 mg/m ³ /10 ppm (TWA)	07 2009	CAD AB OEL
Naphthalene	91-20-3	79 mg/m ³ /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/m ³ /15 ppm (STEL)	11 2011	OEL (QUE)
Naphthalene	91-20-3	52 mg/m ³ /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/m ³ /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

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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
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/m ³ /50 ppm (TWA)	11 2011	OEL (QUE)
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	1,590 mg/m ³ /400 ppm (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic (Vapor.)	64742-94-5	200 mg/m ³ (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	05 2013	CAD BC OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	03 2014	CAD MB OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	525 mg/m ³ (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	400 ppm (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic (Vapor.)	64742-94-5	250 mg/m ³ (15 MIN ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	500 ppm (15 MIN ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic (Vapor.)	64742-94-5	200 mg/m ³ (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	1,590 mg/m ³ /400 ppm (TWA)	11 2011	OEL (QUE)

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*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.
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	light brown
Physical State	Liquid
Odor	characteristic
Odour Threshold	No data available
pH	4.3 at 1 % (25 °C)
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	ca. 1.08 g/cm ³ at 20 °C
Evaporation rate	No data available
Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	dispersible
Minimum Ignition Energy	Not applicable
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	26 mPa.s at 25 °C

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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	No data available
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	freezing Heat, flames and sparks.
Incompatible materials	Acids, Bases, Oxidizing agents
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion, Inhalation
Immediate Effects	
Eye	Moderate eye irritation may occur.
Skin	May cause mild irritation to the skin.
Ingestion	May be harmful if swallowed. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) 961 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 5.065 mg/l Exposure time: 4 h highest concentration tested
Acute dermal toxicity	LD50 (Rabbit) > 2,000 mg/kg
Skin irritation	Mild skin irritation. (Rabbit)
Eye irritation	Moderate eye irritation. (Rabbit)

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Sensitisation Non-sensitizing. (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.

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.

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.

ACGIH

Naphthalene	91-20-3	Group A3
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	Group A3

NTP

Naphthalene	91-20-3
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IARC

Naphthalene	91-20-3	Overall evaluation: 2B
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OSHA

None.

Assessment toxicity to reproduction

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

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.

Further information

Only acute toxicity studies have been performed on the formulated product.
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.

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	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 (Raphidocelis subcapitata (freshwater green alga)) 0.083 mg/l Exposure time: 120 h The value mentioned relates to the active ingredient bromoxynil heptanoate.
Biodegradability	Bromoxynil octanoate, heptanoate mixed ester: Not rapidly biodegradable
Koc	Bromoxynil octanoate: Koc: 630
Bioaccumulation	Bromoxynil octanoate: Bioconcentration factor (BCF) 230 Does not bioaccumulate.
Mobility in soil	Bromoxynil octanoate, heptanoate mixed ester: Slightly mobile in soils
Environmental precautions	Do not allow to get into surface water, drains and ground water. Do not apply when weather conditions favor runoff or drift. 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 contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

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Product	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. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

SECTION 14: TRANSPORT INFORMATION

TDG

UN number	3082
Labels	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL)

49CFR

UN number	3082
Class	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (BROMOXYNIL, NAPHTHALENE)
RQ	Reportable Quantity is reached with 1,785 lb of product.

IMDG

UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES

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Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
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 Exempt from regulation when transported by road or rail, in accordance with TDG Regulations 1.45.1.
This exemption provides that this product does not require dangerous goods shipping documentation or safety marks when transported on land by road or rail.

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 18001

US Federal Regulations

TSCA list

Naphthalene	91-20-3
2-Methylpropan-1-ol	78-83-1
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., calcium salts	84989-14-0
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
Not applicable.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Naphthalene	91-20-3	0.1%
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US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.

Naphthalene	91-20-3
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This product does not contain any substances known to the State of California to cause reproductive harm.

US State Right-To-Know Ingredients

Naphthalene	91-20-3	CA, CT, IL, MN, NJ, RI
2-Methylpropan-1-ol	78-83-1	CA, CT, IL, MN, NJ, RI
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	CA, CT, MN, NJ, RI

Canadian Regulations

Canadian Domestic Substance List

Naphthalene	91-20-3
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2-Methylpropan-1-ol
Solvent Naphtha (petroleum), heavy
aromatic

78-83-1
64742-94-5

Environmental

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
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
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 - 1 Flammability - 2 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 2 Physical Hazard - 0 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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