

SAFETY DATA SHEET



INFINITY® HERBICIDE

Version 2.0 / CDN
102000011554

1/13
Revision Date: 03/28/2016
Print Date: 01/30/2019

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

Product identifier

Trade name INFINITY® HERBICIDE
Product code (UVP) 79002149
SDS Number 102000011554
PCP Registration No. 28738

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

Aspiration hazard: Category 1

Carcinogenicity: Category 2

Reproductive toxicity: Category 2

Eye irritation: Category 2B

Acute toxicity(Oral): Category 4

Flammable liquids: Category 4

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Signal word: Danger

Hazard statements

May be fatal if swallowed and enters airways.
Suspected of causing cancer.
Suspected of damaging fertility or the unborn child.
Causes eye irritation.
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.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
Do NOT induce vomiting.
Rinse mouth.
IF exposed or concerned: Get medical advice/ attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
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 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
Pyrasulfotole	365400-11-9	3.3
Bromoxynil octanoate	1689-99-2	13.4
Bromoxynil heptanoate	56634-95-8	12.9
Mefenpyr-diethyl	135590-91-9	0.83
Naphthalene	91-20-3	5.09

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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 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 Water, Alcohol-resistant foam, Dry powder, Carbon dioxide (CO₂)

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	Evacuate personnel to safe areas. Avoid contact with spilled product or contaminated surfaces. Keep out of smoke. Fight fire from upwind position. Do not allow run-off from fire fighting to enter drains or water courses.
Flash point	90 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Evacuate and isolate spill area.

Methods and materials for containment and cleaning up

Methods for cleaning up Dike area to prevent runoff. 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. Contaminated soil may have to be removed and disposed. Clean contaminated floors and objects thoroughly, observing environmental regulations.

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

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Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove and wash contaminated gloves, including the inside, before re-use. 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 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. Store in a place accessible by authorized persons only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Pyrasulfotole	365400-11-9	0.3 mg/m ³ (TWA)		OES BCS*
Bromoxynil octanoate	1689-99-2	0.21 mg/m ³ (SK-SEN)		OES BCS*
Mefenpyr-diethyl	135590-91-9	10 mg/m ³ (TWA)		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	15 ppm (STEV)	11 2010	CAD ON OEL
Naphthalene	91-20-3	10 ppm (TWA EV)	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	05 2009	CAD SK

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		(15 MIN ACL)		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*

*OES BCS: Internal Bayer CropScience "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

Tightly fitting safety goggles

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Use only in area provided with appropriate exhaust ventilation. 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	beige to brown
Physical State	Liquid clear
Odor	aromatic solvent-like
Odour Threshold	No data available
pH	ca. 3.9 at 10 %
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	1.14 g/cm ³ at 20 °C
Evaporation rate	No data available

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Boiling Point	No data available
Melting / Freezing Point	No data available
Water solubility	No data available
Solubility in other solvents	No data available
Minimum Ignition Energy	Not applicable
Decomposition temperature	Not applicable
Partition coefficient: n-octanol/water	No data available
Viscosity	19.8 mPa.s at 25 °C
Flash point	90 °C
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	Not applicable
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Heat, flames and sparks.
Incompatible materials	No data available
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion
Immediate Effects	
Eye	Causes eye irritation.
Skin	May cause skin irritation.
Ingestion	Harmful or fatal if swallowed.

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Inhalation Harmful if inhaled.

Information on toxicological effects

Acute oral toxicity LD50 (female Rat) > 300 - < 2,000 mg/kg

Acute inhalation toxicity LC50 (male/female combined Rat) > 5 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.
Highest attainable concentration.

LC50 (male/female combined Rat) > 20 mg/l
Exposure time: 1 h
Determined in the form of liquid aerosol.
Extrapolated from the 4 hr LC50.

Acute dermal toxicity LD50 (male/female combined Rat) > 4,000 mg/kg

Skin irritation Mild skin irritation. (Rabbit)

Eye irritation Moderate eye irritation. (Rabbit)

Sensitisation Non-sensitizing. (Guinea pig)

Assessment repeated dose toxicity

Pyrasulfotole did not cause specific target organ toxicity in experimental animal studies.
Bromoxynil octanoate 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.
Bromoxynil heptanoate 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.
Mefenpyr-diethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Pyrasulfotole was not genotoxic in a battery of in vitro and in vivo tests.
Bromoxynil octanoate was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Bromoxynil heptanoate was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Mefenpyr-diethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Pyrasulfotole caused at high dose levels an increased incidence of tumours in the following organ(s): Cornea, urinary bladder. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Bromoxynil octanoate caused at high dose levels an increased incidence of tumours in the following organ(s): Liver. The mechanism of tumour formation is not considered to be relevant to man.
Bromoxynil heptanoate 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.
Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Naphthalene 91-20-3 Group A3

NTP

Naphthalene 91-20-3

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IARC

Naphthalene

91-20-3

Overall evaluation: 2B

OSHA

None.

Assessment toxicity to reproduction

Pyrasulfotole did not cause reproductive toxicity in a two-generation study in rats.
Bromoxynil octanoate did not cause reproductive toxicity in a two-generation study in rats.
Bromoxynil heptanoate did not cause reproductive toxicity in a two-generation study in rats.
Mefenpyr-diethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Pyrasulfotole did not cause developmental toxicity in rats and rabbits.
Bromoxynil octanoate caused a delayed foetal growth, an increased incidence of non-specific malformations. Bromoxynil octanoate caused developmental toxicity only at dose levels toxic to the dams.
Bromoxynil heptanoate caused developmental toxicity only at dose levels toxic to the dams.
Bromoxynil heptanoate caused a delayed foetal growth, an increased incidence of non-specific malformations.
Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

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.

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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.
Biodegradability	Pyrasulfotole: Not rapidly biodegradable Bromoxynil octanoate: Not rapidly biodegradable Bromoxynil heptanoate: Not rapidly biodegradable Mefenpyr-diethyl: Not rapidly biodegradable
Koc	Pyrasulfotole: Koc: 20 - 213 Bromoxynil octanoate: Koc: 639 Bromoxynil heptanoate: Koc: ca. 600 Mefenpyr-diethyl: Koc: 625
Bioaccumulation	Pyrasulfotole: Does not bioaccumulate. Bromoxynil octanoate: Bioconcentration factor (BCF) 230 Does not bioaccumulate. Bromoxynil heptanoate: No data available, Does not bioaccumulate. Mefenpyr-diethyl: Bioconcentration factor (BCF) 232 Does not bioaccumulate.
Mobility in soil	Pyrasulfotole: Moderately mobile in soils Bromoxynil octanoate: Slightly mobile in soils Bromoxynil heptanoate: Slightly mobile in soils Mefenpyr-diethyl: 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 allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Do not apply when weather conditions favor runoff or drift. Drift or runoff from treated areas may adversely affect non-target plants.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product Dispose in accordance with all local, state/provincial and federal regulations.
Do not contaminate water, food, or feed by disposal.

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Never place unused product down any indoor or outdoor drain.

Contaminated packaging

Do not re-use empty containers.
Triple rinse containers.
Puncture container to avoid re-use.
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, PETROLEUM DISTILLATES)

49CFR

NA-Number	1993
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	COMBUSTIBLE LIQUID, N.O.S. (BROMOXYNIL, PETROLEUM DISTILLATES, NAPHTHALENE)
RQ	Reportable Quantity is reached with 1,964 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, PETROLEUM DISTILLATES SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BROMOXYNIL, PETROLEUM DISTILLATES 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.

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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. 28738

US Federal Regulations

TSCA list

None.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

None.

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Bromoxynil octanoate 1689-99-2

Naphthalene 91-20-3

US States Regulatory Reporting

CA Prop65

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

Naphthalene 91-20-3

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Bromoxynil octanoate 1689-99-2 Developmental toxin.

US State Right-To-Know Ingredients

Bromoxynil octanoate 1689-99-2

Naphthalene 91-20-3 NJ, RI
CA, CT, IL, MN, NJ, RI

Canadian Regulations

Canadian Domestic Substance List

Naphthalene 91-20-3

Environmental

CERCLA

Naphthalene 91-20-3 100 lbs

Clean Water Section 307 Priority Pollutants

Naphthalene 91-20-3

Safe Drinking Water Act Maximum Contaminant Levels

Naphthalene 91-20-3

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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 - 1 Others - none

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

Health - 1 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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