

SAFETY DATA SHEET



OPTION™ 2.25 OD LIQUID HERBICIDE

Version 3.0 / CDN
102000011304

1/13
Revision Date: 06/23/2017
Print Date: 06/23/2017

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

Product identifier

Trade name OPTION™ 2.25 OD LIQUID HERBICIDE

Product code (UVP) 06321801

SDS Number 102000011304

PCP Registration No. 27424

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

Skin irritation, Carcinogenicity: Category 2

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Warning

Hazard statements

Causes skin irritation.
Suspected of causing cancer.

Precautionary statements

Wash thoroughly after handling.
Obtain special instructions before use.

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Do not handle until all safety precautions have been read and understood.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF ON SKIN: Wash with plenty of water/ soap.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
IF exposed or concerned: Get medical advice/ attention.
Store locked up.
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
Foramsulfuron	173159-57-4	2.34
Isoxadifen-ethyl	163520-33-0	2.34
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	32.4
Naphthalene	91-20-3	0.32
Calcium dodecylbenzenesulfonate, branched	70528-83-5	1.8
1-Octanol	111-87-5	1.2

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.
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.

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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 Symptoms and hazards refer to the solvent.
Headache, Nausea, Dizziness, Somnolence
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Aspiration may cause pulmonary oedema and pneumonitis.
Inhalation may provoke the following symptoms:
Cough, Shortness of breath, Cyanosis, Fever

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 Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable High volume water jet

Special hazards arising from the substance or mixture In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Sulphur oxides, Nitrogen oxides (NOx)

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. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.

Flash point 121 °C

Auto-ignition temperature 290 °C / 554 °F

Lower explosion limit No data available

Upper explosion limit No data available

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Explosivity Not explosive
92/69/EEC, A.14 / OECD 113

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.

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 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. Before removing gloves clean them with soap and water. 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 and out of the reach of children, preferably in a locked storage area.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Foramsulfuron	173159-57-4	10 mg/m3 (TWA)		OES BCS*
Isoxadifen-ethyl	163520-33-0	1 mg/m3 (SK-SEN)		OES BCS*
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	200 mg/m3 (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,590 mg/m3/400 ppm (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	05 2013	CAD BC OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	03 2014	CAD MB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m3 (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	525 mg/m3 (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	250 mg/m3 (15 MIN ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	200 mg/m3 (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy	64742-94-5	500 ppm (15 MIN ACL)	05 2009	CAD SK OEL

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aromatic, <1% naphthalene				
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 ppm (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,590 mg/m3/400 ppm (TWA)	11 2011	OEL (QUE)
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*

*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.

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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	beige
Physical State	Liquid
Odor	aromatic
Odour Threshold	No data available
pH	5.0 - 7.0 at 10 % (23 °C) (deionized water)
Vapor Pressure	No data available
Vapor Density (Air = 1)	No data available
Density	ca. 0.96 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	No data available
Decomposition temperature	No data available
Partition coefficient: n-octanol/water	No data available
Viscosity	25 - 100 mPa.s at 20 °C Velocity gradient 20 /s 20 - 60 mPa.s at 20 °C Velocity gradient 100 /s
Flash point	121 °C
Auto-ignition temperature	290 °C / 554 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive

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92/69/EEC, A.14 / OECD 113

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	Extremes of temperature and direct sunlight.
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, Inhalation

Immediate Effects

Eye May cause eye irritation.
Skin Irritating to skin.

Information on toxicological effects

Acute oral toxicity	LD50 (Rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 5.25 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol.
Acute dermal toxicity	LD50 (Rat) > 5,000 mg/kg
Skin irritation	Irritating to skin. (Rabbit)
Eye irritation	Mild eye irritation. (Rabbit)
Sensitisation	Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA) Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – repeated exposure

Foramsulfuron did not cause specific target organ toxicity in experimental animal studies.
Isoxadifen-ethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

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Foramsulfuron was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Isoxadifen-ethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Foramsulfuron was not carcinogenic in lifetime feeding studies in rats and mice.

Isoxadifen-ethyl was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Solvent Naphtha (petroleum), heavy aromatic, 64742-94-5 Group A3

<1% naphthalene

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

Foramsulfuron did not cause reproductive toxicity in a two-generation study in rats.

Isoxadifen-ethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Foramsulfuron did not cause developmental toxicity in rats and rabbits.

Isoxadifen-ethyl did not cause developmental toxicity in rats and rabbits.

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 aquatic invertebrates

EC50 (Daphnia magna (Water flea)) 6.9 mg/l
Exposure time: 48 h

Toxicity to aquatic plants

IC50 (Raphidocelis subcapitata (freshwater green alga)) > 5 mg/l
Growth rate; Exposure time: 96 h

IC50 (Lemna gibba (gibbous duckweed)) 0.00075 mg/l
Growth rate; Exposure time: 7 d

Biodegradability

Foramsulfuron:
Not rapidly biodegradable
Isoxadifen-ethyl:

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	Not rapidly biodegradable
Koc	Foramsulfuron: Koc: 38 - 151 Isoxadifen-ethyl: Koc: 2512
Bioaccumulation	Foramsulfuron: Does not bioaccumulate. Isoxadifen-ethyl: Does not bioaccumulate.
Mobility in soil	Foramsulfuron: Mobile in soils Isoxadifen-ethyl: Slightly mobile in soils
Additional ecological information	No other effects to be mentioned. Information given is based on data obtained from similar substances.
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	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. It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
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

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Labels 9
Packaging group III
Marine pollutant Marine pollutant
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM)
HEAVY AROMATIC SOLUTION)

49CFR

UN number **3082**
Class 9
Packaging group III
Marine pollutant Marine pollutant
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID,
N.O.S.
(ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM)
HEAVY AROMATIC SOLUTION, NAPHTHALENE)
RQ Reportable Quantity is reached with 31,250 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.
(ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM)
HEAVY AROMATIC SOLUTION)

IATA

UN number **3082**
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(ISOXADIFEN-ETHYL, SOLVENT NAPHTHA (PETROLEUM)
HEAVY AROMATIC 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.

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 27424
US Federal Regulations
TSCA list
None.

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

Isoxadifen-ethyl 163520-33-0

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Naphthalene 91-20-3 0.1%

US States Regulatory Reporting

CA Prop65

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

Naphthalene 91-20-3

US State Right-To-Know Ingredients

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	CA, CT, MN, NJ, RI
Naphthalene	91-20-3	CA, CT, IL, MN, NJ, RI
1-Octanol	111-87-5	CT, MN, RI

Canadian Regulations

Canadian Domestic Substance List

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5
Naphthalene	91-20-3
Calcium dodecylbenzenesulfonate, branched	70528-83-5
1-Octanol	111-87-5

Environmental

CERCLA

Naphthalene 91-20-3

Clean Water Section 307 Priority Pollutants

Naphthalene 91-20-3

Safe Drinking Water Act Maximum Contaminant Levels

Naphthalene 91-20-3

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

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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 - 1 Instability - 0 Others - none

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

Health - 2 Flammability - 1 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.

Revision Date: 06/23/2017

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