

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

1/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

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

Product identifier

Trade name LAUDIS® HERBICIDE
Product code (UVP) 79112912
SDS Number 102000017388

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

Reproductive toxicity: Category 2
Specific target organ toxicity - repeated exposure: Category 2
Acute toxicity(Oral): Category 4

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Warning

Hazard statements

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

2/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.
Harmful if swallowed.

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.
Do not breathe spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
IF exposed or concerned: Get medical advice/ attention.
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
Rinse mouth.
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
Tembotrione	335104-84-2	34.5
Isoxadifen-ethyl	163520-33-0	17.2
Ethoxylated alcohols (C12-15)	68131-39-5	1.0

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.

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

3/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

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 To date no symptoms are known.

Indication of any immediate medical attention and special treatment needed

Treatment Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

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 Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. 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.

Specific hazards from the substance or mixture which can increase the fire

Flash point >93.4 °C

Auto-ignition temperature No data available

Lower explosion limit No data available

Upper explosion limit No data available

Explosivity Not applicable

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

4/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. 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). Keep in suitable, closed containers for disposal. 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 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. 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. Protect from freezing. Keep away from direct sunlight.

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

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

5/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Tembotrione	335104-84-2	0.15 mg/m ³ (SK-SEN)		OES BCS*
Isoxadifen-ethyl	163520-33-0	1 mg/m ³ (SK-SEN)		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.

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 gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

Eye protection

Safety glasses with side-shields

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

Information on basic physical and chemical properties

Form	suspension
Colour	white to light yellow
Odour	characteristic
Odour Threshold	No data available
pH	ca. 3.0 (10 %) (23 °C)
Melting point/range	No data available
Boiling Point	No data available
Flash point	> 93.4 °C
Flammability	No data available

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

6/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

Auto-ignition temperature	No data available
Thermal decomposition	No data available
Minimum ignition energy	Not applicable
Self-accelerating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	1.22 g/cm ³ (20 °C)
Water solubility	miscible
Partition coefficient: n-octanol/water	Tembotrione: log Pow: -1.09 Isoxadifen-ethyl: log Pow: 3.8
Viscosity, dynamic	800 - 1,200 mPa.s (20 °C)
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	Not applicable
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

7/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Ingestion, Eye contact, Skin contact, Inhalation
Immediate Effects	
Eye	May cause temporary eye irritation.
Skin	Not expected to produce significant adverse effects when recommended use instructions are followed.
Ingestion	Harmful if swallowed.
Inhalation	Not expected to produce significant adverse effects when recommended use instructions are followed.

Information on toxicological effects

Acute oral toxicity	LD50 (female Rat) 1,750 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 2.1 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (Rat) > 5,000 mg/kg
Skin corrosion/irritation	Slight irritant effect - does not require labelling. (Rabbit)
Serious eye damage/eye irritation	Mild eye irritation. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure

Tembotrione: Based on available data, the classification criteria are not met.
Isoxadifen-ethyl: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Tembotrione caused specific target organ toxicity in experimental animal studies in the following organ(s): Eyes, Kidney, Liver.
Isoxadifen-ethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

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

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

8/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

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

Assessment carcinogenicity

Tembotrione caused an increased incidence of tumours in rats in the following organ(s): Cornea. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

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

ACGIH

None.

NTP

None.

IARC

None.

ACGIH

None.

NTP

None.

IARC

None.

OSHA

None.

Assessment toxicity to reproduction

Tembotrione 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

Tembotrione caused developmental toxicity only at dose levels toxic to the dams. Tembotrione caused a delayed ossification of foetuses, an increased incidence of variations. The developmental effects seen with Tembotrione are related to maternal toxicity.

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

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

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

The non-acute information pertains to the active ingredient(s).

No further toxicological information is available.

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

9/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) 5.41 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 33.5 mg/l Exposure time: 48 h
Toxicity to aquatic plants	EC50 (Raphidocelis subcapitata (freshwater green alga)) 15.4 mg/l Growth rate; Exposure time: 72 h
Biodegradability	Tembotrione: Not rapidly biodegradable Isoxadifen-ethyl: Not rapidly biodegradable
Koc	Tembotrione: Koc: 66 Isoxadifen-ethyl: Koc: 2512; log Koc: 3.4
Bioaccumulation	Tembotrione: Does not bioaccumulate. Isoxadifen-ethyl: Does not bioaccumulate.
Mobility in soil	Tembotrione: Mobile in soils Isoxadifen-ethyl: Slightly mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Tembotrione: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Isoxadifen-ethyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Additional ecological information	No other effects to be mentioned.
Environmental precautions	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.

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

10/12
Revision Date: 11/29/2023
Print Date: 08/14/2024

Contaminated packaging Consult state and local regulations regarding the proper disposal of container.
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. (TEMBOTRIONE, ISOXADIFEN-ETHYL)

49CFR

Not dangerous goods / not hazardous material

IMDG

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

IATA

UN number	3082
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEMBOTRIONE, ISOXADIFEN-ETHYL 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.

SAFETY DATA SHEET



LAUDIS® HERBICIDE

Version 1.1 / CDN
102000017388

11/12
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Print Date: 08/14/2024

SECTION 15: REGULATORY INFORMATION

PMRA Information:

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

Signal word:	Caution!
Hazard statements:	Poison. Harmful if swallowed. Causes moderate eye irritation.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

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

SAFETY DATA SHEET



LAUDIS® HERBICIDE

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102000017388

12/12
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NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

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

|| Health - 1* Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard,
* = chronic health hazard

Reason for Revision: The following sections have been revised: Section 11: Toxicological Information. Section 15: Regulatory information. Section 16: Other Information. Reviewed and updated for general editorial purposes.

Revision Date: 11/29/2023

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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