





**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

1/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

**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

**EPA Registration No.** 264-860

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

**Use** Herbicide

**Restrictions on use** See product label for restrictions.

**Information on manufacturer**

Bayer CropScience  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

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

**Product Information Telephone Number** 1-866-99BAYER (1-866-992-2937)

**SDS Information or Request** SDSINFO.BCS-NA@bayer.com

**SECTION 2: HAZARDS IDENTIFICATION**

**Classification in accordance with regulation HCS 29CFR §1910.1200**

Eye irritation : Category 2B

Acute toxicity (Oral): Category 4



**Signal word:** Warning

**Hazard statements**

Causes eye irritation.

Harmful if swallowed.

**Precautionary statements**

Wash face, hands and any exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

2/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

If eye irritation persists: Get medical advice/attention.  
IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
Rinse mouth.  
Dispose of contents/container in accordance with local regulation.

**Other hazards**

No other hazards known.

---

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous Component Name	CAS-No.	Average % by Weight
Tembotrione	335104-84-2	34.50
Isoxadifen-ethyl	163520-33-0	17.20
1,2-Propanediol	57-55-6	5.00

---

**SECTION 4: FIRST AID MEASURES**

**Description of first aid measures**

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Inhalation</b>	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.
<b>Skin contact</b>	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.
<b>Eye contact</b>	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.
<b>Ingestion</b>	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. There is no specific antidote.

---



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

3/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

---

**SECTION 5: FIREFIGHTING MEASURES**

**Extinguishing media**

**Suitable** Water spray, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

**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 fire-fighters** 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.

**Flash point** > 93.4 °C

**Autoignition 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** 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. Do not allow product to contact non-target plants. Do not allow to enter soil, waterways or waste water canal.

**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**



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

4/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

**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.

**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 soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. 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.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

Components	CAS-No.	Control parameters	Update	Basis
Tembotrione	335104-84-2	0.15 mg/m3 (TWA)		OES BCS*
Isoxadifen-ethyl	163520-33-0	1 mg/m3 (TWA)		OES BCS*
1,2-Propanediol (Vapor.)	57-55-6	1000ug/m3 (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	50ppb (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	500ppb (ST ESL)	02 2013	TX ESL
1,2-Propanediol (Vapor.)	57-55-6	100ug/m3 (AN ESL)	02 2013	TX ESL
1,2-Propanediol (Aerosol.)	57-55-6	10 mg/m3 (TWA)	2010	WEEL

\*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



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

5/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

<b>Hand protection</b>	Chemical resistant nitrile rubber gloves
<b>Eye protection</b>	Safety glasses with side-shields
<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	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**

<b>Appearance</b>	white to light yellow
<b>Physical State</b>	suspension
<b>Odor</b>	characteristic
<b>Odour Threshold</b>	no data available
<b>pH</b>	ca. 3.0 at 10 % (23 °C)
<b>Vapor Pressure</b>	no data available
<b>Vapor Density (Air = 1)</b>	no data available
<b>Density</b>	1.22 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	no data available
<b>Boiling Point</b>	no data available
<b>Melting / Freezing Point</b>	no data available
<b>Water solubility</b>	no data available
<b>Minimum Ignition Energy</b>	not applicable
<b>Decomposition temperature</b>	not applicable
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Viscosity</b>	800 - 1,200 mPa.s at 20 °C
<b>Flash point</b>	> 93.4 °C
<b>Autoignition temperature</b>	no data available
<b>Lower explosion limit</b>	no data available
<b>Upper explosion limit</b>	no data available
<b>Explosivity</b>	not applicable
<b>Other information</b>	Further safety related physical-chemical data are not known.



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

6/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

---

**SECTION 10: STABILITY AND REACTIVITY**

**Reactivity**

<b>Thermal decomposition</b>	not applicable
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	no data available
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

---

**SECTION 11: TOXICOLOGICAL INFORMATION**

**Exposure routes** Ingestion, Eye contact, Skin contact

**Immediate Effects**

**Eye** Moderate eye irritation.

**Ingestion** Harmful if swallowed.

**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

LC50 (rat) > 8.4 mg/l  
Exposure time: 1 h  
Determined in the form of liquid aerosol.  
Extrapolated from the 4 hr LC50.

**Acute dermal toxicity** LD50 (rat) > 5,000 mg/kg

**Skin irritation** Slight irritation (rabbit)

**Eye irritation** Mild eye irritation. (rabbit)

**Sensitisation** Non-sensitizing. (guinea pig)

**Assessment repeated dose toxicity**

Tembotrione 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**



## LAUDIS® HERBICIDE

Version 3.0 / USA  
102000017388

7/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

Tembotrione 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

Tembotrione caused at high dose levels 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.

### 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.

### 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

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 5.41 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Water flea (Daphnia magna)) 33.5 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	EC50 (Pseudokirchneriella subcapitata) 15.4 mg/l Growth rate; Exposure time: 72 h
<b>Biodegradability</b>	Not applicable for this mixture.
<b>Biodegradability</b>	Isoxadifen-ethyl: ; not rapidly biodegradable





**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

8/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

---

<b>Koc</b>	Isoxadifen-ethyl: Koc: 2512
<b>Bioaccumulation</b>	Not applicable for this mixture.
<b>Bioaccumulation</b>	Isoxadifen-ethyl: ; Does not bioaccumulate.
<b>Mobility in soil</b>	Not applicable for this mixture.
<b>Mobility in soil</b>	Isoxadifen-ethyl: Slightly mobile in soils
<b>Additional ecological information</b>	No other effects to be mentioned.
<b>Environmental precautions</b>	Do not allow to get into surface water, drains and ground water.

---

**SECTION 13: DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product</b>	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. Never place unused product down any indoor or outdoor drain.
<b>Contaminated packaging</b>	Do not re-use empty containers. Triple rinse containers. 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.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

---

**SECTION 14: TRANSPORT INFORMATION**

<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TEMBOTRIONE, ISOXADIFEN-ETHYL SOLUTION)
<b>IATA</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

9/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

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.

Freight Classification: COMPOUNDS, TREE OR WEED KILLING, N.O.I. other than  
poison, HAVING A DENSITY OF 20 LBS OR GREATER PER  
CUBIC FOOT

---

**SECTION 15: REGULATORY INFORMATION**

**EPA Registration No.** 264-860

**US Federal Regulations**

**TSCA list**

Isoxadifen-ethyl 163520-33-0

1,2-Propanediol 57-55-6

**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**

None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

1,2-Propanediol 57-55-6 MN

**Canadian Regulations**

**Canadian Domestic Substance List**

None.

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**EPA/FIFRA Information:**



**LAUDIS® HERBICIDE**

Version 3.0 / USA  
102000017388

10/10  
Revision Date: 06/16/2014  
Print Date: 03/13/2015

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.

---

**SECTION 16: OTHER INFORMATION**

**NFPA 704 (National Fire Protection Association):**

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

**HMIS (Hazardous Materials Identification System, based on the Third 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

**Reason for Revision:** Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

**Revision Date:** 06/16/2014

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.