

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

1/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

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

#### Product identifier

**Trade name** INVORA® HERBICIDE  
**Product code (UVP)** 84991341  
**SDS Number** 102000031573  
**EPA Registration No.** 432-1582

#### 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 LP  
800 North Lindbergh Blvd.  
St. Louis, MO 63167  
USA  
**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** 1-866-99BAYER (1-866-992-2937)

### SECTION 2: HAZARDS IDENTIFICATION

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

Serious eye damage: Category 1  
Specific target organ toxicity - repeated exposure: Category 2

#### Labelling in accordance with regulation HCS 29CFR §1910.1200



**Signal word:** Danger

**Hazard statements**

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

2/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

Causes serious eye damage.  
May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

Wear eye protection/ face protection.  
Do not breathe gas/ mist/vapours/ spray.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Immediately call a POISON CENTER/doctor/ physician.  
Get medical advice/ attention if you feel unwell.  
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
Aminocyclopyrachlor, triethylamine salt	858956-32-8	10.8
Triclopyr, triethylamine salt	57213-69-1	20.4

## 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>	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. 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. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Rinse out mouth and give water in small sips to drink. 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.

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

3/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

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### 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.

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## 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** > 100 °C / > 212 °F

**Auto-ignition temperature** No data available

**Lower explosion limit** No data available

**Upper explosion limit** No data available

**Explosivity** Not explosive

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# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

4/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

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### SECTION 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

**Precautions** 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.

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### SECTION 7: HANDLING AND STORAGE

#### Precautions for safe handling

**Advice on safe handling** Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

**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. 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

No known occupational limit values.

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

5/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

### 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.

<b>Respiratory protection</b>	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.
<b>Hand protection</b>	Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)
<b>Eye protection</b>	Use tightly sealed goggles and face protection.
<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

### Information on basic physical and chemical properties

<b>Form</b>	Liquid, clear
<b>Colour</b>	light pink to light yellow and brown, with shades of orange
<b>Odour</b>	mild, amine-like
<b>Odour Threshold</b>	No data available
<b>pH</b>	7.0 - 9.0 (1 %) (23 °C) (deionized water)
<b>Melting point/range</b>	No data available
<b>Boiling Point</b>	No data available
<b>Flash point</b>	> 100 °C / > 212 °F
<b>Flammability</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Thermal decomposition</b>	No data available
<b>Minimum ignition energy</b>	Not applicable
<b>Self-accelerating decomposition temperature (SADT)</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Lower explosion limit</b>	No data available

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

6/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

<b>Vapour pressure</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Relative vapour density</b>	No data available
<b>Relative density</b>	No data available
<b>Density</b>	1.10 g/cm <sup>3</sup> (20 °C)
<b>Water solubility</b>	soluble
<b>Partition coefficient: n-octanol/water</b>	Triclopyr: log Pow: -0.45
<b>Viscosity, dynamic</b>	44 mPa.s (20 °C)
<b>Viscosity, kinematic</b>	No data available
<b>Oxidizing properties</b>	No data available
<b>Explosivity</b>	Not explosive
<b>Other information</b>	Further safety related physical-chemical data are not known.

### SECTION 10: STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions.
<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 incompatible materials known.
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

### SECTION 11: TOXICOLOGICAL INFORMATION

<b>Exposure routes</b>	Eye contact, Skin contact, Inhalation, Ingestion
<b>Immediate Effects</b>	
<b>Eye</b>	Causes serious eye damage.
<b>Skin</b>	Not expected to produce significant adverse effects when recommended use instructions are followed.

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

7/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

<b>Ingestion</b>	May be harmful if swallowed.
<b>Inhalation</b>	Not expected to produce significant adverse effects when recommended use instructions are followed.

### Information on toxicological effects

<b>Acute oral toxicity</b>	LD50 (Rat) 3,129 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 5.0 mg/l Exposure time: 4 h Determined in the form of liquid aerosol.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 5,000 mg/kg
<b>Skin corrosion/irritation</b>	No skin irritation (Rabbit)
<b>Serious eye damage/eye irritation</b>	Corrosive - causes irreversible eye damage. (Rabbit)
<b>Respiratory or skin sensitisation</b>	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

### Assessment STOT Specific target organ toxicity – single exposure

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

### Assessment STOT Specific target organ toxicity – repeated exposure

Triclopyr caused specific target organ toxicity in experimental animal studies in the following organ(s):  
Kidney, Liver, Gastrointestinal tract.

### Assessment mutagenicity

Triclopyr was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

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

### ACGIH

None.

### NTP

None.

### IARC

None.

### Assessment toxicity to reproduction

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

### Assessment developmental toxicity

Triclopyr caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Triclopyr are related to maternal toxicity.

### Aspiration hazard

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

### Further information

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

8/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

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.

### SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) > 122 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor.
	LC50 (Lepomis macrochirus (Bluegill sunfish)) > 120 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 43 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient aminocyclopyrachlor.
<b>Toxicity to aquatic plants</b>	EC50 (Raphidocelis subcapitata (freshwater green alga)) > 122 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient aminocyclopyrachlor.
	EC50 (Anabaena flos-aquae (cyanobacterium)) 7.4 mg/l Exposure time: 72 h The value mentioned relates to the active ingredient aminocyclopyrachlor.
<b>Biodegradability</b>	Triclopyr: Not rapidly biodegradable
<b>Koc</b>	Triclopyr: Koc: 0 - 50
<b>Bioaccumulation</b>	Triclopyr: Bioconcentration factor (BCF) 1 Does not bioaccumulate.
<b>Mobility in soil</b>	Triclopyr: Highly mobile in soils
<b>Results of PBT and vPvB assessment</b>	
<b>PBT and vPvB assessment</b>	Triclopyr: 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).
<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. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift or runoff from treated areas may adversely affect non-target plants.



# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

9/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product</b>	Dispose in accordance with all local, state/provincial and federal regulations.
<b>Contaminated packaging</b>	Consult state and local regulations regarding the proper disposal of container. 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.

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### 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. (TRICLOPYR TRIETHYLAMINE SALT SOLUTION)
<b>IATA</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TRICLOPYR TRIETHYLAMINE SALT 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
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## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

10/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

### SECTION 15: REGULATORY INFORMATION

**EPA Registration No.** 432-1582

#### US Federal Regulations

##### TSCA list

Water	7732-18-5
1,2-Propanediol	57-55-6
Triethylamine	121-44-8

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

No export notification needs to be made.

#### SARA Title III - Section 302 - Notification and Information

Not applicable.

#### SARA Title III - Section 313 - Toxic Chemical Release Reporting

Yes

Yes

#### 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

Triclopyr, triethylamine salt	57213-69-1	NJ
1,2-Propanediol	57-55-6	MN, RI
Triethylamine	121-44-8	CA, CT, IL, MN, NJ, RI

#### Environmental

##### CERCLA

Yes

Triethylamine	121-44-8
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#### Clean Water Section 307(a)(1)

None.

#### Safe Drinking Water Act Maximum Contaminant Levels

None.

#### EPA/FIFRA Information:

This chemical is a pesticide product regulated 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:

# SAFETY DATA SHEET



## INVORA® HERBICIDE

Version 3.0 / USA  
102000031573

11/11  
Revision Date: 04/18/2024  
Print Date: 04/22/2024

**Signal word:** Danger!

**Hazard statements:** RESTRICTED USE PESTICIDE  
Corrosive - causes irreversible eye damage.  
Harmful if swallowed.

### 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 - 3      Flammability - 1      Instability - 0      Others - none

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

Health - 3\*      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: Reviewed and updated for general editorial purposes. Section 11: Toxicological Information. Section 12. Ecological information. Section 15: Regulatory information. Section 16: Other Information.

**Revision Date:** 04/18/2024

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

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