

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

### SECTION 1. IDENTIFICATION

Product name : Indoxacarb / Permethrin Formulation

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc  
Address : 126 E. Lincoln Avenue  
Rahway, New Jersey U.S.A. 07065  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
E-mail address : EHSDATASTEWARD@merck.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product  
Restrictions on use : Not applicable

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

##### Hazards for the product as supplied

Flammable liquids : Category 3  
Acute toxicity (Oral) : Category 4  
Acute toxicity (Inhalation) : Category 4  
Skin sensitization : Category 1  
Specific target organ toxicity - single exposure : Category 3  
Specific target organ toxicity - repeated exposure : Category 1 (Blood, Nervous system, Heart)

##### Other hazards

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Vapors may form explosive mixture with air.

##### GHS label elements

Hazard pictograms :   

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.  
H302 + H332 Harmful if swallowed or if inhaled.  
H317 May cause an allergic skin reaction.

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H336 May cause drowsiness or dizziness.  
H372 Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.

Precautionary Statements :

**Prevention:**

- P210 Keep away from heat, sparks, open flame and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical, ventilating and lighting equipment.
- P242 Use non-sparking tools.
- P243 Take action to prevent static discharges.
- P260 Do not breathe mist or vapors.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**

- P301 + P312 + P330 IF SWALLOWED: Call a doctor if you feel unwell. Rinse mouth.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
- P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a doctor if you feel unwell.
- P314 Get medical attention if you feel unwell.
- P333 + P313 If skin irritation or rash occurs: Get medical attention.

**Storage:**

- P403 + P235 Store in a well-ventilated place. Keep cool.
- P405 Store locked up.

**Disposal:**

- P501 Dispose of contents and container to an approved waste disposal plant.

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Permethrin (ISO)	52645-53-1*	>= 30 - <= 60	TSC
1-Methoxy-2-propanol	107-98-2*	>= 30 - <= 60	TSC

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
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Indoxacarb (ISO)	173584-44-6*	>= 10 - <= 30	TSC
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\* Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

### SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed or if inhaled.  
May cause an allergic skin reaction.  
May cause drowsiness or dizziness.  
Causes damage to organs through prolonged or repeated exposure.  
This product contains a pyrethroid.  
Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.  
No information available.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

### SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 06/17/2025
10.1	12/06/2025	27903-00028	Date of first issue: 11/04/2014

- Vapors may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
Chlorine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
- Environmental precautions : Avoid release to the environment.  
Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g., by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.  
Soak up with inert absorbent material.  
Suppress (knock down) gases/vapors/mists with a water spray jet.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE

# SAFETY DATA SHEET

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## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
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- Local/Total ventilation : CONTROLS/PERSONAL PROTECTION section.  
: If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.
- Advice on safe handling : Do not get on skin or clothing.  
: Do not breathe mist or vapors.  
Do not swallow.  
Avoid contact with eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Non-sparking tools should be used.  
Keep container tightly closed.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
: Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Keep away from heat and sources of ignition.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Flammable solids  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures which in contact with water emit flammable gases  
Explosives  
Gases  
Very acutely toxic substances and mixtures

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Permethrin (ISO)	52645-53-1	TWA	80 µg/m <sup>3</sup> (OEB 3)	Internal
		Wipe limit	800 µg/100 cm <sup>2</sup>	Internal
1-Methoxy-2-propanol	107-98-2	TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
		ST	150 ppm	NIOSH REL

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

			540 mg/m <sup>3</sup>	
		TWA	100 ppm 360 mg/m <sup>3</sup>	NIOSH REL
Indoxacarb (ISO)	173584-44-6	TWA	50 µg/m <sup>3</sup> (OEB 3)	Internal
	Further information: DSEN			
		Wipe limit	100 µg/100 cm <sup>2</sup>	Internal

**Engineering measures** : Minimize workplace exposure concentrations.  
If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.

### Personal protective equipment

**Respiratory protection** : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

### Hand protection

**Material** : Chemical-resistant gloves

**Remarks** : Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

**Eye protection** : Wear the following personal protective equipment:  
Safety glasses

**Skin and body protection** : Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.  
Wear the following personal protective equipment:  
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing.  
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

**Hygiene measures** : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 06/17/2025
10.1	12/06/2025	27903-00028	Date of first issue: 11/04/2014

When using do not eat, drink or smoke.  
Contaminated work clothing should not be allowed out of the workplace.  
Wash contaminated clothing before re-use.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	Clear white to yellow.
Odor	:	ether-like
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	92.3 °F / 33.5 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.096
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available

# SAFETY DATA SHEET

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10.1	12/06/2025	27903-00028	Date of first issue: 11/04/2014

---

Viscosity  
Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle characteristics  
Particle size : Not applicable

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### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Flammable liquid and vapor.  
Vapors may form explosive mixture with air.  
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.

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### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Harmful if swallowed or if inhaled.

#### **Product:**

Acute oral toxicity : Acute toxicity estimate: 572.63 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 11 mg/l  
Exposure time: 4 h  
Test atmosphere: vapor  
Method: Calculation method

#### **Components:**

##### **Permethrin (ISO):**

Acute oral toxicity : LD50 (Rat): 480 - 554 mg/kg

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

Acute inhalation toxicity : LC50 (Rat): 2.3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

### **1-Methoxy-2-propanol:**

Acute oral toxicity : LD50 (Rat): 4,016 mg/kg

Acute inhalation toxicity : LC50 (Mouse): < 22.2 mg/l  
Exposure time: 6 h  
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

### **Indoxacarb (ISO):**

Acute oral toxicity : LD50 (Rat, female): 179 mg/kg  
Symptoms: Loss of reflexes, Breathing difficulties, Tremors

LD50 (Rat, male): 843 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 4.2 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

### **Skin corrosion/irritation**

Not classified based on available information.

### **Components:**

#### **Permethrin (ISO):**

Species : Rabbit  
Result : No skin irritation

#### **1-Methoxy-2-propanol:**

Species : Rabbit  
Result : No skin irritation

#### **Indoxacarb (ISO):**

Result : No skin irritation

### **Serious eye damage/eye irritation**

Not classified based on available information.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

### Components:

#### **Permethrin (ISO):**

Species : Rabbit  
Result : No eye irritation

#### **1-Methoxy-2-propanol:**

Species : Rabbit  
Result : No eye irritation

#### **Indoxacarb (ISO):**

Result : No eye irritation

### **Respiratory or skin sensitization**

#### **Skin sensitization**

May cause an allergic skin reaction.

#### **Respiratory sensitization**

Not classified based on available information.

### Components:

#### **Permethrin (ISO):**

Test Type : Buehler Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : positive

Assessment : Probability or evidence of skin sensitization in humans

#### **1-Methoxy-2-propanol:**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Result : negative

#### **Indoxacarb (ISO):**

Test Type : Maximization Test  
Species : Guinea pig  
Result : positive

### **Germ cell mutagenicity**

Not classified based on available information.

### Components:

#### **Permethrin (ISO):**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

- Test Type: In vitro mammalian cell gene mutation test  
Result: negative
- Test Type: Chromosome aberration test in vitro  
Result: negative
- Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: negative
- Test Type: Chromosome aberration test in vitro  
Result: positive
- Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Result: negative
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Result: negative
- Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Result: negative
- Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Intraperitoneal injection  
Result: negative
- Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Ingestion  
Result: positive
- Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.
- 1-Methoxy-2-propanol:**  
Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative
- Test Type: Chromosome aberration test in vitro  
Result: negative
- Test Type: In vitro mammalian cell gene mutation test  
Result: negative
- Test Type: In vitro sister chromatid exchange assay in mam-

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

malian cells  
Result: equivocal

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Method: OECD Test Guideline 482  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

### Indoxacarb (ISO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: Chromosomal aberration  
Test system: mammalian cells  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Cell type: Bone marrow  
Result: negative

### Carcinogenicity

Not classified based on available information.

### Components:

#### Permethrin (ISO):

Species : Rat  
Result : negative

Species : Mouse  
Result : negative

#### 1-Methoxy-2-propanol:

Species : Rat  
Application Route : inhalation (vapor)  
Exposure time : 2 Years  
Method : OECD Test Guideline 453  
Result : negative

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

### Indoxacarb (ISO):

Species : Rat, male and female  
Application Route : oral (feed)  
Exposure time : 2 Years  
Frequency of Treatment : daily  
Result : negative

Species : Mouse, male and female  
Application Route : oral (feed)  
Exposure time : 18 Months  
Frequency of Treatment : daily  
Result : negative

**IARC** No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**OSHA** No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

### Reproductive toxicity

Not classified based on available information.

### Components:

#### Permethrin (ISO):

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Result: negative

#### 1-Methoxy-2-propanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: inhalation (vapor)  
Method: OECD Test Guideline 416  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: inhalation (vapor)  
Result: negative

### Indoxacarb (ISO):

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

- Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
General Toxicity F1: NOAEL: 1.3 mg/kg body weight  
Result: negative
- Test Type: Two-generation study  
Species: Rat  
Application Route: Oral  
General Toxicity Parent: NOAEL: 1.3 mg/kg body weight  
General Toxicity F1: NOAEL: > 6.7 mg/kg body weight  
Result: Embryotoxic effects and adverse effects on the offspring were detected.
- Effects on fetal development : Test Type: Development  
Species: Rat  
Developmental Toxicity: NOAEL: 2 mg/kg body weight  
Result: No teratogenic effects.
- Test Type: Development  
Species: Rabbit  
Application Route: Oral  
Developmental Toxicity: NOAEL: 500 mg/kg body weight  
Result: No adverse effects.
- Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: NOAEL: 10 mg/kg body weight
- Test Type: Development  
Species: Rat  
Application Route: Oral  
Developmental Toxicity: LOAEL: 100 mg/kg body weight

### STOT-single exposure

May cause drowsiness or dizziness.

#### Components:

##### 1-Methoxy-2-propanol:

Assessment : May cause drowsiness or dizziness.

### STOT-repeated exposure

Causes damage to organs (Blood, Nervous system, Heart) through prolonged or repeated exposure.

#### Components:

##### Indoxacarb (ISO):

Target Organs : Blood, Nervous system, Heart  
Assessment : Causes damage to organs through prolonged or repeated exposure.

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

### Repeated dose toxicity

#### Components:

##### **Permethrin (ISO):**

Species : Rat  
NOAEL : 0.2201 mg/l  
Application Route : Inhalation  
Exposure time : 90 Days

Species : Rat  
NOAEL : 175 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

##### **1-Methoxy-2-propanol:**

Species : Rat  
NOAEL : 919 mg/kg  
Application Route : Ingestion  
Exposure time : 35 Days

Species : Rat  
NOAEL : 1.1 mg/l  
Application Route : inhalation (vapor)  
Exposure time : 2 y  
Method : OECD Test Guideline 453

Species : Rabbit  
NOAEL : 1,838 mg/kg  
Application Route : Skin contact  
Exposure time : 90 Days

##### **Indoxacarb (ISO):**

Species : Rat, male and female  
NOAEL : 1.7 mg/kg  
LOAEL : 4.1 mg/kg  
Application Route : Oral  
Exposure time : 90 d  
Target Organs : Blood, Central nervous system

Species : Rat, male and female  
NOAEL : 50 mg/kg  
LOAEL : 500 mg/kg  
Application Route : Dermal  
Exposure time : 28 d  
Target Organs : Blood

Species : Rat  
NOAEL : 4.6 mg/m<sup>3</sup>  
LOAEL : 23 mg/m<sup>3</sup>  
Application Route : Inhalation

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

Exposure time : 4 Weeks  
Target Organs : Blood, Lungs

Species : Rat, male and female  
NOAEL : 1 mg/kg  
LOAEL : 2 mg/kg  
Application Route : Oral  
Exposure time : 1 y  
Target Organs : Blood

Species : Dog  
NOAEL : 1 mg/kg  
LOAEL : 2 mg/kg  
Application Route : Oral  
Exposure time : 1 y  
Target Organs : Blood

Species : Mouse  
NOAEL : 3 mg/kg  
LOAEL : 14 mg/kg  
Application Route : oral (feed)  
Exposure time : 18 Months  
Target Organs : Nervous system, Heart

### Aspiration toxicity

Not classified based on available information.

### Experience with human exposure

#### Components:

#### **Indoxacarb (ISO):**

General Information : No human information is available.

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **Permethrin (ISO):**

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00079 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 0.0001 mg/l  
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13  
plants mg/l  
Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023  
mg/l  
Exposure time: 72 h

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

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Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.00041 mg/l  
Exposure time: 35 d  
Method: OECD Test Guideline 210

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.0047 µg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 1,000 mg/l  
Exposure time: 3 h

### 1-Methoxy-2-propanol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 6,812 mg/l  
Exposure time: 96 h  
Method: DIN 38412

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 23,300 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Skeletonema costatum (marine diatom)): 6,745 mg/l  
Exposure time: 72 h  
Method: ISO 10253

Toxicity to microorganisms : IC50: > 1,000 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

### Indoxacarb (ISO):

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.9 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.6 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.6 mg/l  
Exposure time: 72 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.46 mg/l  
Exposure time: 72 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.09 mg/l  
Exposure time: 21 d

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

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### Persistence and degradability

#### Components:

##### **Permethrin (ISO):**

Biodegradability : Result: Not readily biodegradable.  
Method: OECD Test Guideline 301F

##### **1-Methoxy-2-propanol:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 96 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301E

### Bioaccumulative potential

#### Components:

##### **Permethrin (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 570

Partition coefficient: n-octanol/water : log Pow: 4.67

##### **1-Methoxy-2-propanol:**

Partition coefficient: n-octanol/water : log Pow: < 1

##### **Indoxacarb (ISO):**

Partition coefficient: n-octanol/water : log Pow: 4.65

### Mobility in soil

#### Components:

##### **Permethrin (ISO):**

Distribution among environmental compartments : log Koc: 4.43

##### **Indoxacarb (ISO):**

Distribution among environmental compartments : log Koc: 3.9

### Other adverse effects

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of in accordance with local regulations.  
Do not dispose of waste into sewer.  
Contaminated packaging : Empty containers should be taken to an approved waste

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# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

---

handling site for recycling or disposal.  
Empty containers retain residue and can be dangerous.  
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.  
If not otherwise specified: Dispose of as unused product.

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### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 3092  
Proper shipping name : 1-METHOXY-2-PROPANOL SOLUTION  
Class : 3  
Packing group : III  
Labels : 3  
Environmentally hazardous : no

##### IATA-DGR

UN/ID No. : UN 3092  
Proper shipping name : 1-Methoxy-2-propanol solution  
Class : 3  
Packing group : III  
Labels : Flammable Liquids  
Packing instruction (cargo aircraft) : 366  
Packing instruction (passenger aircraft) : 355

##### IMDG-Code

UN number : UN 3092  
Proper shipping name : 1-METHOXY-2-PROPANOL SOLUTION  
(Permethrin (ISO), Indoxacarb (ISO))  
Class : 3  
Packing group : III  
Labels : 3  
EmS Code : F-E, S-D  
Marine pollutant : yes

#### Transport in bulk according to IMO instruments

Not applicable for product as supplied.

#### Domestic regulation

##### 49 CFR

UN/ID/NA number : UN 3092  
Proper shipping name : 1-Methoxy-2-propanol SOLUTION  
Class : 3  
Packing group : III  
Labels : FLAMMABLE LIQUID  
ERG Code : 129  
Marine pollutant : yes(Permethrin (ISO), Indoxacarb (ISO))

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version 10.1      Revision Date: 12/06/2025      SDS Number: 27903-00028      Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

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### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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## SECTION 15. REGULATORY INFORMATION

### CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Respiratory or skin sensitization  
Specific target organ toxicity (single or repeated exposure)

**SARA 313** : The following components are subject to reporting levels established by SARA Title III, Section 313:

Permethrin (ISO) 52645-53-1      >= 30 - < 50 %

### US State Regulations

#### Pennsylvania Right To Know

Permethrin (ISO)	52645-53-1
1-Methoxy-2-propanol	107-98-2
Indoxacarb (ISO)	173584-44-6

#### California List of Hazardous Substances

1-Methoxy-2-propanol	107-98-2
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#### California Permissible Exposure Limits for Chemical Contaminants

1-Methoxy-2-propanol	107-98-2
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### The ingredients of this product are reported in the following inventories:

AICS : not determined

CA. DSL : not determined

IECSC : not determined

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## SECTION 16. OTHER INFORMATION

### Further information

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

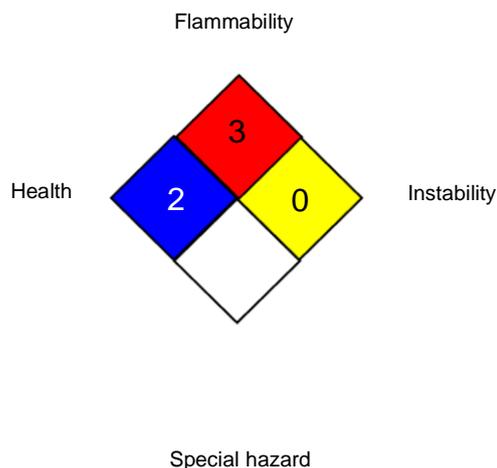
Version  
10.1

Revision Date:  
12/06/2025

SDS Number:  
27903-00028

Date of last issue: 06/17/2025  
Date of first issue: 11/04/2014

### NFPA 704:



### HMIS® IV:

HEALTH	*	3
FLAMMABILITY		3
PHYSICAL HAZARD		0

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

### Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardization; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organization for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic sub-

# SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



## Indoxacarb / Permethrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 06/17/2025
10.1	12/06/2025	27903-00028	Date of first issue: 11/04/2014

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stance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 12/06/2025

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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