

# SAFETY DATA SHEET

## Steward® EC Insecticide



Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2024/04/01	50000122	Date of first issue: 2024/04/01

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Steward® EC Insecticide

#### Manufacturer or supplier's details

Company : FMC Agro (Cambodia) Co., Ltd.

Address : Level 6, Phnom Penh Tower,  
445 Monivong Boulevard, Khwaeng  
Sangkat [...], Khan [...], Phnom Penh  
Cambodia

E-mail address : SDS-Info@fmc.com

Emergency telephone : For leak, fire, spill or accident emergencies, call:  
1 703 / 741-5970 (CHEMTREC - International)  
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:  
All other countries: +1 651 / 632-6793 (Collect)

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

Recommended use : Insecticide

Restrictions on use : Use as recommended by the label.

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### 2. HAZARDS IDENTIFICATION

#### GHS Classification

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Category 3

Skin sensitization : Category 1

Specific target organ toxicity - : Category 2 (Central nervous system)  
single exposure

Specific target organ toxicity - : Category 1 (Blood, Nervous system)  
repeated exposure

Short-term (acute) aquatic : Category 2  
hazard

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Long-term (chronic) aquatic hazard : Category 2

### GHS label elements

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H227 Combustible liquid.  
H302 Harmful if swallowed.  
H316 Causes mild skin irritation.  
H317 May cause an allergic skin reaction.  
H371 May cause damage to organs (Central nervous system).  
H372 Causes damage to organs (Blood, Nervous system) through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements :

**Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P260 Do not breathe mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of water and soap.  
P309 + P311 IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician.  
P314 Get medical advice/ attention if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P391 Collect spillage.

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

**Disposal:**  
P501 Dispose of contents/ container to an approved waste disposal plant.

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### Other hazards which do not result in classification

None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
indoxacarb (ISO)	173584-44-6	15.84
Fatty acids, C8-10, Me esters	85566-26-3	>= 50 -< 70
Fatty acids, soya, Me esters	68919-53-9	>= 1 -< 10
calcium dodecylbenzenesulphonate	26264-06-2	>= 3 -< 10
2-ethylhexan-1-ol	104-76-7	>= 1 -< 2.5

### 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : Move to fresh air.  
If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Take off all contaminated clothing immediately.  
Wash off with soap and water.  
If symptoms persist, call a physician.  
Wash contaminated clothing before re-use.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.  
Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Exposure may result in loss of coordination and tremors.  
Harmful if swallowed.  
Causes skin irritation.  
May cause damage to organs.  
May cause damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : First Aid responders should pay attention to self-protection and use the recommended protective clothing

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Avoid inhalation, ingestion and contact with skin and eyes.  
If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician : Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical  
Water spray  
Carbon dioxide (CO<sub>2</sub>)  
Foam
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Fire may produce irritating, corrosive and/or toxic gases.  
Chlorinated compounds  
Fluorinated compounds  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides  
Hydrogen cyanide  
Hydrogen chloride  
Hydrogen fluoride  
Sulfur oxides
- Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.  
Use a water spray to cool fully closed containers.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Firefighters should wear protective clothing and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Evacuate personnel to safe areas.  
Do not touch or walk through the spilled material.  
If it can be safely done, stop the leak.  
Use personal protective equipment.  
Never return spills in original containers for re-use.  
Mark the contaminated area with signs and prevent access to unauthorized personnel.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
For disposal considerations see section 13.

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|---|---|
| Environmental precautions                             | : Prevent product from entering drains.<br>Prevent further leakage or spillage if safe to do so.<br>If the product contaminates rivers and lakes or drains inform respective authorities.   |
| Methods and materials for containment and cleaning up | : Never return spills in original containers for re-use.<br>Collect as much of the spill as possible with a suitable absorbent material.<br>Pick up and transfer to properly labeled containers.<br>Keep in suitable, closed containers for disposal. |

### 7. HANDLING AND STORAGE

- |   |   |
|---|---|
| Advice on protection against fire and explosion | : Do not spray on a naked flame or any incandescent material.<br>Keep away from open flames, hot surfaces and sources of ignition.  |
| Advice on safe handling                         | : Avoid formation of aerosol.<br>Do not breathe vapors/dust.<br>Avoid exposure - obtain special instructions before use.<br>Avoid contact with skin and eyes.<br>For personal protection see section 8.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Dispose of rinse water in accordance with local and national regulations. |
| Conditions for safe storage                     | : Keep tightly closed in a dry, cool and well-ventilated place.<br>Observe label precautions.<br>Keep container closed when not in use.<br>Keep locked up or in an area accessible only to qualified or authorized persons.<br>Keep in properly labeled containers.<br>No smoking.<br>Electrical installations / working materials must comply with the technological safety standards.   |
| Recommended storage temperature                 | : > 0 °C  |
| Further information on storage stability        | : Do not freeze.  |

No decomposition if stored and applied as directed.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

#### Personal protective equipment

- |                        |   |
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| Respiratory protection | : In case of mist, spray or aerosol exposure wear suitable per- |
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sonal respiratory protection and protective suit.

### Hand protection

#### Material

: Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

#### Remarks

: The suitability for a specific workplace should be discussed with the producers of the protective gloves.

### Eye protection

: Eye wash bottle with pure water  
Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

### Skin and body protection

: Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

### Protective measures

: Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions.  
Wear suitable protective equipment.  
When using do not eat, drink or smoke.  
In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

### Hygiene measures

: Avoid contact with skin, eyes and clothing.  
Do not inhale aerosol.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical state

: liquid

### Color

: amber

### Odor

: faint burn smell

### Odor Threshold

: No data available

### pH

: 6.6 (20 - 25 °C)  
Concentration: 10 g/l 1 %

### Melting point/range

: No data available

### Boiling point/boiling range

: No data available

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Flash point	: 69 °C
Evaporation rate	: No data available
Flammability (liquids)	: Not highly flammable, ignitable
Self-ignition	: 255 °C
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	: No data available
Density	: No data available
Solubility(ies) Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Viscosity Viscosity, dynamic	: 5.6 mPa.s ( 25 °C)
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: Non-oxidizing
Molecular weight	: Not applicable

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### 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: Vapors may form explosive mixture with air. No decomposition if stored and applied as directed.
Conditions to avoid	: Heat, flames and sparks.

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Incompatible materials	: Strong oxidizing agents Strong acids and strong bases
Hazardous decomposition products	: Stable under recommended storage conditions.

### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : Inhalation  
Skin contact

#### Acute toxicity

##### Product:

Acute oral toxicity	: LD50 (Rat, female): 977 mg/kg Method: OECD Test Guideline 425 Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	: LC50 (Rat): > 5.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 GLP: yes Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 402 GLP: yes

##### Components:

##### **indoxacarb (ISO):**

Acute oral toxicity	: LD50 (Rat, male and female): 281 - 291 mg/kg Method: OECD Test Guideline 420 Symptoms: ataxia, Tremors, Diarrhea, clonic convulsions GLP: yes  LD50 (Rat, female): 179 mg/kg Method: OECD Test Guideline 401 Target Organs: Nervous system Symptoms: hypoactivity, Tremors, ataxia, Fatality GLP: yes
Acute inhalation toxicity	: LC50 (Rat, female): 4.2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: nasal discharge, lethargy GLP: yes
Acute dermal toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 402



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GLP: yes  
Assessment: The substance or mixture has no acute dermal toxicity

### Fatty acids, C8-10, Me esters:

Acute oral toxicity : LD50 (Rat, male and female): > 2,000 mg/kg  
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)  
Assessment: The substance or mixture has no acute oral toxicity  
Remarks: no mortality  
Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: OECD Test Guideline 436  
Assessment: The substance or mixture has no acute inhalation toxicity  
Remarks: no mortality  
Based on data from similar materials

### Fatty acids, soya, Me esters:

Acute oral toxicity : LD50 (Rat): 5,000 - 15,000 mg/kg

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

### calcium dodecylbenzenesulphonate:

Acute oral toxicity : LD50 (Rat, male and female): 1,300 mg/kg  
Remarks: Based on data from similar materials

Acute inhalation toxicity : Remarks: Not classified

Acute dermal toxicity : LD50 (Rat, male and female): > 2000 milligram per kilogram  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity  
Remarks: Based on data from similar materials

### 2-ethylhexan-1-ol:

Acute oral toxicity : LD50 (Rat, male): 2,047 mg/kg

Acute inhalation toxicity : LC50 (Rat): 4.3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male and female): > 3,000 mg/kg  
Method: OECD Test Guideline 402  
Assessment: The substance or mixture has no acute dermal toxicity

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### Skin corrosion/irritation

#### Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation
Remarks	:	May cause skin irritation and/or dermatitis.

#### Components:

##### indoxacarb (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	slight irritation
GLP	:	yes

##### Fatty acids, C8-10, Me esters:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation

##### Fatty acids, soya, Me esters:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

##### calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

##### 2-ethylhexan-1-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

### Serious eye damage/eye irritation

#### Product:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
GLP	:	yes
Remarks	:	Vapors may cause irritation to the eyes, respiratory system and the skin.

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### Components:

#### **indoxacarb (ISO):**

Species	:	Rabbit
Result	:	slight irritation
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
GLP	:	yes
Remarks	:	Product dust may be irritating to eyes, skin and respiratory system.

#### **Fatty acids, C8-10, Me esters:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	Regulation (EC) No. 440/2008, Annex, B.5

#### **Fatty acids, soya, Me esters:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

#### **calcium dodecylbenzenesulphonate:**

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405

#### **2-ethylhexan-1-ol:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

### **Respiratory or skin sensitization**

#### **Product:**

Species	:	Guinea pig
Result	:	Did not cause sensitization on laboratory animals.

### **Components:**

#### **indoxacarb (ISO):**

Species	:	Guinea pig
Result	:	May cause sensitization by skin contact.

Test Type	:	Maximization Test
Species	:	Guinea pig
Assessment	:	May cause sensitization by skin contact.

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Method	:	US EPA Test Guideline OPPTS 870.2600
Result	:	May cause sensitization by skin contact.
GLP	:	yes

### Fatty acids, C8-10, Me esters:

Test Type	:	Maximization Test
Routes of exposure	:	Intradermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

### Fatty acids, soya, Me esters:

Result	:	Does not cause skin sensitization.
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### calcium dodecylbenzenesulphonate:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

### Germ cell mutagenicity

#### Product:

Germ cell mutagenicity - Assessment	:	Test on bacterial cultures did not show mutagenic effects., Animal testing did not show any mutagenic effects.
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#### Components:

#### indoxacarb (ISO):

Genotoxicity in vitro	:	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative  Test Type: gene mutation test Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity - Assessment	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Fatty acids, C8-10, Me esters:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro
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Test system: Human lymphocytes  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Test system: mouse lymphoma cells  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Ames test  
Method: OECD Test Guideline 471  
Result: negative

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

**calcium dodecylbenzenesulphonate:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay  
Species: Rat (male and female)  
Application Route: Oral  
Exposure time: 90 d  
Result: negative  
Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

**2-ethylhexan-1-ol:**

Genotoxicity in vitro : Test Type: reverse mutation assay  
Method: OECD Test Guideline 471  
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

**Carcinogenicity****Product:**

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

**Components:****indoxacarb (ISO):**

Species : Rat, female

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Application Route : Oral  
Exposure time : 24 m  
Result : 2.13 mg/kg bw/day  
Result : negative

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

### Fatty acids, soya, Me esters:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### calcium dodecylbenzenesulphonate:

Species : Rat, male and female  
Application Route : Oral  
Exposure time : 720 d  
NOAEL : 250 mg/kg body weight  
Result : negative  
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

### 2-ethylhexan-1-ol:

Species : Rat  
Application Route : Oral  
Exposure time : 24 month(s)  
Result : negative

### Reproductive toxicity

#### Product:

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

#### Components:

#### indoxacarb (ISO):

Effects on fertility : Test Type: Two-generation study  
Species: Rat  
Result: Animal testing did not show any effects on fertility.

Effects on fetal development : Species: Rabbit  
General Toxicity Maternal: NOEL: 500 mg/kg bw/day  
Developmental Toxicity: NOEL: 500 mg/kg bw/day  
Method: EPA OPP 83-3

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.  
Animal testing did not show any effects on fetal development.

### Fatty acids, C8-10, Me esters:

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Effects on fertility : Species: Rat  
Application Route: Oral  
Dose: 0, 250, 500 and 1000 mg/kg bw  
General Toxicity Parent: NOAEL: 1,000 mg/kg body weight  
Method: OECD Test Guideline 422  
Remarks: Based on data from similar materials  
No significant adverse effects were reported

Effects on fetal development : Species: Rat  
Application Route: Oral  
Teratogenicity: NOAEL: 1,000 mg/kg body weight  
Method: OECD Test Guideline 422  
Remarks: Based on data from similar materials  
No significant adverse effects were reported

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### **calcium dodecylbenzenesulphonate:**

Effects on fertility : Test Type: Fertility/early embryonic development  
Species: Rat, male and female  
Application Route: Ingestion  
General Toxicity Parent: NOAEL: 400 mg/kg body weight  
Method: OECD Test Guideline 422  
Result: negative

Effects on fetal development : Test Type: reproductive and developmental toxicity study  
Species: Rat  
Application Route: Ingestion  
General Toxicity Maternal: NOAEL: 300 mg/kg body weight  
Developmental Toxicity: NOAEL: 600 mg/kg body weight  
Method: OECD Test Guideline 422  
Result: negative

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

### **2-ethylhexan-1-ol:**

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Mouse  
Application Route: Oral  
Method: OECD Test Guideline 414  
Result: negative

### **STOT-single exposure**

#### **Components:**

#### **indoxacarb (ISO):**

Target Organs : Central nervous system  
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 2.

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### 2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

### STOT-repeated exposure

#### Components:

#### indoxacarb (ISO):

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

#### Fatty acids, C8-10, Me esters:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

#### indoxacarb (ISO):

Species : Rat, female  
NOAEL : 1.7 mg/kg  
LOAEL : 4.1 mg/kg  
Application Route : Oral  
Exposure time : 90 d  
Method : OECD Test Guideline 408  
GLP : yes  
Target Organs : Blood

#### Fatty acids, C8-10, Me esters:

Species : Rat  
NOAEL : 1,000 mg/kg  
Application Route : Oral  
Dose : 0, 250, 500 and 1000 mg/kg bw/  
Method : OECD Test Guideline 422  
Remarks : Based on data from similar materials  
No significant adverse effects were reported

#### calcium dodecylbenzenesulphonate:

Species : Rat, male and female  
NOAEL : 85 mg/kg  
LOAEL : 145 mg/kg  
Application Route : Oral  
Exposure time : 9 Months  
Remarks : Based on data from similar materials

Species : Rat, male  
LOAEL : 286 mg/kg  
Application Route : Skin contact  
Exposure time : 15 Days  
Remarks : Based on data from similar materials



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Species	: Rat, male and female
NOAEL	: 100 mg/kg bw/day
LOAEL	: 200 mg/kg bw/day
Application Route	: Oral - gavage
Exposure time	: 28 - 54 Days
Method	: OECD Test Guideline 422
Remarks	: Based on data from similar materials

### 2-ethylhexan-1-ol:

Species	: Rat
	: 250 mg/kg
Application Route	: Oral
Exposure time	: 13 Weeks
Method	: OECD Test Guideline 408

### Aspiration toxicity

#### Product:

No aspiration toxicity classification

### Further information

#### Product:

Remarks	: No data available
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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 7.0 mg/l Exposure time: 96 h Test Type: static test Method: OECD Test Guideline 203 GLP: yes
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Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 1.67 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes
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Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): > 16 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 GLP: yes
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### Components:

#### **indoxacarb (ISO):**

- |  |  |
|--|--|
| Toxicity to fish   | : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.65 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Method: OECD Test Guideline 203<br>GLP: yes<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.17 mg/l<br>Exposure time: 96 h<br>Test Type: flow-through test<br>Method: OECD Test Guideline 203<br>GLP: yes |
| Toxicity to daphnia and other aquatic invertebrates                    | : EC50 (Daphnia magna (Water flea)): 0.6 mg/l<br>Exposure time: 48 h<br><br>EC50 (Daphnia magna (Water flea)): > 0.17 mg/l<br>Exposure time: 48 h<br>Test Type: flow-through test<br>Method: OECD Test Guideline 202<br>GLP: yes   |
| Toxicity to algae/aquatic plants                                       | : NOEC (Pseudokirchneriella subcapitata (algae)): 0.0793 mg/l<br>Exposure time: 72 h<br>Test Type: Growth inhibition<br>Method: OECD Test Guideline 201<br>GLP: yes  |
| Toxicity to fish (Chronic toxicity)                                    | : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.15 mg/l<br>Exposure time: 90 d<br>Test Type: Early Life-Stage<br>Method: OECD Test Guideline 210<br>GLP: yes<br><br>NOEC (Pimephales promelas (fathead minnow)): 0.0675 mg/l<br>Exposure time: 28 d<br>Test Type: Early Life-Stage<br>Method: OECD Test Guideline 210<br>GLP: yes  |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC (Daphnia magna (Water flea)): 0.09 mg/l<br>Exposure time: 21 d<br>Method: OECD Test Guideline 202<br>GLP: yes<br><br>NOEC (Daphnia magna (Water flea)): 0.0351 mg/l<br>Exposure time: 21 d<br>Test Type: Static renewal test<br>Method: OECD Test Guideline 211<br>GLP: yes   |
| Toxicity to soil dwelling organisms                                    | : LC50 (Eisenia fetida (earthworms)): > 1,250 mg/kg<br>Exposure time: 14 d   |

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Method: OECD Test Guideline 207  
GLP: yes

Method: OECD Test Guideline 216  
Remarks: No significant adverse effect on Nitrogen mineralization.

Method: OECD Test Guideline 217  
Remarks: No significant adverse effect on Carbon mineralization.

Toxicity to terrestrial organisms : LD50 (Apis mellifera (bees)): 0.232 µg/bee  
Exposure time: 48 d  
End point: Acute oral toxicity  
Method: OECD Test Guideline 213

LD50 (Apis mellifera (bees)): 0.068 µg/bee  
Exposure time: 48 d  
End point: Acute contact toxicity  
Method: OECD Test Guideline 214

LD50 (Colinus virginianus (Bobwhite quail)): 98 mg/kg  
Method: US EPA Test Guideline OPP 71-1  
GLP: yes

NOEC (Anas platyrhynchos (Mallard duck)): 720 ppm  
Exposure time: 147 d  
End point: Reproduction Test  
Method: OECD Test Guideline 206  
GLP: yes

NOEC (Colinus virginianus (Bobwhite quail)): 144 ppm  
Exposure time: 147 d  
End point: Reproduction Test

### Fatty acids, C8-10, Me esters:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 100 mg/l  
Exposure time: 96 h  
Test Type: static test  
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.1 mg/l  
Exposure time: 48 h  
Test Type: semi-static test  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (green algae): 1.35 mg/l  
Exposure time: 96 h  
Method: QSAR  
Remarks: Based on data from similar materials

### Fatty acids, soya, Me esters:

Toxicity to fish : LC50 (Fish): > 1,000 mg/l

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Exposure time: 96 h

LC50 (Leuciscus idus (Golden orfe)): > 100 mg/l  
Exposure time: 48 h  
Method: ISO 7346/2

Toxicity to daphnia and other aquatic invertebrates : EC50 (Crustaceans): 800 - 5,243 mg/l  
Exposure time: 48 h

### calcium dodecylbenzenesulphonate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 10 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203  
Remarks: Based on data from similar materials

LC50 (Pimephales promelas (fathead minnow)): 4.6 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3.5 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202  
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): 65.4 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.65 mg/l  
Exposure time: 21 d  
Remarks: Based on data from similar materials

NOEC (Daphnia magna (Water flea)): 1.18 mg/l  
Exposure time: 21 d  
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l  
Exposure time: 3 h  
Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): 1,000 mg/kg  
Exposure time: 14 d  
Method: OECD Test Guideline 207

Toxicity to terrestrial organisms : LD50 (Colinus virginianus (Bobwhite quail)): 1,356 mg/kg  
Exposure time: 14 d  
Method: OECD Test Guideline 223

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### 2-ethylhexan-1-ol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 17.1 - 28.2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 39 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC10 (Desmodesmus subspicatus (green algae)): 3.2 mg/l Exposure time: 72 h  EC50 (Desmodesmus subspicatus (green algae)): 11.5 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50 (Anabaena flos-aquae (cyanobacterium)): 16.6 mg/l Exposure time: 72 h

### Persistence and degradability

#### Components:

#### indoxacarb (ISO):

Biodegradability	:	Result: Not readily biodegradable.
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#### Fatty acids, C8-10, Me esters:

Biodegradability	:	aerobic Inoculum: activated sludge Concentration: 7.84 mg/l Result: Readily biodegradable. Biodegradation: 77 % Exposure time: 28 d Method: OECD Test Guideline 301D
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#### Fatty acids, soya, Me esters:

Biodegradability	:	Result: Readily biodegradable.
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#### calcium dodecylbenzenesulphonate:

Biodegradability	:	Result: Readily biodegradable. Method: OECD Test Guideline 301E
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### 2-ethylhexan-1-ol:

Biodegradability	:	Result: Readily biodegradable.
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### Bioaccumulative potential

#### Product:

Bioaccumulation	:	Remarks: No data available
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### Components:

#### **indoxacarb (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
Bioconcentration factor (BCF): 77.3  
Exposure time: 21 d  
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 4.52 (20 °C)  
Method: OECD Test Guideline 107  
GLP: yes

#### **Fatty acids, soya, Me esters:**

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

#### **calcium dodecylbenzenesulphonate:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 70.79  
Method: QSAR

Partition coefficient: n-octanol/water : log Pow: 4.77 (25 °C)

#### **2-ethylhexan-1-ol:**

Partition coefficient: n-octanol/water : log Pow: 2.9 (25 °C)

### **Mobility in soil**

### Components:

#### **indoxacarb (ISO):**

Distribution among environmental compartments : Koc: 4483 ml/g, log Koc: 3.65  
Remarks: Low mobility in soil.  
  
Kd: 46 - 150

### **Other adverse effects**

### Product:

Additional ecological information : See product label for additional application instructions relating to environmental precautions.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life with long lasting effects.

## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water

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courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Do not re-use empty containers.  
Packaging that is not properly emptied must be disposed of as the unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.  
Dispose of contents/ container to an approved waste disposal plant.

### 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Indoxacarb)  
Class : 9  
Packing group : III  
Labels : 9  
Environmentally hazardous : yes

##### IATA-DGR

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(Indoxacarb)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964  
Environmentally hazardous : yes

##### IMDG-Code

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Indoxacarb)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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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.

## 15. REGULATORY INFORMATION

### Safety, health and environmental regulations/legislation specific for the substance or mixture

#### The ingredients of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.  METHYL (S)-7-CHLORO-2,3,4A,5-TETRAHYDRO-2- {(METHOXYCARBONYL)[4- (TRIFLUOROMETHOXY)PHENYL]CARBAMOYL}INDENO[1, 2-E][1,3,4]OXADIAZINE-4A-CARBOXYLATE Fatty acids, C8-10, Me esters Fatty acids, C6-10, Me esters
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

## 16. OTHER INFORMATION

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### Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -



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Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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 Organisation 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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 substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

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