

Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Indoxacarb / Permethrin Formulation

Supplier's company name, address and phone number

Company name of supplier : MSD

Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.

Menuma factory

Telephone : 048-588-8411

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION

GHS classification of chemical product

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 4

Skin sensitisation : Category 1

Specific target organ toxicity - :

single exposure

Category 3

Specific target organ toxicity - :

repeated exposure

Category 1 (Blood, Nervous system, Heart)

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 1

GHS label elements



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Hazard pictograms :









Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

H302 + H332 Harmful if swallowed or if inhaled. H317 May cause an allergic skin reaction. H336 May cause drowsiness or dizziness.

H372 Causes damage to organs (Blood, Nervous system,

Heart) through prolonged or repeated exposure. H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P260 Do not breathe mist or vapours. 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 should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

...... p.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON

CENTER/ doctor if you feel unwell. Rinse mouth.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediate-

ly all contaminated clothing. Rinse skin with water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P314 Get medical advice/ attention if you feel unwell.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

Storage:

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

P405 Store locked up.

Disposal:



Indoxacarb / Permethrin Formulation

SDS Number: Date of last issue: 2024/07/09 Version Revision Date: 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

lines of the emergency assumed

Important symptoms and out- : 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).

Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
Permethrin (ISO)	52645-53-1	43.81	3-4010
1-Methoxy-2-propanol	107-98-2	>= 40 - < 50	7-97, 2-404
Indoxacarb (ISO)	173584-44-6	>= 10 - < 20	-
, ,			

4. FIRST AID MEASURES

General advice In the case of accident or if you feel unwell, seek medical ad-

vice 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 contact, immediately flush skin with plenty of water. In case of skin contact

Remove contaminated clothing and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse. 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

In case of eye contact

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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09
12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

or organophosphate poisoning.

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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

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. Vapours may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod: :

ucts

Carbon oxides

Chlorine compounds

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances 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 firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- :

tive equipment and emer-

gency procedures

Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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 : Non-sparking tools should be used.



Indoxacarb / Permethrin Formulation

SDS Number: Date of last issue: 2024/07/09 Version Revision Date: 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Soak up with inert absorbent material. containment and cleaning up

Suppress (knock down) gases/vapours/mists with a water

spray iet.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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 deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

7. HANDLING AND STORAGE

Handling

Technical measures See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Do not get on skin or clothing. Advice on safe handling

Do not breathe mist or vapours.

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 as-

sessment

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.

Avoidance of contact

Oxidizing agents

If exposure to chemical is likely during typical use, provide eye Hygiene measures

flushing systems and safety showers close to the working

place.

When using do not eat, drink or smoke.

Contaminated work clothing should not be allowed out of the

Wash contaminated clothing before re-use.

Storage

Conditions for safe storage Keep in properly labelled containers.



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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:

Oxidizing solids Oxidizing liquids

Packaging material : Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Concentration standard / Permissible concentration	Basis
Permethrin (ISO)	52645-53-1	TWA	80 μg/m3 (OEB 3)	Internal
		Wipe limit	800 μg/100 cm ²	Internal
1-Methoxy-2-propanol	107-98-2	8h-OEL-M	50 ppm	JP ISHL OEL 577-2(2)
		TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH
Indoxacarb (ISO)	173584-44-6	TWA	50 μg/m3 (OEB 3)	Internal
	Further information: DSEN			
		Wipe limit	100 μg/100 cm2	Internal

Engineering measures : Minimize workplace exposure concentrations.

If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type Hand protection Combined particulates and organic vapour type

Material : Chemical-resistant gloves

Remarks : Choose gloves to protect hands against chemicals depending

on the concentration and quantity of the hazardous substance and 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



Indoxacarb / Permethrin Formulation

SDS Number: Date of last issue: 2024/07/09 Version Revision Date: 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

> 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.

Impermeable protective gloves

Wear the following personal protective equipment: Eye protection

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).

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid

Colour Clear white to yellow.

Odour ether-like

Odour Threshold No data available

Melting point/freezing point No data available

Boiling point, initial boiling

point and boiling range

No data available

Flammability (solid, gas) Not applicable

Flammability (liquids) No data available

Lower explosion limit and upper explosion limit / flammability limit

Upper explosion limit / Up- : No data available

per flammability limit

Lower explosion limit / Lower flammability limit No data available

Flash point 33.5 °C

Decomposition temperature No data available

pΗ No data available

Evaporation rate No data available

No data available Auto-ignition temperature



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Viscosity

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

Not applicable

Vapour pressure : No data available

Density and / or relative density

Relative density : 1.096

Density : No data available

Relative vapour density : 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

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

Flammable liquid and vapour.

Vapours 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 : No hazardous decompo

products

No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of:

exposure

Inhalation Skin contact

Ingestion Eye contact



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09
12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : Acute toxicity estimate: 609.38 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 4.48 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Components:

Permethrin (ISO):

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

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: vapour

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.



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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.

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 sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Permethrin (ISO):

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

1-Methoxy-2-propanol:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative

Indoxacarb (ISO):

Test Type : Maximisation 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

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 syn-

thesis 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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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-

malian cells Result: equivocal

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis 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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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 (vapour)

Exposure time : 2 Years

Method : OECD Test Guideline 453

Result : negative

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

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 foetal develop-

ment

: Test Type: Combined repeated dose toxicity study with the

reproduction/developmental toxicity screening test

Species: Rat

Application Route: Ingestion

Result: negative



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

1-Methoxy-2-propanol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapour) Method: OECD Test Guideline 416

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (vapour)

Result: negative

Indoxacarb (ISO):

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 off-

spring were detected.

Effects on foetal develop-

ment

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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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.

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 (vapour)

Exposure time : 2 yr

Method : OECD Test Guideline 453

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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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/m3
LOAEL : 23 mg/m3
Application Route : Inhalation
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 yr
Target Organs : Blood

Species : Dog
NOAEL : 1 mg/kg
LOAEL : 2 mg/kg
Application Route : Oral
Exposure time : 1 yr
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.



Indoxacarb / Permethrin Formulation

SDS Number: Date of last issue: 2024/07/09 Version **Revision Date:** 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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 :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.0001 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13

ma/l

Exposure time: 72 h

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023

Exposure time: 72 h

M-Factor (Acute aquatic tox-

icity)

10,000

Toxicity to fish (Chronic tox-

icity)

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 (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.0047 µg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

M-Factor (Chronic aquatic

toxicity)

10,000

EC50: > 1,000 mg/lToxicity to microorganisms

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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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

M-Factor (Acute aquatic tox- :

icity)

x- : 1

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.09 mg/l

Exposure time: 21 d

M-Factor (Chronic aquatic

toxicity)

: 1

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):



Indoxacarb / Permethrin Formulation

SDS Number: Date of last issue: 2024/07/09 Version Revision Date: 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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:

Indoxacarb (ISO):

Distribution among environ: log Koc: 3.9

mental compartments

Hazardous to the ozone layer

Not applicable

Other adverse effects

No data available

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 han-

dling 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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number UN 3092

Proper shipping name 1-METHOXY-2-PROPANOL SOLUTION

Class 3 Packing group Ш Labels 3 Environmentally hazardous no

IATA-DGR



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

UN/ID No. : UN 3092

Proper shipping name : 1-Methoxy-2-propanol solution

Class : 3

Packing group : III

Labels : Flammable Liquids

Packing instruction (cargo : 366

aircraft)

Packing instruction (passen: 355

ger aircraft)

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 Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

Refer to section 15 for specific national regulation.

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.

ERG Code : 129

15. REGULATORY INFORMATION

Related Regulations

Fire Service Law

Group 4, Type 2 petroleums, Water insoluble liquid, (1000 litre), Hazardous rank III

Chemical Substance Control Law

Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.

Industrial Safety and Health Law

Harmful Substances Prohibited from Manufacture

Not applicable

Harmful Substances Required Permission for Manufacture

Not applicable



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09
12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Substances Prevented From Impairment of Health

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

Chemical name	Concentration (%)	Remarks
m-phenoxybenzyl 3-(2,2-dichlorovinyl)-	>=40 - <50	From April 1st, 2026
2,2-dimethylcyclopropanecarboxylate		-
Propylene glycol monomethyl ether	>=40 - <50	-
Methyl (S)-7-chloro-2,3,4a,5-tetrahydro-	>=10 - <20	From April 1st, 2025
2-[methoxycarbonyl(4-		
trifluoromethoxy-		
phenyl)carbamoyl]indeno[1,2-		
e][1,3,4]oxadiazine-4a-carboxylate		

Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Chemical name	Remarks
m-phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-	From April 1st, 2026
dimethylcyclopropanecarboxylate	
Propylene glycol monomethyl ether	-
Methyl (S)-7-chloro-2,3,4a,5-tetrahydro-2-[methoxycarbonyl(4-trifluoromethoxyphenyl)carbamoyl]indeno[1,2-e][1,3,4]oxadiazine-4a-	From April 1st, 2025
carboxylate	

Skin and Eye Damage Substances for PPE Requirements (ISHL MO Art. 594-2)

Chemical name
Methyl (S)-7-chloro-2,3,4a,5-tetrahydro-2-[methoxycarbonyl(4-
trifluoromethoxyphenyl)carbamoyl]indeno[1,2-e][1,3,4]oxadiazine-4a-
carboxylate (S:R = 75:25)

Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

Ordinance on Prevention of Lead Poisoning

Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

Ordinance on Prevention of Organic Solvent Poisoning

Not applicable



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Inflammable Substance

Poisonous and Deleterious Substances Control Law

Not applicable

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

Class I Designated Chemical Substances

Chemical name	Administration number	Concentration (%)
3-Phenoxybenzyl 3-(2,2-dichlorovinyl)-	350	44
2,2-dimethylcyclopropanecarboxylate		

High Pressure Gas Safety Act

Not applicable

Explosive Control Law

Not applicable

Vessel Safety Law

Flammable liquids (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

Aviation Law

Flammable liquid (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Not classified as noxious liquid substance

Pack transportation : Classified as marine pollutant

Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

Waste Disposal and Public Cleansing Law

Specially Controlled Industrial Waste

The components of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.



Indoxacarb / Permethrin Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 2024/07/09

 12.1
 2024/09/28
 27892-00029
 Date of first issue: 2014/11/04

Further information

Sources of key data used to

compile the Safety Data

Sheet

: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

Date format : yyyy/mm/dd

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

JP ISHL OEL 577-2(2) : Concentration standard (Value set by the Minister of Health,

Labour and Welfare stipulated under the Ministerial Ordinance

Article 577-2(2))

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit

JP ISHL OEL 577-2(2) / 8h- : 8-hour Occupational Exposure Limit-Mean

OEL-M

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 -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

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



Indoxacarb / Permethrin Formulation

Version Revision Date: SDS Number: Date of last issue: 2024/07/09 12.1 2024/09/28 27892-00029 Date of first issue: 2014/11/04

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.

JP / EN