

## **Deltamethrin (5%) Formulation**

Version **Revision Date:** SDS Number: Date of last issue: 06.07.2024 28.09.2024 2333314-00021 Date of first issue: 12.12.2017 8.0

#### **SECTION 1. IDENTIFICATION**

Product identifier Deltamethrin (5%) Formulation

Manufacturer or supplier's details

MSD Company

Address Rua Coronel Bento Soares, 530

Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone 908-740-4000

1-908-423-6000 Emergency telephone

EHSDATASTEWARD@msd.com E-mail address

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 ABNT NBR 14725 Standard

Flammable liquids Category 3

Acute toxicity (Oral) Category 4

Skin irritation Category 2

Serious eye damage Category 1

Skin sensitization Category 1

Reproductive toxicity Category 2

Specific target organ toxicity - :

single exposure

Category 3

Specific target organ toxicity - :

repeated exposure (Oral)

Category 2 (Central nervous system, Immune system)

repeated exposure

(Inhalation)

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

Aspiration hazard Category 1

Short-term (acute) aquatic

hazard

Category 1



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Long-term (chronic) aquatic

hazard

: Category 1

### GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms











Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.

H302 Harmful if swallowed.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness.

H361fd Suspected of damaging fertility. Suspected of damag-

ing the unborn child.

H373 May cause damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if

swallowed.

H373 May cause damage to organs (Central nervous system)

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

**Precautionary Statements** 

### Prevention:

P201 Obtain special instructions before use.

P210 Keep away from heat, hot surfaces, sparks, open flames

and other ignition sources. No smoking. P233 Keep container tightly closed.

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 protec-

tion/ face protection.

## Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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 POISON CENTER/

doctor if you feel unwell.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON



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CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P331 Do NOT induce vomiting.

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

vice/ attention.

P391 Collect spillage.

Storage:

P405 Store locked up.

#### Other hazards which do not result in classification

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.

### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Hydrocarbons, C9, aromatics	Not Assigned	Flam. Liq., 3 Acute Tox. (Oral), 5 STOT SE, 3 Asp. Tox., 1 Aquatic Acute, 2 Aquatic Chronic, 2	>= 30 -< 50
2-Methoxy-1-methylethyl acetate	108-65-6	Flam. Liq., 3 STOT SE, 3	>= 20 -< 30
Benzenesulfonic acid, C10- 13-alkyl derivs., calcium salts	Not Assigned	Acute Tox. (Oral), 5 Skin Irrit., 2 Eye Dam., 1 Aquatic Acute, 2 Aquatic Chronic, 3	>= 5 -< 10
2-Methyl-1-propanol	78-83-1	Flam. Liq., 3 Acute Tox. (Oral), 5 Acute Tox. (Dermal), 5 Skin Irrit., 2 Eye Dam., 1 STOT SE, 3 Asp. Tox., 2	>= 5 -< 10
Deltamethrin (ISO)	52918-63-5	Acute Tox. (Oral), 3 Acute Tox. (Inhalation), 3 Eye Irrit., 2A Skin Sens., 1A Repr., 2 STOT SE, 3 STOT RE, (Oral)(Central nervous	>= 5 -< 10



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			system, Immune system), 1 STOT RE, (Inhalation)(Central nervous system), 1 Aquatic Acute, 1 Aquatic Chronic, 1	

#### **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.

Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn. Get medical attention immediately.

If swallowed, DO NOT induce vomiting.

If vomiting occurs have person lean forward.

Call a physician or poison control center immediately.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms

and effects, both acute and

delayed

May be fatal if swallowed and enters airways.

Causes skin irritation.

Harmful if swallowed.

May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.

Suspected of damaging fertility. Suspected of damaging the

unborn child.

May cause damage to organs through prolonged or repeated

exposure if swallowed.

May cause damage to organs through prolonged or repeated

exposure if inhaled.

This product contains a pyrethroid.

Pyrethroid poisoning should not be confused with carbamate

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.

## **SECTION 5. FIRE-FIGHTING MEASURES**



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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. Vapors may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Nitrogen oxides (NOx) Bromine compounds

Sulfur oxides

Metal oxides

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 fire-fighters

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

Use personal protective equipment.

### **SECTION 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 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 harriers)

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.



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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

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.

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

Do not breathe mist or vapors.

Do not swallow. Do not get in 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.

Already sensitized individuals, and those susceptible

to asthma, allergies, chronic or recurrent respiratory disease,

should consult their physician regarding working with

respiratory irritants or sensitizers.

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.

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

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

workplace.

Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

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.



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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		
2-Methyl-1-propanol	78-83-1	LT	40 ppm 115 mg/m³	BR OEL		
	Further inform	Further information: Degree of harmfulness: medium				
		TWA	50 ppm	ACGIH		
Deltamethrin (ISO)	52918-63-5	TWA	15 μg/m3 (OEB 3)	Internal		
	Further inform	Further information: DSEN, Skin				
		Wipe limit	100 μg/100 cm <sup>2</sup>	Internal		

**Engineering measures** Use appropriate engineering controls and manufacturing

technologies to control airborne concentrations (e.g., drip-

less quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to

protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of

the compound to uncontrolled areas (e.g., open-face

containment devices). Minimize open handling.

Use explosion-proof electrical, ventilating and lighting

equipment.

Personal protective equipment

If adequate local exhaust ventilation is not available or Respiratory protection

exposure assessment demonstrates exposures outside the

recommended guidelines, use respiratory protection.

Filter type Hand protection Combined particulates and organic vapor type

Material Chemical-resistant gloves



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Remarks : Consider double gloving. Take note that the product is

flammable, which may impact the selection of hand

protection.

Eye protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets,

disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state : liquid

Color : yellow

Odor : No data available

Odor Threshold : No data available

pH : 3-5

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : 45 - 51 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

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 : 0,963 - 0,967 g/cm<sup>3</sup>



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Solubility(ies)

Water solubility completely miscible

Partition coefficient: n-

octanol/water

No data available

Autoignition temperature No data available

Decomposition temperature No data available

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

#### **SECTION 10. STABILITY AND REACTIVITY**

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

Possibility of hazardous reac-

tions

Vapors may form explosive mixture with air. Can react with strong oxidizing agents.

Flammable liquid and vapor.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Oxidizing agents

Hazardous decomposition

products

No hazardous decomposition products are known.

#### **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of: Inhalation

exposure Skin contact

Ingestion Eye contact

**Acute toxicity** 

Harmful if swallowed.

**Product:** 

Acute oral toxicity Acute toxicity estimate: 1.108 mg/kg

Method: Calculation method

Acute inhalation toxicity Acute toxicity estimate: > 10 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method



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Acute dermal toxicity : Acute toxicity estimate: > 5.000 mg/kg

Method: Calculation method

## **Components:**

Hydrocarbons, C9, aromatics:

Acute oral toxicity : LD50 (Rat, female): 3.492 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6,193 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3.160 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

2-Methoxy-1-methylethyl acetate:

Acute oral toxicity : LD50 (Rat, female): 5.155 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 9,34 mg/l

Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Assessment: The substance or mixture has no acute dermal

toxicity

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Acute oral toxicity : LD50 (Rat): 4.445 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Method: OECD Test Guideline 402

Remarks: Based on data from similar materials

2-Methyl-1-propanol:

Acute oral toxicity : LD50 (Rat, female): 3.350 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 18,18 mg/l

Exposure time: 6 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rabbit, female): 2.460 mg/kg

Method: OECD Test Guideline 402

Deltamethrin (ISO):

Acute oral toxicity : LD50 (Rat): 66,7 mg/kg

LD50 (Rat): 9 - 139 mg/kg



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LD50 (Mouse): 19 - 34 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,8 mg/l

Exposure time: 2 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 2.000 mg/kg

LD50 (Rat): > 800 mg/kg

Acute toxicity (other routes of :

administration)

LD50 (Rat): 2,5 mg/kg

Application Route: Intravenous

LD50 (Mouse): 10 mg/kg

Application Route: Intraperitoneal

### Skin corrosion/irritation

Causes skin irritation.

### **Components:**

### Hydrocarbons, C9, aromatics:

Assessment : Repeated exposure may cause skin dryness or cracking.

## 2-Methoxy-1-methylethyl acetate:

Species : Rabbit

Result : No skin irritation

## Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

## 2-Methyl-1-propanol:

Species : Rabbit

Method : OECD Test Guideline 404

Result : Skin irritation

## Deltamethrin (ISO):

Species : Rabbit

Result : No skin irritation

### Serious eye damage/eye irritation

Causes serious eye damage.

#### **Components:**

### Hydrocarbons, C9, aromatics:

Species : Rabbit

Result : No eye irritation



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### 2-Methoxy-1-methylethyl acetate:

Species : Rabbit

Result : No eye irritation

## Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Species : Rabbit

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

2-Methyl-1-propanol:

Species : Rabbit

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

Deltamethrin (ISO):

Species : Rabbit

Result : Moderate eye irritation

### Respiratory or skin sensitization

#### Skin sensitization

May cause an allergic skin reaction.

### Respiratory sensitization

Not classified based on available information.

#### **Components:**

#### Hydrocarbons, C9, aromatics:

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

Method : OECD Test Guideline 406

Result : negative

### 2-Methoxy-1-methylethyl acetate:

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

Method : OECD Test Guideline 406

Result : negative

### Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Test Type : Magnusson-Kligman-Test

Routes of exposure : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Remarks : Based on data from similar materials



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2-Methyl-1-propanol:

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

Method : OECD Test Guideline 406

Result : negative

Remarks : Based on data from similar materials

Deltamethrin (ISO):

Test Type : Maximization Test

Routes of exposure : Dermal Species : Guinea pig Result : negative

Test Type : Human repeat insult patch test (HRIPT)

Routes of exposure : Dermal Species : Humans Result : positive

Germ cell mutagenicity

Not classified based on available information.

**Components:** 

Hydrocarbons, C9, aromatics:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: inhalation (vapor)

Result: negative

2-Methoxy-1-methylethyl acetate:

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

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

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

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

Method: Directive 67/548/EEC, Annex V, B.13/14.

Result: negative

Remarks: Based on data from similar materials

2-Methyl-1-propanol:



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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: in vitro micronucleus test

Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo

cytogenetic assay) Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 474

Result: negative

Deltamethrin (ISO):

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

Result: negative

Test Type: DNA Repair Test system: Escherichia coli

Result: negative

Test Type: Chromosomal aberration
Test system: Chinese hamster ovary cells

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Concentration: LOAEL: 20 mg/kg

Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test

Species: Mouse Application Route: Oral Result: negative

Test Type: dominant lethal test

Species: Mouse Application Route: Oral Result: negative

result. negative

Test Type: sister chromatid exchange assay

Species: Mouse

Cell type: Bone marrow Application Route: Oral Result: negative

## Carcinogenicity

Not classified based on available information.



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#### **Components:**

## 2-Methoxy-1-methylethyl acetate:

Species : Rat

Application Route : inhalation (vapor)

Exposure time : 2 Years

Method : OECD Test Guideline 453

Result : negative

Remarks : Based on data from similar materials

Deltamethrin (ISO):

Species : Mouse, male and female

Application Route : oral (feed) Exposure time : 104 weeks

NOAEL : 8 mg/kg body weight LOAEL : 4 mg/kg body weight

Result : positive Target Organs : Lymph nodes

Species : Rat, male and female

Application Route : oral (feed)
Exposure time : 2 Years
Result : negative

Species : Dog, male and female

Application Route : oral (feed)
Exposure time : 2 Years

NOAEL : 1 mg/kg body weight

Result : negative

## Reproductive toxicity

Suspected of damaging fertility. Suspected of damaging the unborn child.

#### Components:

## Hydrocarbons, C9, aromatics:

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

Species: Rat

Application Route: inhalation (vapor)

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Mouse

Application Route: inhalation (vapor)

Result: negative

## 2-Methoxy-1-methylethyl acetate:

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

Species: Rat

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

Result: negative

Remarks: Based on data from similar materials



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Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor)

Result: negative

2-Methyl-1-propanol:

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

Species: Rat

Application Route: inhalation (vapor)

Method: OPPTS 870.3800

Result: negative

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: inhalation (vapor) Method: OECD Test Guideline 414

Result: negative

Deltamethrin (ISO):

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

Species: Rat

Application Route: oral (feed)

Early Embryonic Development: NOAEL: 50 mg/kg body

weight

Symptoms: No effects on fertility., Embryo-fetal toxicity. Remarks: Significant toxicity observed in testing

Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Oral

Early Embryonic Development: LOAEL: 84 - 149 mg/kg body

weiaht

Symptoms: No effects on fertility., Embryo-fetal toxicity.

Test Type: Fertility Species: Rat, male Application Route: Oral

Fertility: LOAEL: 1 mg/kg body weight

Symptoms: Effects on fertility.

Target Organs: Testes

Effects on fetal development : Test Type: Development

Species: Mouse

Application Route: oral (gavage)

Developmental Toxicity: LOAEL: 1 mg/kg body weight

Result: Skeletal malformations. Remarks: Maternal toxicity observed.

Test Type: Development Species: Rat. female

Developmental Toxicity: NOAEL: 10 mg/kg body weight

Symptoms: No effects on fetal development.



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Test Type: Development Species: Rabbit, female

Application Route: oral (gavage)

Developmental Toxicity: NOAEL: 16 mg/kg body weight

Symptoms: No effects on fetal development.

Reproductive toxicity - As-

sessment

: Some evidence of adverse effects on sexual function and

fertility, and/or on development, based on animal experiments.

#### STOT-single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

### **Components:**

### Hydrocarbons, C9, aromatics:

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

### 2-Methoxy-1-methylethyl acetate:

Assessment : May cause drowsiness or dizziness.

2-Methyl-1-propanol:

Assessment : May cause respiratory irritation.

May cause drowsiness or dizziness.

Deltamethrin (ISO):

Assessment : May cause respiratory irritation.

#### **STOT-repeated exposure**

May cause damage to organs (Central nervous system, Immune system) through prolonged or repeated exposure if swallowed.

May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

#### **Components:**

### Deltamethrin (ISO):

Routes of exposure : Ingestion

Target Organs : Central nervous system, Immune system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

Routes of exposure : inhalation (dust/mist/fume)
Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.



## **Deltamethrin (5%) Formulation**

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#### Repeated dose toxicity

#### **Components:**

### Hydrocarbons, C9, aromatics:

Species: Rat, femaleNOAEL: 900 mg/m³Application Route: inhalation (vapor)Exposure time: 12 Months

Remarks : Based on data from similar materials

## 2-Methoxy-1-methylethyl acetate:

Species : Rat

NOAEL : >= 1.000 mg/kg
Application Route : Ingestion
Exposure time : 41 - 45 Days

Method : OECD Test Guideline 422

Species : Rat NOAEL : > 1 mg/l

Application Route : inhalation (vapor)

Exposure time : 2 y

Method : OECD Test Guideline 453

Remarks : Based on data from similar materials

Species : Rabbit

NOAEL : > 200 mg/kg

Application Route : Skin contact

Exposure time : 90 Days

Remarks : Based on data from similar materials

## 2-Methyl-1-propanol:

Species : Rat

NOAEL : > 1.450 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Method : OECD Test Guideline 408

Species : Rat

NOAEL : >= 7,5 mg/l
Application Route : inhalation (vapor)
Exposure time : 17 Weeks

### Deltamethrin (ISO):

Species : Rat, male and female

NOAEL : 1 mg/kg
LOAEL : 2,5 mg/kg
Application Route : Oral
Exposure time : 13 Weeks
Target Organs : Nervous system
Symptoms : hyperexcitability

Species : Rat



## **Deltamethrin (5%) Formulation**

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LOAEL : 3 mg/m3

Application Route : inhalation (dust/mist/fume)
Exposure time : 2 wk / 5 d/wk / 6 h/d

Symptoms : Local irritation, respiratory tract irritation

Species : Dog
NOAEL : 0,1 mg/kg
LOAEL : 1 mg/kg
Application Route : Oral
Exposure time : 13 Weeks
Target Organs : Nervous system

Symptoms : Dilatation of the pupil, Vomiting, Tremors, Diarrhea, Salivation

Species : Rat

NOAEL : 14 mg/kg

LOAEL : 54 mg/kg

Application Route : Oral

Exposure time : 91 d

Target Organs : Nervous system

Species : Mouse
LOAEL : 6 mg/kg
Application Route : Oral
Exposure time : 12 Weeks
Target Organs : Immune system
Symptoms : immune system effects

Cymptoms . Immune system enects

#### **Aspiration toxicity**

May be fatal if swallowed and enters airways.

#### **Product:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

### **Components:**

#### Hydrocarbons, C9, aromatics:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

## 2-Methyl-1-propanol:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

#### **Experience with human exposure**

## **Components:**

### Deltamethrin (ISO):

Inhalation : Symptoms: respiratory tract irritation, Dizziness, Sweating,

Headache, Nausea, Vomiting, anorexia, Fatigue, tingling,

Palpitation, Blurred vision, muscle twitching

Skin contact : Symptoms: Skin irritation, Erythema, pruritis, Headache, Nau-



## **Deltamethrin (5%) Formulation**

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sea, Vomiting, Dizziness, tingling, Sweating, muscle twitching,

Blurred vision, Fatigue, anorexia, Allergic reactions

Ingestion : Symptoms: muscle pain, Small pupils

#### **SECTION 12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

### **Components:**

## Hydrocarbons, C9, aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9,2 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Daphnia magna (Water flea)): 3,2 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

EL50 (Pseudokirchneriella subcapitata (green algae)): 7,9

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0,22

mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50: > 99 mg/l

Exposure time: 10 min

## 2-Methoxy-1-methylethyl acetate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 - 180

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 500 mg/l

Exposure time: 48 h

Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)): >

1.000 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

NOEC (Raphidocelis subcapitata (freshwater green alga)): >=

1.000 mg/l

Exposure time: 96 h



## **Deltamethrin (5%) Formulation**

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Method: OECD Test Guideline 201

Toxicity to daphnia and other: aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): >= 100 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms EC10 (activated sludge): > 1.000 mg/l

Exposure time: 30 min

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Toxicity to fish LC50 : > 1 - < 10 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: Based on data from similar materials

Toxicity to algae/aguatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): > 10 -

100 ma/l

Exposure time: 96 h

Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): > 0,1 -

1 mg/l

Exposure time: 96 h

Remarks: Based on data from similar materials

Toxicity to fish (Chronic tox-

NOEC (Oncorhynchus mykiss (rainbow trout)): > 0,1 - 1 mg/l

Exposure time: 72 d

Remarks: Based on data from similar materials

Toxicity to daphnia and other: aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): > 1 mg/l

Exposure time: 21 d

Remarks: Based on data from similar materials

2-Methyl-1-propanol:

Toxicity to fish LC50 (Pimephales promelas (fathead minnow)): 1.430 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia pulex (Water flea)): 1.100 mg/l

Toxicity to algae/aquatic

plants

Exposure time: 48 h

ErC50 (Pseudokirchneriella subcapitata (green algae)): 1.799 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 117

ma/l

Exposure time: 72 h

Method: OECD Test Guideline 201



## **Deltamethrin (5%) Formulation**

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Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Toxicity to microorganisms

NOEC (Daphnia magna (Water flea)): 20 mg/l

Exposure time: 21 d

EC50: > 1.000 mg/l

Exposure time: 16 h

Deltamethrin (ISO):

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 0,00048

mg/l

Exposure time: 96 h

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,00039 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Mysidopsis bahia (opossum shrimp)): 0,0037 μg/l

Exposure time: 48 h

EC50 (Daphnia magna (Water flea)): 0,0035 mg/l

Exposure time: 48 h

LC50 (Gammarus fasciatus (freshwater shrimp)): 0,0003 µg/l

Exposure time: 96 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): > 9,1

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: No toxicity at the limit of solubility.

M-Factor (Acute aquatic tox-

citv'

1.000.000

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 0,000022

mg/l

Exposure time: 36 d

NOEC (Pimephales promelas (fathead minnow)): 0,000017

mg/l

Exposure time: 260 d

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0,0041 µg/l

Exposure time: 21 d

M-Factor (Chronic aquatic : 1.000.000

toxicity)

oxioity)

**Components:** 

Hydrocarbons, C9, aromatics:

Persistence and degradability

Biodegradability : Result: Readily biodegradable.

Biodegradation: 78 % Exposure time: 28 d

Method: OECD Test Guideline 301F



## **Deltamethrin (5%) Formulation**

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2-Methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 83 % Exposure time: 28 d

Method: OECD Test Guideline 301F

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 100 % Exposure time: 28 d

Method: OECD Test Guideline 301B

2-Methyl-1-propanol:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 74 % Exposure time: 28 d

Method: OECD Test Guideline 301D

Deltamethrin (ISO):

Stability in water : Hydrolysis: 0 %(30 d)

**Bioaccumulative potential** 

**Components:** 

Hydrocarbons, C9, aromatics:

Partition coefficient: n- : log Pow: 3,7 - 4,5

octanol/water

2-Methoxy-1-methylethyl acetate:

Partition coefficient: n- : log Pow: 1,2

octanol/water

Benzenesulfonic acid, C10-13-alkyl derivs., calcium salts:

Partition coefficient: n- : log Pow: 2,89

octanol/water

2-Methyl-1-propanol:

Partition coefficient: n- : log Pow: 1

octanol/water Method: OECD Test Guideline 117

Deltamethrin (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 1.800

Partition coefficient: n-

octanol/water

: log Pow: 4,6

Mobility in soil

**Components:** 

Deltamethrin (ISO):



## **Deltamethrin (5%) Formulation**

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Distribution among environmental compartments

: log Koc: 7,2

Other adverse effects

No data available

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods** 

Waste from residues Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Empty containers should be taken to an approved waste Contaminated packaging

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

If not otherwise specified: Dispose of as unused product.

#### **SECTION 14. TRANSPORT INFORMATION**

#### International Regulations

**UNRTDG** 

**UN** number UN 1993

Proper shipping name FLAMMABLE LIQUID, N.O.S.

(Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl

acetate)

Class 3 Ш Packing group 3 Labels Environmentally hazardous no

**IATA-DGR** 

UN 1993 UN/ID No.

Flammable liquid, n.o.s. Proper shipping name

(Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl

acetate)

Class 3 Ш Packing group

Flammable Liquids Labels

Packing instruction (cargo 366

aircraft)

Packing instruction (passen-

355

ger aircraft)

**IMDG-Code** 

**UN** number UN 1993

Proper shipping name FLAMMABLE LIQUID, N.O.S.

(Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl ace-

tate, Deltamethrin (ISO))

Class 3 Ш Packing group Labels 3 **EmS Code** F-E, <u>S-E</u>



## **Deltamethrin (5%) Formulation**

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Marine pollutant : yes

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

Not applicable for product as supplied.

**Domestic regulation** 

**ANTT** 

UN number : UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.

(Hydrocarbons, C9, aromatics, 2-Methoxy-1-methylethyl ace-

tate)

Class : 3
Packing group : III
Labels : 3
Hazard Identification Number : 30

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.

### **SECTION 15. REGULATORY INFORMATION**

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

National List of Carcinogenic Agents for Humans -

: Not applicable

(LINACH)

Brazil. List of chemicals controlled by the Federal

: 2-Methyl-1-propanol

Police

Hydrocarbons, C9, aromatics

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

AICS : not determined

DSL : not determined

IECSC : not determined

### **SECTION 16. OTHER INFORMATION**

Revision Date : 28.09.2024 Date format : dd.mm.yyyy

**Further information** 

Sources of key data used to compile the Material Safety

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

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

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.



## **Deltamethrin (5%) Formulation**

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#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

BR OEL : Brazil. NR 15 - Unhealthy activities and operations

ACGIH / TWA : 8-hour, time-weighted average

BR OEL / LT : Up to 48 hours /week

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 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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