

## Deltamethrin (1.47%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.1	03.11.2023	10863211-00005	Date of first issue: 11.10.2022

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### SECTION 1. IDENTIFICATION

Product name : Deltamethrin (1.47%) Formulation

Product code : Butox pour-on aqueous

#### Manufacturer or supplier's details

Company : MSD

Address : Talcahuano 750, 6th floor, Ciudad Autonoma  
Buenos Aires, Argentina C1013AAP

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS Classification

Acute toxicity (Oral) : Category 5

Skin sensitization : Category 1

Carcinogenicity : Category 1B

Specific target organ toxicity - : Category 2 (Central nervous system, Immune system)  
repeated exposure (Oral)

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

Short-term (acute) aquatic : Category 1  
hazard

Long-term (chronic) aquatic : Category 1  
hazard

#### GHS label elements

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Hazard pictograms :



Signal Word : Danger

Hazard Statements : H303 May be harmful if swallowed.  
 H317 May cause an allergic skin reaction.  
 H350 May cause cancer.  
 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.  
 P202 Do not handle until all safety precautions have been read and understood.  
 P260 Do not breathe mist or vapors.  
 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.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
 P312 Call a POISON CENTER/ doctor if you feel unwell.  
 P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
 P362 + P364 Take off contaminated clothing and wash it before reuse.  
 P391 Collect spillage.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**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).

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

Substance / Mixture : Mixture

**Components**

Chemical name	CAS-No.	Concentration (% w/w)
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Deltamethrin (ISO)	52918-63-5	$\geq 1$ -< 2,5
Nonylphenol, ethoxylated	9016-45-9	$\geq 0,1$ -< 0,25
Formaldehyde	50-00-0	$\geq 0,2$ -< 0,25

## 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 soap and plenty of water.  
 Remove contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
 Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
 Get medical attention.  
 Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : May be harmful if swallowed.  
 May cause an allergic skin reaction.  
 May cause cancer.  
 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

- Suitable extinguishing media : Water spray  
 Alcohol-resistant foam  
 Carbon dioxide (CO<sub>2</sub>)  
 Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides  
 Nitrogen oxides (NO<sub>x</sub>)  
 Bromine compounds
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local cir-

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ods 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.

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### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
 Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.  
 Prevent further leakage or spillage if safe to do so.  
 Prevent spreading over a wide area (e.g., by containment or oil barriers).  
 Retain and dispose of contaminated wash water.  
 Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
 For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.  
 Clean up remaining materials from spill with suitable absorbent.  
 Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
 Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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### 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.

Advice on safe handling : Do not get on skin or clothing.  
 Do not breathe mist or vapors.  
 Do not swallow.  
 Avoid contact with eyes.  
 Wash skin thoroughly after handling.  
 Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
 Keep container tightly closed.  
 Do not eat, drink or smoke when using this product.  
 Take care to prevent spills, waste and minimize release to the environment.

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- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Keep tightly closed.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Self-reactive substances and mixtures  
Organic peroxides  
Explosives  
Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Deltamethrin (ISO)	52918-63-5	TWA	15 µg/m <sup>3</sup> (OEB 3)	Internal
	Further information: DSEN, Skin			
		Wipe limit	100 µg/100 cm <sup>2</sup>	Internal
Formaldehyde	50-00-0	CMP-C	0,3 ppm	AR OEL
	Further information: A2 - Suspected human carcinogen, Sensitization			
		TWA	0,1 ppm	ACGIH
		STEL	0,3 ppm	ACGIH

- 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.

#### Personal protective equipment

- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type : Combined particulates and inorganic gas/vapor type
- Hand protection
- Material : Chemical-resistant gloves
- Remarks : Consider double gloving.
- 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

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Skin and body protection	:	<p>aerosols.</p> <p>Work uniform or laboratory coat.</p> <p>Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.</p> <p>Use appropriate degowning techniques to remove potentially contaminated clothing.</p>
Hygiene measures	:	<p>If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.</p> <p>When using do not eat, drink or smoke.</p> <p>Contaminated work clothing should not be allowed out of the workplace.</p> <p>Wash contaminated clothing before re-use.</p> <p>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.</p>

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	suspension
Color	:	white
Odor	:	No data available
Odor Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available

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Relative density	:	No data available
Density	:	No data available
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
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 size	:	Not applicable

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**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

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**SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
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**Acute toxicity**

May be harmful if swallowed.

**Product:**

Acute oral toxicity	:	Acute toxicity estimate: 4.109 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method

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Acute dermal toxicity : Acute toxicity estimate: > 5.000 mg/kg  
Method: Calculation method

**Components:****Deltamethrin (ISO):**

Acute oral toxicity : LD50 (Rat): 66,7 mg/kg  
LD50 (Rat): 9 - 139 mg/kg  
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

**Nonylphenol, ethoxylated:**

Acute oral toxicity : LD50 (Rat): 500 - 2.000 mg/kg

**Formaldehyde:**

Acute oral toxicity : Acute toxicity estimate: 100 mg/kg  
Method: Expert judgment

Acute inhalation toxicity : Acute toxicity estimate: 100 ppm  
Exposure time: 4 h  
Test atmosphere: gas  
Method: Expert judgment

Acute dermal toxicity : LD50 (Rabbit): 270 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Deltamethrin (ISO):**

Species : Rabbit  
Result : No skin irritation

**Nonylphenol, ethoxylated:**

Species : Rabbit



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Method : OECD Test Guideline 404  
Result : No skin irritation

**Formaldehyde:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : Corrosive after 3 minutes to 1 hour of exposure

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:****Deltamethrin (ISO):**

Species : Rabbit  
Result : Moderate eye irritation

**Nonylphenol, ethoxylated:**

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

**Formaldehyde:**

Species : Rabbit  
Result : Irreversible effects on the eye

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Components:****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

**Nonylphenol, ethoxylated:**

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

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Remarks : Based on data from similar materials

### Formaldehyde:

Test Type : Local lymph node assay (LLNA)  
 Routes of exposure : Skin contact  
 Species : Mouse  
 Method : OECD Test Guideline 429  
 Result : positive

Assessment : Probability or evidence of high skin sensitization rate in humans

### Germ cell mutagenicity

Not classified based on available information.

### Components:

#### 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

Test Type: sister chromatid exchange assay  
 Species: Mouse  
 Cell type: Bone marrow  
 Application Route: Oral  
 Result: negative

#### Nonylphenol, ethoxylated:

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

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Remarks: Based on data from similar materials

### Formaldehyde:

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

Test Type: Chromosome aberration test in vitro  
Result: positive

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Inhalation  
Result: positive

Germ cell mutagenicity - Assessment : Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

### Carcinogenicity

May cause cancer.

### Components:

#### 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

### Formaldehyde:

Species : Rat  
Application Route : inhalation (gas)  
Exposure time : 28 Months  
Result : positive

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

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### Reproductive toxicity

Not classified based on available information.

### Components:

#### 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 weight  
 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.
- 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 - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.
- Formaldehyde:**
- Effects on fetal development : Test Type: Embryo-fetal development  
 Species: Rat  
 Application Route: inhalation (gas)  
 Result: negative

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### STOT-single exposure

Not classified based on available information.

#### Components:

##### Deltamethrin (ISO):

Assessment : May cause respiratory irritation.

##### Formaldehyde:

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.

##### Formaldehyde:

Routes of exposure : inhalation (gas)  
 Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### Repeated dose toxicity

#### Components:

##### 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  
 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

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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

### Formaldehyde:

Species : Rat  
 NOAEL : 6 ppm  
 LOAEL : 10 ppm  
 Application Route : inhalation (gas)  
 Exposure time : 28 Days

### Aspiration toxicity

Not classified based on available information.

### 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, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions  
 Ingestion : Symptoms: muscle pain, Small pupils

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## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

#### **Deltamethrin (ISO):**

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

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		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 toxicity)	:	1.000.000
Toxicity to fish (Chronic toxicity)	:	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 (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0,0041 µg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	1.000.000
<b>Nonylphenol, ethoxylated:</b>		
Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): > 0,1 - 1 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): > 0,1 - 1 mg/l Exposure time: 48 h Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	ErC50 (Selenastrum capricornutum (green algae)): > 1 - 10 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials
		EC10 (Selenastrum capricornutum (green algae)): > 1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

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- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC (*Oryzias latipes* (Japanese medaka)): > 0,1 - 1 mg/l  
Exposure time: 100 d  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Mysidopsis bahia* (opossum shrimp)): > 0,001 - 0,01 mg/l  
Exposure time: 28 d  
Remarks: Based on data from similar materials
- M-Factor (Chronic aquatic toxicity) : 10
- Formaldehyde:**
- Toxicity to fish : LC50 : 6,7 mg/l  
Exposure time: 96 h  
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia pulex* (Water flea)): 5,8 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : EC50 (*Desmodesmus subspicatus* (green algae)): 4,89 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201
- Toxicity to fish (Chronic toxicity) : NOEC (*Oryzias latipes* (Orange-red killifish)): >= 48 mg/l  
Exposure time: 28 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (*Daphnia magna* (Water flea)): >= 6,4 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211
- Toxicity to microorganisms : EC50: 34,1 mg/l  
Exposure time: 120 h

**Persistence and degradability****Components:****Deltamethrin (ISO):**

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

**Nonylphenol, ethoxylated:**

Biodegradability : Result: Not readily biodegradable.  
Remarks: Based on data from similar materials

**Formaldehyde:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 91 %



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Exposure time: 14 d  
 Method: OECD Test Guideline 301C  
 Remarks: Based on data from similar materials

### Bioaccumulative potential

#### Components:

#### **Deltamethrin (ISO):**

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)  
 Bioconcentration factor (BCF): 1.800

Partition coefficient: n-octanol/water : log Pow: 4,6

#### **Nonylphenol, ethoxylated:**

Partition coefficient: n-octanol/water : log Pow: 4,48

#### **Formaldehyde:**

Partition coefficient: n-octanol/water : log Pow: 0,35  
 Remarks: Calculation

### Mobility in soil

#### Components:

#### **Deltamethrin (ISO):**

Distribution among environmental compartments : log Koc: 7,2

#### **Other adverse effects**

No data available

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Do not dispose of waste into sewer.  
 Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
 If not otherwise specified: Dispose of as unused product.

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## SECTION 14. TRANSPORT INFORMATION

### International Regulations

#### **UNRTDG**

UN number : UN 3082  
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (deltamethrin (ISO), Nonylphenol, ethoxylated)  
 Class : 9  
 Packing group : III

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Labels : 9  
 Environmentally hazardous : yes

**IATA-DGR**

UN/ID No. : UN 3082  
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
 (Deltamethrin (ISO), Nonylphenol, ethoxylated)

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.  
 (Deltamethrin (ISO), Nonylphenol, ethoxylated)

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.

**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**

Argentina. Carcinogenic Substances and Agents Registry. : Formaldehyde

Control of precursors and essential chemicals for the preparation of drugs. : Methanol

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

AICS : not determined  
 DSL : not determined  
 IECSC : not determined

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**SECTION 16. OTHER INFORMATION**

Revision Date : 03.11.2023  
Date format : dd.mm.yyyy

**Further information**

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

**Full text of other abbreviations**

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
AR OEL : Argentina. Occupational Exposure Limits

ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
AR OEL / CMP-C : Ceiling value

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; TECl - 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

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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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