




## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

- Hazard pictograms : 
- Signal word : Danger
- Hazard statements : H302 Harmful if swallowed.  
 H317 May cause an allergic skin reaction.  
 H318 Causes serious eye damage.  
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**  
 P201 Obtain special instructions before use.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**  
 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 CENTER/ doctor.  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P391 Collect spillage.

Hazardous components which must be listed on the label:

Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)  
 deltamethrin (ISO)

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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

### 3.2 Mixtures

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)	9002-93-1	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Chronic 2;	>= 50 - < 70

## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

deltamethrin (ISO)	52918-63-5 258-256-6 607-319-00-X	H411 Acute Tox. 3; H301 Acute Tox. 3; H331 Eye Irrit. 2; H319 Skin Sens. 1A; H317 Repr. 2; H361fd STOT SE 3; H335 STOT RE 1; H372 (Central nervous system, Immune system) STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 <hr/> M-Factor (Acute aquatic toxicity): 1.000.000 M-Factor (Chronic aquatic toxicity): 1.000.000	>= 3 - < 10
--------------------	---	---	-------------

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of 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.
- 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).
- 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 : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

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

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.

### 4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed.  
May cause an allergic skin reaction.  
Causes serious eye damage.  
Suspected of damaging fertility. Suspected of damaging the unborn child.  
May cause damage to organs through prolonged or repeated exposure.

This product contains a pyrethroid.  
Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

### 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

---

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : None known.

### 5.2 Special hazards arising from the substance or mixture

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

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

---

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

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

#### 6.2 Environmental precautions

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.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.  
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 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.

#### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

---

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe 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.

Advice on safe handling : Do not get on skin or clothing.  
Do not breathe mist or vapours.  
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 as-

## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

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.

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.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.

Advice on common storage : Do not store with the following product types:  
 Strong oxidizing agents  
 Self-reactive substances and mixtures  
 Organic peroxides  
 Explosives  
 Gases

### 7.3 Specific end use(s)

Specific use(s) : No data available

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	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

### 8.2 Exposure controls

#### 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).

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

Minimize open handling.

### Personal protective equipment

Eye/face 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.
Hand protection		
Material	:	Chemical-resistant gloves
Remarks	:	Consider double gloving.
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.
Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	:	Particulates type (P)

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	:	liquid
Colour	:	colourless
Odour	:	odourless
Odour Threshold	:	No data available
pH	:	3,4 - 4 (20 °C)
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
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available

**Deltamethrin Liquid Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition 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.

**9.2 Other information**

Flammability (liquids)	:	No data available
Molecular weight	:	Not applicable
Particle size	:	Not applicable

---

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Not classified as a reactivity hazard.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions	:	Can react with strong oxidizing agents.
---------------------	---	---

**10.4 Conditions to avoid**

Conditions to avoid	:	None known.
---------------------	---	-------------

**10.5 Incompatible materials**

Materials to avoid	:	Oxidizing agents
--------------------	---	------------------

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

---

**SECTION 11: Toxicological information****11.1 Information on toxicological effects**



**Deltamethrin Liquid Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

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

**Acute toxicity**

Harmful if swallowed.

**Product:**

Acute oral toxicity : Acute toxicity estimate: 956,51 mg/kg  
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: Calculation method

**Components:****Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Acute oral toxicity : LD50 (Rat): 1.900 - 5.000 mg/kg  
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3.000 mg/kg  
Remarks: Based on data from similar materials

**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

**Skin corrosion/irritation**

Not classified based on available information.

**Components:****Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Result : No skin irritation

## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
Date of first issue: 25.04.2017

---

**deltamethrin (ISO):**

Species : Rabbit  
Result : No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:****Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Result : Irreversible effects on the eye

**deltamethrin (ISO):**

Species : Rabbit  
Result : Moderate eye irritation

**Respiratory or skin sensitisation****Skin sensitisation**

May cause an allergic skin reaction.

**Respiratory sensitisation**

Not classified based on available information.

**Components:****deltamethrin (ISO):**

Test Type : Maximisation Test  
Exposure routes : Dermal  
Species : Guinea pig  
Result : negative

Test Type : Human repeat insult patch test (HRIPT)  
Exposure routes : Dermal  
Species : Humans  
Result : positive

**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

**Deltamethrin Liquid Formulation**

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
Date of first issue: 25.04.2017

---

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

**Carcinogenicity**

Not classified based on available information.

**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

**Reproductive toxicity**

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

**Components:****deltamethrin (ISO):**

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

- 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-foetal 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-foetal 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 foetal 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 foetal development
- Test Type: Development  
Species: Rabbit, female  
Application Route: oral (gavage)  
Developmental Toxicity: NOAEL: 16 mg/kg body weight  
Symptoms: No effects on foetal development
- Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

**STOT - single exposure**

Not classified based on available information.

**Components:****deltamethrin (ISO):**

Assessment : May cause respiratory irritation.

**STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

### Components:

#### **deltamethrin (ISO):**

Exposure routes : Ingestion  
 Target Organs : Central nervous system, Immune system  
 Assessment : Causes damage to organs through prolonged or repeated exposure.

Exposure routes : inhalation (dust/mist/fume)  
 Target Organs : Central nervous system  
 Assessment : Causes damage to organs through prolonged or 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/m<sup>3</sup>  
 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, Diarrhoea, 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

## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

### 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

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Components:

#### **Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4 - 8,9 mg/l  
 Exposure time: 96 h  
 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 18 - 26 mg/l  
 Exposure time: 48 h  
 Remarks: Based on data from similar materials

Toxicity to microorganisms : IC50 : 5.000 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

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

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: 0,000022 mg/l  
Exposure time: 36 d  
Species: Pimephales promelas (fathead minnow)

NOEC: 0,000017 mg/l  
Exposure time: 260 d  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0041 µg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1.000.000

**12.2 Persistence and degradability****Components:****Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Biodegradability : Biodegradation: > 60 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

Result: Not readily biodegradable.  
Biodegradation: 36 %  
Exposure time: 28 d  
Method: Closed Bottle test

**deltamethrin (ISO):**

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

**12.3 Bioaccumulative potential****Components:****Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Partition coefficient: n-octanol/water : log Pow: 2,7

**deltamethrin (ISO):**

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

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

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

### 12.4 Mobility in soil

#### Components:

##### **deltamethrin (ISO):**

Distribution among environmental compartments : log Koc: 7,2

### 12.5 Results of PBT and vPvB assessment

#### Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Other adverse effects

#### Product:

Endocrine disrupting potential : This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

#### Components:

##### **Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl):**

Endocrine disrupting potential : The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

---

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.

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.

---

## SECTION 14: Transport information

### 14.1 UN number

**ADN** : UN 3082  
**ADR** : UN 3082  
**RID** : UN 3082



## Deltamethrin Liquid Formulation

Version 3.2      Revision Date: 03.11.2023      SDS Number: 1559923-00018      Date of last issue: 30.09.2023  
 Date of first issue: 25.04.2017

**IMDG** : UN 3082

**IATA** : UN 3082

**14.2 UN proper shipping name**

**ADN** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl))

**ADR** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl))

**RID** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl))

**IMDG** : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
 (deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl))

**IATA** : Environmentally hazardous substance, liquid, n.o.s.  
 (deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl))

**14.3 Transport hazard class(es)**

	Class	Subsidiary risks
<b>ADN</b>	: 9	
<b>ADR</b>	: 9	
<b>RID</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 9	

**14.4 Packing group**

**ADN**  
 Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

**ADR**  
 Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

Tunnel restriction code : (-)

### RID

Packing group : III  
 Classification Code : M6  
 Hazard Identification Number : 90  
 Labels : 9

### IMDG

Packing group : III  
 Labels : 9  
 EmS Code : F-A, S-F

### IATA (Cargo)

Packing instruction (cargo aircraft) : 964  
 Packing instruction (LQ) : Y964  
 Packing group : III  
 Labels : Miscellaneous

### IATA (Passenger)

Packing instruction (passenger aircraft) : 964  
 Packing instruction (LQ) : Y964  
 Packing group : III  
 Labels : Miscellaneous

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : yes

### ADR

Environmentally hazardous : yes

### RID

Environmentally hazardous : yes

### IMDG

Marine pollutant : yes

### IATA (Passenger)

Environmentally hazardous : yes

### IATA (Cargo)

Environmentally hazardous : yes

## 14.6 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.

## 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

### SECTION 15: Regulatory information

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

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

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

#### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

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

#### Full text of H-Statements

H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H335	:	May cause respiratory irritation.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure if inhaled.
H372	:	Causes damage to organs through prolonged or repeated exposure if swallowed.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Repr.	:	Reproductive toxicity
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by

## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

**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 Agency, <http://echa.europa.eu/>

**Classification of the mixture:**

Acute Tox. 4	H302
Eye Dam. 1	H318
Skin Sens. 1	H317
Repr. 2	H361fd
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

**Classification procedure:**

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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 mate-

# SAFETY DATA SHEET



## Deltamethrin Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 30.09.2023
3.2	03.11.2023	1559923-00018	Date of first issue: 25.04.2017

---

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.

ZA / EN