

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin Liquid Formulation

|         |                |               |                                 |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number:   | Date of last issue: 2024/09/28  |
| 3.0     | 2025/04/14     | 1559909-00019 | Date of first issue: 2017/04/25 |

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Deltamethrin Liquid Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road  
Pu Tuo District - Shanghai - China 200331

Telephone : +1-908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

|            |              |
|------------|--------------|
| Appearance | : liquid     |
| Colour     | : colourless |
| Odour      | : odourless  |

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. Very toxic to aquatic life with long lasting effects.

#### GHS Classification

|                                                    |              |
|----------------------------------------------------|--------------|
| Acute toxicity (Oral)                              | : Category 4 |
| Serious eye damage/eye irritation                  | : Category 1 |
| Skin sensitisation                                 | : Category 1 |
| Reproductive toxicity                              | : Category 2 |
| Specific target organ toxicity - repeated exposure | : Category 2 |
| Short-term (acute) aquatic hazard                  | : Category 1 |

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Long-term (chronic) aquatic hazard : Category 1

### GHS label elements

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:**  
P203 Obtain, read and follow all safety instructions before use.  
P260 Do not breathe mist or vapours.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

#### Response:

P301 + P317 + P330 IF SWALLOWED: Get medical help. Rinse mouth.  
P305 + P354 + P338 + P317 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.  
P318 IF exposed or concerned, get medical advice.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P333 + P317 If skin irritation or rash occurs: Get medical help.  
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

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disposal plant.

### Physical and chemical hazards

Not classified based on available information.

### Health hazards

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

### Environmental hazards

Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

### 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).

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

| Chemical name                                                                    | CAS-No.    | Concentration (% w/w) |
|----------------------------------------------------------------------------------|------------|-----------------------|
| Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl) | 9002-93-1  | $\geq 50$ -< 70       |
| deltamethrin (ISO)                                                               | 52918-63-5 | $\geq 3$ -< 10        |

## 4. FIRST AID MEASURES

|                                                     |                                                                                                                                                                                                                         |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| General advice                                      | : In the case of accident or if you feel unwell, seek medical advice immediately.<br>When symptoms persist or in all cases of doubt seek medical advice.                                                                |
| If inhaled                                          | : If inhaled, remove to fresh air.<br>Get medical attention.                                                                                                                                                            |
| In case of skin contact                             | : In case of contact, immediately flush skin with soap and plenty of water.<br>Remove contaminated clothing and shoes.<br>Get medical attention.<br>Wash clothing before reuse.<br>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.<br>If easy to do, remove contact lens, if worn.<br>Get medical attention immediately.                                        |
| If swallowed                                        | : If swallowed, DO NOT induce vomiting.<br>Get medical attention.<br>Rinse mouth thoroughly with water.<br>Never give anything by mouth to an unconscious person.                                                       |
| Most important symptoms and effects, both acute and | : This product contains a pyrethroid.<br>Pyrethroid poisoning should not be confused with carbamate                                                                                                                     |

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|                            |   |                                                                                                                                                                                                                                                                                |
|----------------------------|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| delayed                    |   | or organophosphate poisoning.<br>Harmful if swallowed.<br>May cause an allergic skin reaction.<br>Causes serious eye damage.<br>Suspected of damaging fertility. Suspected of damaging the unborn child.<br>May cause damage to organs through prolonged or repeated exposure. |
| Protection of first-aiders | : | First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).                                                                                                    |
| Notes to physician         | : | Treat symptomatically and supportively.                                                                                                                                                                                                                                        |

### 5. FIREFIGHTING MEASURES

|                                               |   |                                                                                                                                                                                                                                                 |
|-----------------------------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                  | : | Water spray<br>Alcohol-resistant foam<br>Carbon dioxide (CO <sub>2</sub> )<br>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<br>Nitrogen oxides (NO <sub>x</sub> )<br>Bromine compounds                                                                                                                                                                        |
| Specific extinguishing methods                | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment.                                                                                                                                            |

### 6. ACCIDENTAL RELEASE MEASURES

|                                                                     |   |                                                                                                                                                                                                                           |
|---------------------------------------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | : | Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).                                                                      |
| Environmental precautions                                           | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g. by containment or oil barriers).<br>Retain and dispose of contaminated wash water. |

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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 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.

## 7. HANDLING AND STORAGE

### Handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

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

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 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.

Avoidance of contact : Oxidizing agents

### Storage

Conditions for safe storage : Keep in properly labelled 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

Packaging material : Unsuitable material: None known.

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| Components         | CAS-No.                         | Value type<br>(Form of exposure) | Control parameters / Permissible concentration | Basis    |
|--------------------|---------------------------------|----------------------------------|------------------------------------------------|----------|
| deltamethrin (ISO) | 52918-63-5                      | PC-TWA                           | 0.03 mg/m <sup>3</sup>                         | CN OEL   |
|                    |                                 | TWA                              | 15 µg/m <sup>3</sup> (OEB 3)                   | Internal |
|                    | 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.

#### 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** : Particulates type

**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.

**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.

**Hand protection**

**Material** : Chemical-resistant gloves

**Remarks** : Consider double gloving.

**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

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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.

### 9. 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    |
| Flammability (liquids)                           | : No data available |
| 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 |
| Relative density                                 | : No data available |
| Density                                          | : No data available |
| Solubility(ies)<br>Water solubility              | : No data available |
| Partition coefficient: n-octanol/water           | : No data available |

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|                           |   |                                                          |
|---------------------------|---|----------------------------------------------------------|
| 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. |
| Molecular weight          | : | Not applicable                                           |
| Particle characteristics  | : |                                                          |
| Particle size             | : | Not applicable                                           |

### 10. STABILITY AND REACTIVITY

|                                    |   |                                                |
|------------------------------------|---|------------------------------------------------|
| Reactivity                         | : | Not classified as a reactivity hazard.         |
| Chemical stability                 | : | Stable under normal conditions.                |
| Possibility of hazardous 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. |

### 11. TOXICOLOGICAL INFORMATION

|                 |   |                                                        |
|-----------------|---|--------------------------------------------------------|
| Exposure routes | : | Inhalation<br>Skin contact<br>Ingestion<br>Eye contact |
|-----------------|---|--------------------------------------------------------|

#### Acute toxicity

Harmful if swallowed.

#### Product:

|                           |   |                                                                                                                      |
|---------------------------|---|----------------------------------------------------------------------------------------------------------------------|
| Acute oral toxicity       | : | Acute toxicity estimate: 956.51 mg/kg<br>Method: Calculation method                                                  |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 10 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>Method: Calculation method |

#### Components:

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



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Acute oral toxicity : LD50 (Rat): 1,900 - 5,000 mg/kg  
Remarks: Based on data from similar materials

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

Species : Rabbit  
Result : No skin irritation  
Remarks : Based on data from similar materials

### 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  
Remarks : Based on data from similar materials

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### 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:

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

|                 |                                        |
|-----------------|----------------------------------------|
| Exposure routes | : Skin contact                         |
| Species         | : Guinea pig                           |
| Result          | : negative                             |
| Remarks         | : Based on data from similar materials |

### 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:

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

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) |
|                       | Result: negative                                     |
|                       | Remarks: Based on data from similar materials        |

### deltamethrin (ISO):

|                       |                                                      |
|-----------------------|------------------------------------------------------|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) |
|                       | Result: negative                                     |
|                       | Test Type: DNA Repair                                |
|                       | Test system: Escherichia coli                        |
|                       | Result: negative                                     |

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|                      |   |                                                       |
|----------------------|---|-------------------------------------------------------|
| Genotoxicity in vivo | : | 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                                      |
|                      | : | 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             |

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### Reproductive toxicity

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

#### Components:

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

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Effects on fertility               | :<br>Test Type: Three-generation reproduction toxicity study<br>Species: Rat<br>Application Route: oral (feed)<br>Early Embryonic Development: NOAEL: 50 mg/kg body weight<br>Symptoms: No effects on fertility, Embryo-foetal toxicity<br>Remarks: Significant toxicity observed in testing<br><br>Test Type: Two-generation reproduction toxicity study<br>Species: Rat<br>Application Route: Oral<br>Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight<br>Symptoms: No effects on fertility, Embryo-foetal toxicity<br><br>Test Type: Fertility<br>Species: Rat, male<br>Application Route: Oral<br>Fertility: LOAEL: 1 mg/kg body weight<br>Symptoms: Effects on fertility<br>Target Organs: Testes |
| Effects on foetal development      | :<br>Test Type: Development<br>Species: Mouse<br>Application Route: oral (gavage)<br>Developmental Toxicity: LOAEL: 1 mg/kg body weight<br>Result: Skeletal malformations<br>Remarks: Maternal toxicity observed.<br><br>Test Type: Development<br>Species: Rat, female<br>Developmental Toxicity: NOAEL: 10 mg/kg body weight<br>Symptoms: No effects on foetal development<br><br>Test Type: Development<br>Species: Rabbit, female<br>Application Route: oral (gavage)<br>Developmental Toxicity: NOAEL: 16 mg/kg body weight<br>Symptoms: No effects on foetal development                                                                                                                                       |
| Reproductive toxicity - Assessment | :<br>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.

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### Components:

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

Assessment : May cause respiratory irritation.

### **STOT - repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

### 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/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, Diarrhoea, Salivation

Species : Rat  
NOAEL : 14 mg/kg

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Deltamethrin Liquid Formulation

|         |                |               |                                 |
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|                   |                  |
|-------------------|------------------|
| 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 |

### 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                                                                                                                                               |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

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

|                                                     |                                                                                                                                      |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish                                    | : LC50 (Pimephales promelas (fathead minnow)): > 1 - 10 mg/l<br>Exposure time: 96 h<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l<br>Exposure time: 48 h<br>Remarks: Based on data from similar materials         |

#### deltamethrin (ISO):

|                  |                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to fish | : LC50 (Cyprinodon variegatus (sheepshead minnow)): 0.00048 mg/l<br>Exposure time: 96 h<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l<br>Exposure time: 96 h |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|                                                                        |   |                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to daphnia and other aquatic invertebrates                    | : | EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l<br>Exposure time: 48 h<br><br>EC50 (Daphnia magna (Water flea)): 0.0035 mg/l<br>Exposure time: 48 h<br><br>LC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l<br>Exposure time: 96 h |
| Toxicity to algae/aquatic plants                                       | : | EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br>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<br>Exposure time: 36 d<br><br>NOEC (Pimephales promelas (fathead minnow)): 0.000017 mg/l<br>Exposure time: 260 d                                                                        |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 0.0041 µg/l<br>Exposure time: 21 d                                                                                                                                                                              |
| M-Factor (Chronic aquatic toxicity)                                    | : | 1,000,000                                                                                                                                                                                                                                          |

### Persistence and degradability

#### Components:

##### deltamethrin (ISO):

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

### Bioaccumulative potential

#### Components:

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

|                                        |   |                                           |
|----------------------------------------|---|-------------------------------------------|
| Partition coefficient: n-octanol/water | : | log Pow: < 4<br>Remarks: Expert judgement |
|----------------------------------------|---|-------------------------------------------|

##### deltamethrin (ISO):

|                 |   |                                                                                         |
|-----------------|---|-----------------------------------------------------------------------------------------|
| Bioaccumulation | : | Species: Lepomis macrochirus (Bluegill sunfish)<br>Bioconcentration factor (BCF): 1,800 |
|-----------------|---|-----------------------------------------------------------------------------------------|

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Partition coefficient: n-octanol/water : log Pow: 4.6

### Mobility in soil

### Components:

#### deltamethrin (ISO):

Distribution among environmental compartments : log Koc: 7.2

### Other adverse effects

No data available

## 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.

## 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

UN number : UN 3082

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

Class : 9

Packing group : III

Labels : 9

Environmentally hazardous : yes

#### IATA-DGR

UN/ID No. : UN 3082

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

Class : 9

Packing group : III

Labels : Miscellaneous

Packing instruction (cargo aircraft) : 964

Packing instruction (passenger aircraft) : 964



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Environmentally hazardous : yes

### IMDG-Code

|                      |                                                                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN number            | : UN 3082                                                                                                                                                       |
| Proper shipping name | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)) |
| 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.

### National Regulations

#### GB 6944/12268

|                      |                                                                                                                                                                 |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UN number            | : UN 3082                                                                                                                                                       |
| Proper shipping name | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO), Alpha-(4-(1,1,3,3-Tetramethylbutyl)phenyl)-omega-hydroxypoly(oxy-1,2-ethanediyl)) |
| Class                | : 9                                                                                                                                                             |
| Packing group        | : III                                                                                                                                                           |
| Labels               | : 9                                                                                                                                                             |
| Marine pollutant     | : no                                                                                                                                                            |

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## 15. REGULATORY INFORMATION

### National regulatory information

#### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

|                                  |                                                                                                                                                               |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Catalogue of Hazardous Chemicals | : This product is not listed in the catalogue of hazardous chemicals, but it meets the definition of hazardous chemicals and its principles of determination. |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                                 |              |
|---------------------------------------------------------------------------------|--------------|
| Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218) | : Not listed |
|---------------------------------------------------------------------------------|--------------|

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Hazardous Chemicals for Priority Management under SAWS : Not listed

Catalogue of Specially Controlled Hazardous Chemicals : Not listed

List of Explosive Precursors : Not listed

### Regulations on Labour Protection in Workplaces where Toxic Substances are Used

Catalogue of Highly Toxic Chemicals : Not listed

### Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export : Not listed

### Regulation on the Administration of Precursor Chemicals

Catalogue and Classification of Precursor Chemicals : Not listed

### Yangtze River Protection Law

This product does not contain any dangerous chemicals prohibited for inland river transport.

### Regulations of Ozone Depleting Substances Management

List of Controlled Ozone Depleting Substances Import and Export : Not listed

List of Controlled Ozone Depleting Substances : Not listed

### Environmental Protection Law

List of Priority Controlled Chemicals : Not listed

List of Key Controlled New Pollutants : Not listed

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

AICS : not determined

DSL : not determined

IECSC : not determined

## 16. OTHER INFORMATION

Revision Date : 2025/04/14

### Further information

Sources of key data used to compile the Safety Data : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

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

Date format : yyyy/mm/dd

### Full text of other abbreviations

CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

CN OEL / PC-TWA : Permissible concentration - time weighted average

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

### Disclaimer

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.

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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.

CN / EN