# Deltamethrin (1.05%) Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 03.11.2023 |
|---|---|---|---|
| 3.4 | 06.04.2024 | 10215306-00008 | Date of first issue: 10.11.2021 |

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : Deltamethrin (1.05%) Formulation

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

### 1.3 Details of the supplier of the safety data sheet

Company : MSD
Walton Manor, Walton
MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

### 1.4 Emergency telephone number

+1-908-423-6000

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

| | |
|---|---|
| Skin sensitisation, Category 1 | H317: May cause an allergic skin reaction. |
| Specific target organ toxicity - repeated exposure, Category 2 | H373: May cause damage to organs through prolonged or repeated exposure. |
| Short-term (acute) aquatic hazard, Category 1 | H400: Very toxic to aquatic life. |
| Long-term (chronic) aquatic hazard, Category 1 | H410: Very toxic to aquatic life with long lasting effects. |

### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :

Signal word : Warning

Hazard statements :

| | |
|---|---|
| H317 | May cause an allergic skin reaction. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H410 | Very toxic to aquatic life with long lasting effects. |

Precautionary statements :

**Prevention:**

| | |
|---|---|
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves. |

**Response:**

| | |
|---|---|
| P314 | Get medical advice/ attention 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. |

Hazardous components which must be listed on the label:
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).
Dust contact with the eyes can lead to mechanical irritation.
Contact with dust can cause mechanical irritation or drying of the skin.
May form explosive dust-air mixture during processing, handling or other means.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Components**

| Chemical name | CAS-No.<br>EC-No.<br>Index-No.<br>Registration number | Classification | Concentration (% w/w) |
|---|---|---|---|
| deltamethrin (ISO) | 52918-63-5<br>258-256-6<br>607-319-00-X | Acute Tox. 3; H301<br>Acute Tox. 3; H331<br>Eye Irrit. 2; H319<br>Skin Sens. 1A; H317<br>Repr. 2; H361fd | >= 1 - < 2.5 |

| | | | |
|---|---|---|---|
| | | STOT SE 3; H335<br>STOT RE 1; H372 (Central nervous system, Immune system)<br>STOT RE 1; H372 (Central nervous system)<br>Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410<br>_____<br>M-Factor (Acute aquatic toxicity): 1,000,000<br>M-Factor (Chronic aquatic toxicity): 1,000,000 | |

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 : If in eyes, rinse well with water.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water.

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

Risks : May cause an allergic skin reaction.
May cause damage to organs through prolonged or repeated exposure.

Contact with dust can cause mechanical irritation or drying of the skin.
Dust contact with the eyes can lead to mechanical irritation.
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 (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

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

Specific hazards during fire-fighting : Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
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.
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.
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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

Methods for cleaning up : Soak up with inert absorbent material.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
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 : Static electricity may accumulate and ignite suspended dust causing an explosion.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

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.
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
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

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

Requirements for storage areas and containers : Keep in properly labelled containers. 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/m3 (OEB 3) | Internal |
| | Further information: DSEN, Skin | | | |
| | | Wipe limit | 100 µg/100 cm² | Internal |

**Derived No Effect Level (DNEL):**

| Substance name | End Use | Exposure routes | Potential health effects | Value |
|---|---|---|---|---|
| Glycerides, mixed decanoyl and octanoyl | Workers | Inhalation | Long-term systemic effects | 177.79 mg/m3 |
| | Workers | Skin contact | Long-term systemic effects | 25.21 mg/kg bw/day |
| | Consumers | Inhalation | Long-term systemic effects | 43.84 mg/m3 |
| | Consumers | Skin contact | Long-term systemic effects | 12.61 mg/kg bw/day |
| | Consumers | Ingestion | Long-term systemic effects | 12.61 mg/kg bw/day |

**Predicted No Effect Concentration (PNEC):**

| Substance name | Environmental Compartment | Value |
|---|---|---|
| Glycerides, mixed decanoyl and octanoyl | Oral (Secondary Poisoning) | 0.03 mg/kg food |

### 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).
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.
Equipment should conform to BS EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | | |
|---|---|---|
| Appearance | : | liquid |
| Colour | : | Colorless to pale yellow |
| Odour | : | No data available |
| Odour Threshold | : | No data available |
| pH | : | No data available |
| Melting point/freezing point | : | No data available |
| Initial boiling point and boiling range | : | > 150 °C |
| Flash point | : | > 93 °C |
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | May form explosive dust-air mixture during processing, handling or other means. |
| 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 | : | 0.945 - 0.955 (20 °C) |
| Density | : | No data available |
| Solubility(ies) | | |
| Water solubility | : | No data available |
| Partition coefficient: n-octanol/water | : | Not applicable |
| 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) | : | Ignitable (see flash point) |
| Molecular weight | : | No data available |
| 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 | : | Vapours may form explosive mixture with air.<br>May form explosive dust-air mixture during processing, handling or other means.<br>Can react with strong oxidizing agents. |

### 10.4 Conditions to avoid

| | | |
|---|---|---|
| Conditions to avoid | : | Heat, flames and sparks.<br>Avoid dust formation. |

### 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

| | | |
|---|---|---|
| Information on likely routes of exposure | : | Inhalation<br>Skin contact<br>Ingestion<br>Eye contact |

**Acute toxicity**

Not classified based on available information.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 5 mg/l<br>Exposure time: 4 h<br>Test atmosphere: dust/mist<br>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<br>Exposure time: 2 h<br>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<br>Application Route: Intravenous |
| | | LD50 (Mouse): 10 mg/kg<br>Application Route: Intraperitoneal |

**Skin corrosion/irritation**

Not classified based on available information.

**Components:**

**deltamethrin (ISO):**

| | | |
|---|---|---|
| Species | : | Rabbit |
| Result | : | No skin irritation |

**Serious eye damage/eye irritation**

Not classified based on available information.

**Components:**

**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
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**

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-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<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 | : | 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.

**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 |
| 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 |

## SECTION 12: Ecological information

### 12.1 Toxicity

**Components:**

**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 |
| 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: 0.000022 mg/l<br>Exposure time: 36 d<br>Species: Pimephales promelas (fathead minnow)<br><br>NOEC: 0.000017 mg/l<br>Exposure time: 260 d<br>Species: Pimephales promelas (fathead minnow) |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 0.0041 µg/l<br>Exposure time: 21 d<br>Species: Daphnia magna (Water flea) |
| M-Factor (Chronic aquatic toxicity) | : | 1,000,000 |

### 12.2 Persistence and degradability

**Components:**

**deltamethrin (ISO):**

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

### 12.3 Bioaccumulative potential

**Components:**

**deltamethrin (ISO):**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Lepomis macrochirus (Bluegill sunfish)<br>Bioconcentration factor (BCF): 1,800 |
| Partition coefficient: n-octanol/water | : | log Pow: 4.6 |

### 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 does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f). |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

| | | |
|---|---|---|
| Product | : | Dispose of in accordance with local regulations.<br>According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.<br>Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.<br>Do not dispose of waste into sewer. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste handling site for recycling or disposal.<br>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 |
| **IMDG** | : | UN 3082 |
| **IATA** | : | UN 3082 |

**14.2 UN proper shipping name**

| | | |
|---|---|---|
| **ADN** | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO)) |
| **ADR** | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO)) |
| **RID** | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO)) |
| **IMDG** | : | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.<br>(deltamethrin (ISO)) |
| **IATA** | : | Environmentally hazardous substance, liquid, n.o.s.<br>(deltamethrin (ISO)) |

**14.3 Transport hazard class(es)**

| | | Class | Subsidiary risks |
|---|---|---|---|
| **ADN** | : | 9 | |
| **ADR** | : | 9 | |
| **RID** | : | 9 | |
| **IMDG** | : | 9 | |
| **IATA** | : | 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 |
| 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.

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

| | | |
|---|---|---|
| UK REACH List of restrictions (Annex 17) | : | Conditions of restriction for the following entries should be considered:<br>Number on list 3<br>Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not. |
| UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation | : | Not applicable |
| The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain) | : | Not applicable |
| Regulation (EC) No 1005/2009 on substances that deplete the ozone layer | : | Not applicable |
| UK REACH List of substances subject to authorisation (Annex XIV) | : | Not applicable |
| GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation | : | Not applicable |

Control of Major Accident Hazards Regulations 2015 (COMAH)

| | | Quantity 1 | Quantity 2 |
|---|---|---|---|
| E1 | ENVIRONMENTAL HAZARDS | 100 t | 200 t |

**Other regulations:**

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.
Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

**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. |
| H317 | : | May cause an allergic skin reaction. |
| 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. |

**Full text of other abbreviations**

| | | |
|---|---|---|
| Acute Tox. | : | Acute toxicity |
| Aquatic Acute | : | Short-term (acute) aquatic hazard |
| Aquatic Chronic | : | Long-term (chronic) aquatic hazard |
| 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 Road; AIIC - 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 Re-

striction 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:** | | **Classification procedure:** |
|---|---|---|
| Skin Sens. 1 | H317 | Calculation method |
| STOT RE 2 | H373 | Calculation method |
| Aquatic Acute 1 | H400 | Calculation method |
| Aquatic Chronic 1 | H410 | 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 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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