SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Milbemycin Oxime / Lufenuron Formulation

Version 2.1  Revision Date: 27.08.2021  SDS Number: 6387045-00003  Date of last issue: 11.03.2021
Date of first issue: 21.09.2020

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

1.1 Product identifier
Trade name : Milbemycin Oxime / Lufenuron Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against
Use of the Substance/Mixture : Veterinary product

1.3 Details of the supplier of the safety data sheet
Company : MSD
Kilsheelan
Clonmel Tipperary, IE
Telephone : 353-51-601000
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)
Skin sensitisation, Category 1
Reproductive toxicity, Category 1B
Specific target organ toxicity - repeated exposure, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

H317: May cause an allergic skin reaction.
H360D: May damage the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Hazard pictograms :

Signal word : Danger
Hazard statements : H317  May cause an allergic skin reaction.
H360D  May damage the unborn child.
H372  Causes 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:
P308 + P313 IF exposed or concerned: Get medical advice/attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:
lufenuron (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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>lufenuron (ISO)</td>
<td>103055-07-8</td>
<td>410-690-9</td>
<td>616-050-00-7</td>
<td></td>
<td>Skin Sens. 1; H317 Repr. 1B; H360D STOT RE 1; H372 (Central nervous system, Lungs, Liver, Stomach) Aquatic Acute 1; H400 Aquatic Chronic 1; H410</td>
<td>&gt;= 30 - &lt; 50</td>
</tr>
</tbody>
</table>
## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<table>
<thead>
<tr>
<th>General advice</th>
<th>Protection of first-aiders</th>
<th>If inhaled</th>
<th>In case of skin contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>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).</td>
<td>If inhaled, remove to fresh air. Get medical attention.</td>
<td>In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes.</td>
</tr>
</tbody>
</table>

For explanation of abbreviations see section 16.
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</tbody>
</table>

Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

<table>
<thead>
<tr>
<th>In case of eye contact</th>
<th>:</th>
<th>Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.</th>
</tr>
</thead>
<tbody>
<tr>
<td>If swallowed</td>
<td>:</td>
<td>If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.</td>
</tr>
</tbody>
</table>

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

**Risks**

May cause an allergic skin reaction. May damage the unborn child. Causes damage to organs through prolonged or repeated exposure.

**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 firefighting**

Exposure to combustion products may be a hazard to health.

**Hazardous combustion products**

- Carbon oxides
- Nitrogen oxides (NOx)

**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. 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: Sweep up or vacuum up spillage and collect in suitable container for disposal. 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 dust, fume, gas, mist, vapours or spray. Do not swallow. Avoid contact with eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Keep container tightly closed. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

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
- 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**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lufenuron (ISO)</td>
<td>103055-07-8</td>
<td>TWA</td>
<td>OEB 3 (&gt;= 10 &lt; 100 µg/m3)</td>
<td>Internal</td>
</tr>
<tr>
<td>Milbemycin Oxime</td>
<td>129496-10-2</td>
<td>TWA</td>
<td>0.1 mg/m3 (OEB2)</td>
<td>Internal</td>
</tr>
</tbody>
</table>

**Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lufenuron (ISO)</td>
<td>Water</td>
<td>0.2 µg/l</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

**Engineering measures**

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 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 NS EN 143

Filter type: Particulates type (P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>brown</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling</td>
<td>No data available</td>
</tr>
<tr>
<td>range</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper explosion limit / Upper</td>
<td>No data available</td>
</tr>
<tr>
<td>flammability limit</td>
<td></td>
</tr>
<tr>
<td>Lower explosion limit / Lower</td>
<td>No data available</td>
</tr>
<tr>
<td>flammability limit</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Viscosity, kinematic</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
</tbody>
</table>
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- Water solubility: soluble
- Partition coefficient: n-octanol/water: Not applicable
- Vapour pressure: Not applicable
- Relative density: No data available
- Density: No data available
- Relative vapour density: Not applicable
- Particle characteristics: Particle size: No data available

9.2 Other information
- Explosives: Not explosive
- Oxidizing properties: The substance or mixture is not classified as oxidizing.
- Evaporation rate: Not applicable
- Molecular weight: No data available

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 hazard classes as defined in Regulation (EC) No 1272/2008
Information on likely routes of exposure: Skin contact, Ingestion
Eye contact

**Acute toxicity**
Not classified based on available information.

**Product:**

- **Acute oral toxicity:** Acute toxicity estimate: > 2.000 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:**

- **lufenuron (ISO):**
  - Acute oral toxicity: LD50 (Rat): > 2.000 mg/kg
  - LD50 (Mouse): > 2.000 mg/kg

- **Acute inhalation toxicity:** LC50 (Rat): 2.350 mg/m³
  Test atmosphere: dust/mist

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

- **Milbemycin Oxime:**
  - Acute oral toxicity: LD50 (Rat): 532 - 863 mg/kg
    LD50 (Mouse): 722 - 946 mg/kg
    Acute toxicity estimate: 532 mg/kg
    Method: Calculation method

  - Acute inhalation toxicity: LC50 (Rat): 1.200 mg/m³
    Exposure time: 4 h
    Test atmosphere: dust/mist
    Acute toxicity estimate: 1.2 mg/l
    Test atmosphere: dust/mist
    Method: Calculation method

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

**Skin corrosion/irritation**
Not classified based on available information.

**Components:**

- **lufenuron (ISO):**
  - **Species:** Rabbit
  - **Method:** Draize Test
  - **Result:** No skin irritation
Milbemycin Oxime: 
Species: Rabbit 
Method: OECD Test Guideline 404 
Result: No skin irritation 

**Serious eye damage/eye irritation**
Not classified based on available information. 

**Components:** 

**lufenuron (ISO):**
Species: Rabbit 
Method: Draize Test 
Result: No eye irritation 

**Milbemycin Oxime:**
Species: Rabbit 
Result: No eye irritation 

**Respiratory or skin sensitisation**

**Skin sensitisation**
May cause an allergic skin reaction. 

**Respiratory sensitisation**
Not classified based on available information. 

**Components:** 

**lufenuron (ISO):**
Test Type: Maximisation Test 
Species: Guinea pig 
Assessment: May cause sensitisation by skin contact. 
Result: Sensitiser 

**Milbemycin Oxime:**
Exposure routes: Skin contact 
Species: Guinea pig 
Result: negative 

**Germ cell mutagenicity**
Not classified based on available information. 

**Components:** 

**lufenuron (ISO):**
Genotoxicity in vitro: Test Type: Ames test 
Result: negative 

Test Type: Mouse Lymphoma
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Test system: Chinese hamster cells
Result: negative

Test Type: Cytogenetic assay
Test system: Chinese hamster ovary cells
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Test system: rat hepatocytes
Result: negative

Test system: Human lymphocytes
Result: negative

Genotoxicity in vivo:
: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
  Species: Mouse
  Result: negative

  Test Type: Unscheduled DNA synthesis test (UDS) in testicular cells
  Species: Rat
  Result: negative

Germ cell mutagenicity - Assessment
: Weight of evidence does not support classification as a germ cell mutagen.

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

  Test Type: Chromosome aberration test in vitro
  Result: negative

Genotoxicity in vivo
: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
  Species: Mouse
  Result: negative

Carcinogenicity
Not classified based on available information.

Components:

Lufenuron (ISO):
Species : Rat
Application Route : Ingestion
Exposure time : 18 month(s)
Result : negative

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen
Reproductive toxicity
May damage the unborn child.

Components:

lufenuron (ISO):

Effects on fertility:
- Test Type: Two-generation reproduction toxicity study
- Species: Rat
- Application Route: Oral
- General Toxicity - Parent: NOAEL: 8.3 mg/kg wet weight
- Early Embryonic Development: NOAEL: 20.9 mg/kg body weight
- Result: Animal testing did not show any effects on fertility.

Effects on foetal development:
- Test Type: Development
- Species: Rat
- Application Route: Oral
- General Toxicity Maternal: NOAEL: 500 mg/kg body weight
- Developmental Toxicity: NOAEL: 1.000 mg/kg body weight
- Symptoms: No adverse effects
- Remarks: No significant adverse effects were reported

Reproductive toxicity - Assessment:
- Clear evidence of adverse effects on development, based on animal experiments.

Milbemycin Oxime:

Effects on fertility:
- Test Type: One-generation reproduction toxicity study
- Species: Dog
- Application Route: Ingestion
- Result: negative

Effects on foetal development:
- Test Type: Embryo-foetal development
- Species: Rat
- Application Route: Ingestion
- Result: negative

Test Type: Embryo-foetal development
- Species: Rabbit
- Application Route: Ingestion
- Result: negative

Test Type: Embryo-foetal development
- Species: Dog
- Application Route: Ingestion
- Result: negative
STOT - single exposure
Not classified based on available information.

**Components:**
**Lufenuron (ISO):**
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure
Causes damage to organs through prolonged or repeated exposure.

**Components:**
**Lufenuron (ISO):**
Exposure routes: Oral
Target Organs: Central nervous system, Lungs, Liver, Stomach
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

**Milbemycin Oxime:**
Exposure routes: Ingestion
Target Organs: Central nervous system
Assessment: Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

Repeated dose toxicity

**Components:**
**Lufenuron (ISO):**
Species: Rat
NOAEL: 5.34 mg/kg
Application Route: oral (feed)
Exposure time: 4 Months
Target Organs: Central nervous system, digestive system
Symptoms: central nervous system effects

Species: Rat
NOAEL: 1.93 mg/kg
Application Route: oral (feed)
Exposure time: 2 yr
Symptoms: central nervous system effects, Convulsions

Species: Mouse
NOAEL: 2.12 mg/kg
Application Route: oral (feed)
Exposure time: 18 Months
Target Organs: Central nervous system, Liver, Prostate
Symptoms: central nervous system effects, Convulsions
Species: Dog
NOAEL: 7.02 mg/kg
Application Route: oral (feed)
Exposure time: 1 yr
Target Organs: Central nervous system, Liver, Lungs
Symptoms: Convulsions, Fatality, Irregularities

Milbemycin Oxime:
Species: Rat
NOAEL: 3 mg/kg
LOAEL: 15 mg/kg
Application Route: Ingestion
Exposure time: 90 Days
Symptoms: Liver disorders, Blood disorders

Species: Dog
LOAEL: 8.6 mg/kg
Application Route: Ingestion
Exposure time: 3 Days
Symptoms: Tremors

Aspiration toxicity
Not classified based on available information.

11.2 Information on other hazards
Endocrine disrupting properties
Product:
Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Experience with human exposure
Components:
Lufenuron (ISO):
General Information: Remarks: May be harmful if swallowed. May cause neurotoxic effects.

Milbemycin Oxime:
Ingestion: Symptoms: Salivation, Convulsions, Diarrhoea, Weakness, Vomiting, Tremors, Coma
Remarks: Based on Animal Evidence
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SECTION 12: Ecological information

12.1 Toxicity

**Components:**

**Lufenuron (ISO):**

- **Toxicity to fish:** 
  - LC50 (Oncorhynchus mykiss (rainbow trout)): > 73.100 µg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

- LC50 (Oncorhynchus mykiss (rainbow trout)): > 29.000 µg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

- LC50 (Oncorhynchus mykiss (rainbow trout)): 370 µg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

- **Toxicity to daphnia and other aquatic invertebrates:**
  - EC50 (Americamysis): 0,042 µg/l
  - Exposure time: 96 h

- **Toxicity to algae/aquatic plants:**
  - EC50 (Raphidocelis subcapitata (freshwater green alga)): 209 µg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

  - EC50 (Scenedesmus subspicatus): 17 µg/l
  - Exposure time: 72 h
  - Method: OECD Test Guideline 201

- **M-Factor (Acute aquatic toxicity):**
  - 10.000

- **Toxicity to fish (Chronic toxicity):**
  - NOEC: 80 µg/l
  - Exposure time: 33 d
  - Species: Oncorhynchus mykiss (rainbow trout)
  - Method: OECD Test Guideline 210

  - NOEC: 20 µg/l
  - Exposure time: 359 d
  - Species: Oncorhynchus mykiss (rainbow trout)
  - Method: OECD Test Guideline 229

- **Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):**
  - NOEC: 8,38 µg/l
  - Exposure time: 21 d
  - Species: Daphnia magna (Water flea)
  - Method: OECD Test Guideline 211

  - NOEC: 90 µg/l
  - Exposure time: 21 d
  - Species: Daphnia magna (Water flea)
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</tbody>
</table>

Method: OECD Test Guideline 211

| M-Factor (Chronic aquatic toxicity) | : | 10 |

**Milbemycin Oxime:**

**Toxicity to fish**

NOEC: 2 µg/l

Exposure time: 21 d

Species: Chironomus riparius (harlequin fly)

Method: OECD Test Guideline 211

**Exposure time**

Species: Chironomus riparius (harlequin fly)

Method: OECD Test Guideline 211

| M-Factor (Chronic aquatic toxicity) | : | 10.000 |

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**

NOEC: 0,01 µg/l

Species: Daphnia magna (Water flea)

**Exposure time**

Species: Chironomus riparius (harlequin fly)

Method: OECD Test Guideline 211

| M-Factor (Chronic aquatic toxicity) | : | 10.000 |

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

**Components:**

**lufenuron (ISO):**

Bioaccumulation: Species: Lepomis macrochirus (Bluegill sunfish)

Bioconcentration factor (BCF): 28

Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water: log Pow: 5,12

**Milbemycin Oxime:**

Bioaccumulation: Bioconcentration factor (BCF): 440

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

12.4 Mobility in soil

**Components:**

**lufenuron (ISO):**

Distribution among environ- : log Koc: 5,38
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 Endocrine disrupting properties

**Product:**
**Assessment:** The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

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.

**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 or ID number

- **ADN:** UN 3077
- **ADR:** UN 3077
- **RID:** UN 3077
- **IMDG:** UN 3077
- **IATA:** UN 3077

14.2 UN proper shipping name

- **ADN:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))
SAFETY DATA SHEET
government to Regulation (EC) No. 1907/2006

Milbemycin Oxime / Lufenuron Formulation

Version 2.1  Revision Date: 27.08.2021  SDS Number: 6387045-00003  Date of last issue: 11.03.2021
Date of first issue: 21.09.2020

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))

RID : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))

IATA : Environmentally hazardous substance, solid, n.o.s. (Milbemycin Oxime, lufenuron (ISO))

14.3 Transport hazard class(es)

ADR : 9

14.4 Packing group

ADR
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9

RID
Packing group : III
Classification Code : M7
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

IMDG
Packing group : III
Labels : 9

IATA (Cargo)
Packing instruction (cargo aircraft) : 956
Packing instruction (LQ) : Y956
Packing group : III
Labels : Miscellaneous

IATA (Passenger)
Milbemycin Oxime / Lufenuron Formulation

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 Maritime transport in bulk according to IMO instruments

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable


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<th>E1</th>
<th>ENVIRONMENTAL</th>
<th>Quantity 1</th>
<th>Quantity 2</th>
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HAZARDS

Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

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
- H302: Harmful if swallowed.
- H317: May cause an allergic skin reaction.
- H332: Harmful if inhaled.
- H360D: May damage the unborn child.
- H372: Causes damage to organs through prolonged or repeated exposure.
- 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
- Repr.: Reproductive toxicity
- Skin Sens.: Skin sensitisation
- STOT RE: Specific target organ toxicity - repeated exposure
Further information


Classification of the mixture:

| Skin Sens. 1 | H317 | Calculation method |
| Repr. 1B | H360D | Calculation method |
| STOT RE 1 | H372 | Calculation method |
| Aquatic Acute 1 | H400 | Calculation method |
| Aquatic Chronic 1 | H410 | Calculation method |

Classification procedure:

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.