SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Milbemycin Oxime / Lufenuron / Praziquantel Formulation

Manufacturer or supplier's details
Company: MSD
Address: Rua Coronel Bento Soares, 530 Cruzeiro - Sao Paulo - Brazil CEP 12730-340
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard
Skin sensitization: Category 1
Reproductive toxicity: Category 1B
Specific target organ toxicity - repeated exposure (Oral): Category 2 (Central nervous system, Lungs, Liver, Stomach)
Short-term (acute) aquatic hazard: Category 1
Long-term (chronic) aquatic hazard: Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard
Hazard pictograms:

Signal Word: Danger
Hazard Statements:
H317 May cause an allergic skin reaction.
H360D May damage the unborn child.
H373 May cause damage to organs (Central nervous system, Lungs, Liver, Stomach) through prolonged or repeated exposure if swallowed.
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.

Other hazards which do not result in classification
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

Substance / Mixture: Mixture

Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starch</td>
<td>9005-25-8</td>
<td></td>
<td>&gt;= 30 - &lt; 50</td>
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<tr>
<td>lufenuron (ISO)</td>
<td>103055-07-8</td>
<td>Acute toxicity (Oral), Category 5</td>
<td>&gt;= 5 - &lt; 10</td>
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<td></td>
<td></td>
<td>Acute toxicity (Dermal), Category 5</td>
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<tr>
<td></td>
<td></td>
<td>Skin sensitization, Category 1</td>
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<td>Reproductive toxicity, Category 1B</td>
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<td></td>
<td>Specific target organ toxicity - repeated exposure (Oral) (Central nervous system, Lungs, Liver, Stomach), Category 1</td>
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<td>Short-term (acute) aquatic hazard, Category 1</td>
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<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 1</td>
<td></td>
</tr>
<tr>
<td>Sucrose</td>
<td>57-50-1</td>
<td></td>
<td>&gt;= 5 - &lt; 10</td>
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<tr>
<td>Savorysel Bacon Flavor</td>
<td>Not Assigned</td>
<td></td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td>Praziquantel</td>
<td>55268-74-1</td>
<td>Acute toxicity (Oral), Category 5</td>
<td>&gt;= 2.5 - &lt; 5</td>
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<tr>
<td></td>
<td></td>
<td>Short-term (acute)</td>
<td></td>
</tr>
</tbody>
</table>
## SECTION 4. FIRST AID MEASURES

**General advice**: In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

**If inhaled**: If inhaled, remove to fresh air. Get medical attention.

**In case of skin contact**: In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**In case of eye contact**: 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.

**Most important symptoms and effects, both acute and delayed**: May cause an allergic skin reaction. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure if swallowed. Contact with dust can cause mechanical irritation or drying of
Protection of first-aiders: First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media: None known.

Specific hazards during fire fighting: Exposure to combustion products may be a hazard to health.

Hazardous combustion products: Carbon oxides
Nitrogen oxides (NOx)
Metal oxides
Chlorine compounds

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.

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

SECTION 6. ACCIDENTAL RELEASE MEASURES

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

Environmental precautions: Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: Sweep up or vacuum up spillage and collect in suitable container for disposal.
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.
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.

SECTION 7. HANDLING AND STORAGE

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 dust, fume, gas, mist, vapors 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. 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.

Conditions for safe storage: Keep in properly labeled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.

Materials to avoid: Do not store with the following product types: Strong oxidizing agents Organic peroxides Explosives Gases

SECTION 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Ingredients with workplace control parameters
Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
--- | --- | --- | --- | --- |
Starch | 9005-25-8 | TWA | 10 mg/m³ | ACGIH |
Lufenuron (ISO) | 103055-07-8 | TWA | OEB 3 (≥ 10 < 100 µg/m³) | Internal |
Sucrose | 57-50-1 | TWA | 10 mg/m³ | ACGIH |
Savorysel Bacon Flavor | Not Assigned | Wipe limit | OEB 2 (≥ 100 < 1000 µg/m³) | Internal |
Praziquantel | 55268-74-1 | TWA | 0.5 mg/m³ (OEB 2) | Internal |
Milbemycin Oxime | 129496-10-2 | TWA | 0.1 mg/m³ (OEB2) | Internal |

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
Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type: Combined particulates and organic vapor type
Hand protection
Material: Chemical-resistant gloves
Remarks: Consider double gloving.
Eye protection: Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance: solid
Color: brown
Odor: characteristic
SAFETY DATA SHEET

Milbemycin Oxime / Lufenuron / Praziquantel Formulation

Version 2.1  Revision Date: 27.08.2021  SDS Number: 7567905-00004  Date of last issue: 11.03.2021
Date of first issue: 20.11.2020

Odor Threshold : No data available
pH : No data available
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : Not applicable
Evaporation rate : Not applicable
Flammability (solid, gas) : May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids) : Not applicable
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapor pressure : Not applicable
Relative vapor density : Not applicable
Relative density : No data available
Density : No data available
Solubility(ies)
   Water solubility : soluble
Partition coefficient: n-octanol/water : Not applicable
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
   Viscosity, kinematic : Not applicable
Explosive properties : Not explosive
Oxidizing properties : The substance or mixture is not classified as oxidizing.
Molecular weight : No data available
Particle size : No data available
SAFETY DATA SHEET

Milbemycin Oxime / Lufenuron / Praziquantel
Formulation

Version 2.1  Revision Date: 27.08.2021  SDS Number: 7567905-00004  Date of last issue: 11.03.2021
Date of first issue: 20.11.2020

SECTION 10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.
Chemical stability: Stable under normal conditions.
Possibility of hazardous reactions:
- May form explosive dust-air mixture during processing, handling or other means.
- Can react with strong oxidizing agents.

Conditions to avoid:
- Heat, flames and sparks.
- Avoid dust formation.

Incompatible materials:
- Oxidizing agents

Hazardous decomposition products:
- No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity:
Not classified based on available information.

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

Components:

Starch:
- Acute oral toxicity: LD50 (Rat): > 5.000 mg/kg
- Acute dermal toxicity: LD50 (Rabbit): > 2.000 mg/kg

Ifenuron (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

Sucrose:
- Acute oral toxicity: LD50 (Rat): 29.700 mg/kg
SAFETY DATA SHEET
Milbemycin Oxime / Lufenuron / Praziquantel
Formulation

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**Savorysel Bacon Flavor:**

Acute oral toxicity: Remarks: Based on available data, the classification criteria are not met.

Acute inhalation toxicity: Remarks: Not classified due to lack of data.

Acute dermal toxicity: Remarks: Based on available data, the classification criteria are not met.

**Praziquantel:**

Acute oral toxicity: LD50 (Rat): 2.480 mg/kg

LD50 (Mouse): 2.454 mg/kg

LD50 (Dog): > 200 mg/kg

LD50 (Rabbit): 1.050 mg/kg

**Sodium chloride:**

Acute oral toxicity: LD50 (Rat): 3.550 mg/kg

Acute inhalation toxicity: LC50 (Rat): > 42 mg/l

Exposure time: 1 h

Test atmosphere: dust/mist

Acute dermal toxicity: LD50 (Rabbit): > 5.000 mg/kg

**Milbemycin Oxime:**

Acute oral toxicity: LD50 (Rat): 532 - 863 mg/kg

LD50 (Mouse): 722 - 946 mg/kg

Acute inhalation toxicity: LC50 (Rat): 1.200 mg/m³

Exposure time: 4 h

Test atmosphere: dust/mist

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

**Savorysel Bacon Flavor:**

Remarks: Based on data from similar materials
May irritate skin.

**Praziquantel:**
Species: Rabbit  
Method: Draize Test  
Remarks: slight irritation

**Sodium chloride:**
Species: Rabbit  
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:**

**Starch:**
Species: Rabbit  
Result: No eye irritation

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

**Savorysel Bacon Flavor:**
Remarks: Based on data from similar materials  
May irritate eyes.

**Praziquantel:**
Species: Rabbit  
Result: Mild eye irritation  
Method: Draize Test

**Sodium chloride:**
Species: Rabbit  
Result: No eye irritation

**Milbemycin Oxime:**
Species: Rabbit  
Result: No eye irritation
Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

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

Lufenuron (ISO):
Test Type: Maximization Test
Species: Guinea pig
Assessment: May cause sensitization by skin contact.
Result: Sensitizer

Savorysel Bacon Flavor:
Remarks: Not classified due to lack of data.

Praziquantel:
Test Type: Maximization Test
Routes of exposure: Dermal
Species: Guinea pig
Result: Not a skin sensitizer.

Sodium chloride:
Test Type: Local lymph node assay (LLNA)
Routes of exposure: Skin contact
Species: Mouse
Result: negative

Milbemycin Oxime:
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative

Germ cell mutagenicity
Not classified based on available information.

Components:

Starch:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
**SAFETY DATA SHEET**

**Milbemycin Oxime / Lufenuron / Praziquantel**

**Formulation**

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</tr>
</tbody>
</table>

**lufenuron (ISO):**

**Genotoxicity in vitro:**
- Test Type: Ames test
  - Result: negative
- Test Type: Mouse Lymphoma
  - 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.

**Sucrose:**

**Genotoxicity in vitro:**
- Test Type: In vitro mammalian cell gene mutation test
  - Result: negative

**Savorysel Bacon Flavor:**

**Genotoxicity in vitro:**
- Remarks: Not classified due to lack of data.

**Genotoxicity in vivo:**
- Remarks: Not classified due to lack of data.

**Praziquantel:**

**Genotoxicity in vitro:**
- Test Type: Bacterial reverse mutation assay (AMES)
  - Result: negative
- Test Type: Chromosomal aberration
  - Test system: Chinese hamster cells
  - Result: negative
Genotoxicity in vivo

Sodium chloride:
Genotoxicity in vitro

Genotoxicity in vivo

Germ cell mutagenicity - Assessment

Milbemycin Oxime:
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

Praziquantel:
Species : Hamster
Application Route : Oral
Exposure time : 80 weeks
NOAEL : 100 mg/kg body weight
Result : negative
Remarks : No significant adverse effects were reported
Species : Rat
Application Route : Oral
Exposure time : 104 weeks
NOAEL : 250 mg/kg body weight
Result : negative
Remarks : No significant adverse effects were reported

Sodium chloride:
Species : Rat
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

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 fetal 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

Test Type: Fertility/early embryonic development
Species: Rat
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 20.9 mg/kg body weight
Embryo-fetal toxicity: 8.3 mg/kg body weight
Result: Fetal abnormalities.

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

Savorysel Bacon Flavor:
Effects on fertility: Remarks: No data available
Effects on fetal development: Remarks: No data available

Praziquantel:
Effects on fertility: Test Type: Fertility
Species: Rat
Remarks: No significant adverse effects were reported

Test Type: Fertility
Species: Mouse
Remarks: No significant adverse effects were reported

Effects on fetal development: Test Type: Development
Species: Rat
Remarks: No significant adverse effects were reported

Test Type: Development
Species: Mouse
Remarks: No significant adverse effects were reported

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

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

Test Type: Embryo-fetal development
Species: Rabbit
Application Route: Ingestion
Result: negative
Test Type: Embryo-fetal 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**
May cause damage to organs (Central nervous system, Lungs, Liver, Stomach) through prolonged or repeated exposure if swallowed.

**Components:**

**lufenuron (ISO):**
Routes of exposure: 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:**
Routes of exposure: 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:**

**Starch:**
Species: Rat
NOAEL: >= 2.000 mg/kg
Application Route: Skin contact
Exposure time: 28 Days
Method: OECD Test Guideline 410

**lufenuron (ISO):**
Species: Rat
NOAEL: 5,34 mg/kg
Application Route: oral (feed)
Exposure time: 4 Months
Target Organs: Central nervous system, digestive system
SAFETY DATA SHEET

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Symptoms: central nervous system effects
Species: Rat
NOAEL: 1.93 mg/kg
Application Route: oral (feed)
Exposure time: 2 y
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 y
Target Organs: Central nervous system, Liver, Lungs
Symptoms: Convulsions, Fatality, Irregularities

Savorysel Bacon Flavor:
Remarks: Not classified due to lack of data.

Praziquantel:
Species: Rat
NOAEL: 1.000 mg/kg
Application Route: Oral
Remarks: No significant adverse effects were reported

Species: Dog
NOAEL: 60 mg/kg
LOAEL: 180 mg/kg
Application Route: Oral
Target Organs: Gastrointestinal tract
Remarks: No significant adverse effects were reported

Sodium chloride:
Species: Rat
NOAEL: 2.533 mg/kg
Application Route: Ingestion
Exposure time: 2 y

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.

Experience with human exposure

Components:

**Lufenuron (ISO):**
General Information: Remarks: May be harmful if swallowed. May cause neurotoxic effects.

**Savorysel Bacon Flavor:**
General Information: Remarks: Based on data from similar materials May irritate skin. May irritate eyes.

**Praziquantel:**
Inhalation: Symptoms: Headache, Tiredness, Dizziness, Gastrointestinal discomfort, decrease body temperature, Allergic reactions

**Milbemycin Oxime:**
Ingestion: Symptoms: Salivation, Convulsions, Diarrhea, Weakness, Vomiting, Tremors, Coma
Remarks: Based on Animal Evidence

Further information

Components:

**Savorysel Bacon Flavor:**
Remarks: No toxicology information is available.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

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
SAFETY DATA SHEET

Milbemycin Oxime / Lufenuron / Praziquantel
Formulation

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
Method: US-EPA OPPTS 850.1035

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 (Oncorhynchus mykiss (rainbow trout)): 80 µg/l
Exposure time: 33 d
Method: OECD Test Guideline 210

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

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES (CHRONIC TOXICITY):

NOEC (Daphnia magna (Water flea)): 8,38 µg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

NOEC (Daphnia magna (Water flea)): 90 µg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

NOEC (Chironomus riparius (harlequin fly)): 2 µg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity): 10

Praziquantel:
Toxicity to fish:
LC50 (Carassius auratus (goldfish)): 29,2 mg/l
Exposure time: 96 hrs
Method: OECD Test Guideline 203

LC50 (Danio rerio (zebra fish)): 31,6 mg/l
Exposure time: 96 hrs
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:
EC50 (Daphnia magna (Water flea)): 35 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Toxicity to microorganisms: EC50 (activated sludge): > 1.000 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition of activated sludge
Method: OECD Test Guideline 209

**Sodium chloride:**

| Toxicity to fish | LC50 (Lepomis macrochirus (Bluegill sunfish)): 5.840 mg/l | Exposure time: 96 h |
| To daphnia and other aquatic invertebrates | EC50 (Daphnia magna (Water flea)): 4.136 mg/l | Exposure time: 48 h |
| Toxicity to algae/aquatic plants | EC50: > 2.000 mg/l | Exposure time: 96 h |
| Toxicity to fish (Chronic toxicity) | NOEC (Pimephales promelas (fathead minnow)): 252 mg/l | Exposure time: 33 d |
| To daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Daphnia pulex (Water flea)): 314 mg/l | Exposure time: 21 d |
| Toxicity to microorganisms | EC10: > 1.000 mg/l |

**Milbemycin Oxime:**

| Toxicity to fish | LC50 (Oncorhynchus mykiss (rainbow trout)): 0,16 µg/l | Exposure time: 96 h |
| To daphnia and other aquatic invertebrates | EC50 (Daphnia magna (Water flea)): 0,03 µg/l | Exposure time: 48 h |
| Toxicity to algae/aquatic plants | EC50: > 87 µg/l | Exposure time: 72 h |
| M-Factor (Acute aquatic toxicity) | 10.000 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Daphnia magna (Water flea)): 0,01 µg/l |
| M-Factor (Chronic aquatic toxicity) | 10.000 |

**Persistence and degradability**

No data available

**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

Sucrose:
Partition coefficient: n-octanol/water: Pow: < 1

Praziquantel:
Partition coefficient: n-octanol/water: log Pow: 2.012
pH: 7

Milbemycin Oxime:
Bioaccumulation: Bioconcentration factor (BCF): 440
Partition coefficient: n-octanol/water: log Pow: 7

Mobility in soil

Components:

Lufenuron (ISO):
Distribution among environmental compartments: log Koc: 5.38
Method: OECD Test Guideline 106

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, Lufenuron (ISO))
Class: 9
Packing group: III
Labels: 9

IATA-DGR
UN/ID No.: UN 3077
Proper shipping name: Environmentally hazardous substance, solid, n.o.s.
SAFETY DATA SHEET

Milbemycin Oxime / Lufenuron / Praziquantel Formulation

Class: 9
Packing group: III
Labels: Miscellaneous
Packing instruction (cargo aircraft): 956
Packing instruction (passenger aircraft): 956
Environmentally hazardous: yes

IMDG-Code
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))
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.

Domestic regulation

ANTT
UN number: UN 3077
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Milbemycin Oxime, lufenuron (ISO))
Class: 9
Packing group: III
Labels: 9
Hazard Identification Number: 90

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

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National List of Carcinogenic Agents for Humans - (LINACH): Not applicable
Brazil. List of chemicals controlled by the Federal Police: Not applicable

The ingredients of this product are reported in the following inventories:
SECTION 16. OTHER INFORMATION

Further information

Full text of other abbreviations
ACGIH: USA. ACGIH Threshold Limit Values (TLV)
ACGIH / TWA: 8-hour, time-weighted average

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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