

## Milbemycin Oxime / Lufenuron / Praziquantel **Formulation**

Date of last issue: 30.09.2023 Version Revision Date: SDS Number: Date of first issue: 20.11.2020 3.0 28.09.2024 7567905-00010

#### **SECTION 1. IDENTIFICATION**

Product identifier Milbemycin Oxime / Lufenuron / Praziguantel Formulation

Manufacturer or supplier's details

MSD Company

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 Restrictions on use Not applicable

### **SECTION 2. HAZARDS IDENTIFICATION**

GHS Classification in accordance with ABNT NBR 14725 Standard

Skin sensitization Category 1

Reproductive toxicity Category 1B

repeated exposure (Oral)

Specific target organ toxicity - : 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,



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Lungs, Liver, Stomach) through prolonged or repeated expo-

sure if swallowed.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P272 Contaminated work clothing should not be allowed out of

the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water.

P308 + P313 IF exposed or concerned: Get medical advice/

attention.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

P391 Collect spillage.

Storage:

P405 Store locked up.

#### 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

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Starch	9005-25-8		>= 30 -< 50
Lufenuron (ISO)	103055-07-8	Acute Tox. (Oral), 5 Acute Tox. (Dermal), 5 Skin Sens., 1 Repr., 1B STOT RE, (Oral)(Central nervous system, Lungs, Liver, Stomach), 1 Aquatic Acute, 1 Aquatic Chronic, 1	>= 5 -< 10
Sucrose	57-50-1		>= 5 -< 10
Savorysel Bacon Flavor	Not Assigned		>= 5 -< 10
Praziquantel	55268-74-1	Acute Tox. (Oral), 5 Aquatic Acute, 3 Aquatic Chronic, 3	>= 2,5 -< 5



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Sodium chloride	7647-14-5	Acute Tox. (Oral), 5	>= 1 -< 5
Milbemycin Oxime	129496-10-2	Acute Tox. (Oral), 4 Acute Tox. (Inhalation), 4 Acute Tox. (Dermal), 5 STOT RE, (Central nervous system), 1 Aquatic Acute, 1 Aquatic Chronic, 1	>= 0,25 -< 1

#### **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. May cause an allergic skin reaction.

Most important symptoms and effects, both acute and

Protection of first-aiders

May damage the unborn child.

delayed

May cause damage to organs through prolonged or repeated

exposure if swallowed.

Contact with dust can cause mechanical irritation or drying of

the skin.

Dust contact with the eyes can lead to mechanical irritation. 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.



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Specific hazards during fire

fighting

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod- :

Carbon oxides

Nitrogen oxides (NOx)

Metal oxides

Chlorine compounds

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

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

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, protec- :

tive equipment and emer-

gency 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



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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

Self-reactive substances and mixtures

Organic peroxides

Explosives Gases

#### **SECTION 8. EXPOSURE CONTROLS/PERSONAL 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/m <sup>3</sup>	ACGIH	
Lufenuron (ISO)	103055-07-8	TWA	60 μg/m3 (OEB 3)	Internal	
	Further informa	Further information: DSEN			
		Wipe limit	100 μg/100 cm2	Internal	
Sucrose	57-50-1	TWA	10 mg/m <sup>3</sup>	ACGIH	
Savorysel Bacon Flavor	Not Assigned	Wipe limit	OEB 2 (>= 100 <	Internal	



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			1000 μg/m3)	
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

If adequate local exhaust ventilation is not available or Respiratory protection

exposure assessment demonstrates exposures outside the

recommended guidelines, use respiratory protection. Combined particulates and organic vapor type

Filter 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.

Work uniform or laboratory coat. Skin and body protection

> 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**

Physical state solid

Color brown

Odor characteristic

Odor Threshold No data available

pН No data available

Melting point/freezing point No data available

Initial boiling point and boiling : No data available



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range

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 characteristics

Particle size : No data available

#### **SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

May form explosive dust-air mixture during processing,

handling or other means.



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Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Avoid dust formation.

Incompatible materials

Hazardous decomposition

products

Oxidizing agents

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

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/m<sup>3</sup>

Test atmosphere: dust/mist

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

Sucrose:

Acute oral toxicity : LD50 (Rat): 29.700 mg/kg

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.



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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/m<sup>3</sup>

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: RabbitMethod: Draize TestResult: No skin irritation

Savorysel Bacon Flavor:

Remarks : Based on data from similar materials

May irritate skin.

Praziquantel:

Species: RabbitMethod: Draize TestRemarks: slight irritation



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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.



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#### **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

Lufenuron (ISO):

Genotoxicity in vitro : Test Type: Ames test

Result: negative

Test Type: Mouse Lymphoma
Test system: Chinese hamster cells



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Result: negative

Test Type: Cytogenetic assay

Test system: Chinese hamster ovary cells

Result: negative

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis 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 testicu-

lar 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 : Test Type: Micronucleus test

Species: Rat Result: negative

Sodium chloride:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test

Result: positive



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Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: Saccharomyces cerevisiae, gene mutation assay

(in vitro) Result: positive

Test Type: DNA damage and repair, unscheduled DNA syn-

thesis in mammalian cells (in vitro)

Result: positive

Test Type: Chromosome aberration test in vitro

Result: positive

Test Type: Chromosome aberration test in vitro

Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Intraperitoneal injection

Result: positive

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)



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Result : negative

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

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 : 104 weeks

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



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Embryo-fetal toxicity.: 8,3 mg/kg body weight

Result: Fetal abnormalities.

Reproductive toxicity - As-

sessment

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.



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#### **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 con-

centrations 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 con-

centrations 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

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



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Application Route oral (feed) Exposure time

 : 18 Months
 : Central nervous system, Liver, Prostate
 : Central nervous system effects, Convuls Target Organs Symptoms : central nervous system effects, Convulsions

Species : Dog NOAEL : 7,02 mg/kg Application Route Exposure time : oral (feed)

: 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

1.000 mg/kg NOAEL

: Application Route Oral

: No significant adverse effects were reported Remarks

Species Dog NOAEL : 60 mg/kg : 180 mg/kg LOAEL Application Route : Oral

Target Organs : Gastrointestinal tract

Remarks : No significant adverse effects were reported

Sodium chloride:

Species : Rat

: 2.533 mg/kg LOAEL Application Route : Ingestion Exposure time : 2 y

Milbemycin Oxime:

Species Rat NOAEL 3 mg/kg LOAEL : 15 mg/kg : Ingestion Application Route Exposure time 90 Days

Symptoms : Liver disorders, Blood disorders

Species : Dog LOAEL : 8,6 mg/kg : Ingestion Application Route Exposure time : 3 Days : Tremors Symptoms

#### **Aspiration toxicity**

Not classified based on available information.



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**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

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 (Daphnia magna (Water flea)): 0,41 μg/l

Exposure time: 48 h



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Method: OECD Test Guideline 202

Toxicity to algae/aquatic : EC50 (Raphidocelis s

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 tox-

city

10.000

ty)

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 (Chron-

ic 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



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Sodium chloride:

Toxicity to fish LC50 (Lepomis macrochirus (Bluegill sunfish)): 5.840 mg/l

Exposure time: 96 h

Toxicity 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 tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 252 mg/l

Exposure time: 33 d

Toxicity to daphnia and other: aguatic invertebrates (Chron-

ic 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

Toxicity 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:  $> 87 \mu g/l$ 

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

10.000

10.000

Toxicity to daphnia and other:

aquatic invertebrates (Chron-

ic toxicity)

M-Factor (Chronic aquatic

toxicity)

NOEC (Daphnia magna (Water flea)): 0,01 µg/l

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



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Praziquantel:

Partition coefficient: nlog Pow: 2,012

octanol/water pH: 7

Milbemycin Oxime:

Bioaccumulation Bioconcentration factor (BCF): 440

Partition coefficient: nlog Pow: 7

octanol/water

Mobility in soil

**Components:** Lufenuron (ISO):

Distribution among environlog Koc: 5,38

mental compartments Method: OECD Test Guideline 106

Other adverse effects

No data available

#### **SECTION 13. DISPOSAL CONSIDERATIONS**

Disposal methods

Waste from residues Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste

handling site for recycling or disposal.

If not otherwise specified: Dispose of as unused product.

#### **SECTION 14. TRANSPORT INFORMATION**

### **International Regulations**

**UNRTDG** 

UN 3077 UN number

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Milbemycin Oxime, Lufenuron (ISO))

Class 9 Ш Packing group Labels 9 Environmentally hazardous yes

**IATA-DGR** 

UN 3077 UN/ID No.

Environmentally hazardous substance, solid, n.o.s. Proper shipping name

(Milbemycin Oxime, Lufenuron (ISO))

Class 9 Packing group Ш

Miscellaneous Labels

Packing instruction (cargo 956



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aircraft)

Packing instruction (passen- : 956

ger aircraft)

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 - : Not applicable

(LINACH)

Brazil. List of chemicals controlled by the Federal : Not applicable

Police

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

AICS : not determined

DSL : not determined

IECSC : not determined



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#### **SECTION 16. OTHER INFORMATION**

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**Further information** 

**Data Sheet** 

Sources of key data used to compile the Material Safety

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agen-

cy, http://echa.europa.eu/

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 other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals: OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods: vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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



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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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