according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

Version Revision Date: SDS Number: Date of last issue: 04/13/2024 3.0 07/06/2024 7900798-00011 Date of first issue: 03/17/2021

### **SECTION 1. IDENTIFICATION**

Product name : Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc Address : 126 E. Lincoln Avenue

126 E. LINCOIN Avenue

Rahway, New Jersey U.S.A. 07065

Telephone : 908-740-4000 Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@merck.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 the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

Reproductive toxicity : Category 2

**GHS** label elements

Hazard pictograms



Signal Word : Warning

Hazard Statements : If small particles are generated during further processing, han-

dling or by other means, may form combustible dust concentra-

tions in air.

H361d Suspected of damaging the unborn child.

Precautionary Statements : Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read

and understood.

P280 Wear protective gloves, protective clothing, eye protection

and face protection.

Response:

P308 + P313 IF exposed or concerned: Get medical attention.

Storage:

P405 Store locked up.

according to the OSHA Hazard Communication Standard



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## Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

#### Other hazards

Dust contact with the eyes can lead to mechanical irritation.

#### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substance / Mixture Mixture

## Components

Chemical name	CAS-No.	Concentration (% w/w)
Cellulose	9004-34-6	28.689
4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1)	22204-24-6	18
Fluralaner	864731-61-3	12.5
Magnesium Aluminometasilicate	12511-31-8	6.25
Sodium n-dodecyl sulfate	151-21-3	2
Moxidectin	113507-06-5	0.0313

#### **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 plenty of water.

Remove contaminated clothing and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

If in eyes, rinse well with water. In case of eye contact

Get medical attention if irritation develops and persists.

: If swallowed, DO NOT induce vomiting. If swallowed

Get medical attention.

Rinse mouth thoroughly with water.

Most important symptoms and effects, both acute and Suspected of damaging the unborn child.

delayed Protection of first-aiders 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).

Treat symptomatically and supportively. Notes to physician

## **SECTION 5. FIRE-FIGHTING MEASURES**

according to the OSHA Hazard Communication Standard



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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 prod- :

ucts

Carbon oxides

Chlorine compounds Fluorine compounds Nitrogen oxides (NOx)

Sulfur oxides Metal oxides Silicon oxides

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

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, 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.

according to the OSHA Hazard Communication Standard



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#### **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 : Use only with adequate ventilation. Advice on safe handling : Do not get on skin or clothing.

Do not breathe dust. Do not swallow.

Avoid contact with eyes.

Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure

assessment

Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition.

Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labeled containers.

Store locked up.

Store in accordance with the particular national regulations.

Materials to avoid : Do not store with the following product types:

Strong oxidizing agents

## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

## Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis	
Cellulose	9004-34-6	TWA	10 mg/m <sup>3</sup>	ACGIH	
		TWA (Respirable)	5 mg/m³	NIOSH REL	
		TWA (total)	10 mg/m <sup>3</sup>	NIOSH REL	
		TWA (total dust)	15 mg/m³	OSHA Z-1	
		TWA (respirable fraction)	5 mg/m³	OSHA Z-1	
4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1)	22204-24-6	TWA	250 μg/m3 (OEB 2)	Internal	
Fluralaner	864731-61-3	TWA	100 μg/m3 (OEB 2)	Internal	
	Further information: Skin				
		Wipe limit	1000 μg/100 cm <sup>2</sup>	Internal	
Magnesium	12511-31-8	TWA (Res-	1 mg/m³	ACGIH	

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Aluminometasilicate		pirable par- ticulate mat- ter)	(Aluminum)	
Moxidectin	113507-06-5	TWA	10 μg/m3 (OEB 3)	Internal
		Wipe limit	100 μg/100 cm <sup>2</sup>	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 : General and local exhaust ventilation is recommended to

maintain vapor exposures below recommended limits. Where

concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and

use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any

hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other

circumstance where air purifying respirators may not provide

adequate protection.

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.

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. Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment,

according to the OSHA Hazard Communication Standard



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appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

#### **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : solid

Color : light pink, to, light brown

Odor : aromatic

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 : No data available

Partition coefficient: n-

octanol/water

Not applicable

Autoignition temperature : No data available

Decomposition temperature : No data available

according to the OSHA Hazard Communication Standard



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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.

Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.

Avoid dust formation.
Oxidizing agents

Incompatible materials

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

## **Components:**

#### Cellulose:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.8 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

according to the OSHA Hazard Communication Standard



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

4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

Acute oral toxicity : LD50 (Rat): > 24,000 mg/kg

LD50 (Mouse): > 24,000 mg/kg

LD50 (Dog): 2,000 mg/kg

Fluralaner:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Remarks: No mortality observed at this dose. No significant adverse effects were reported

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Remarks: No significant adverse effects were reported

Magnesium Aluminometasilicate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 1 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3.500 mg/kg

Sodium n-dodecyl sulfate:

Acute oral toxicity : LD50 (Rat): 1,200 mg/kg

Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Method: OECD Test Guideline 402

Remarks: Based on data from similar materials

Moxidectin:

Acute oral toxicity : LD50 (Rat): 106 mg/kg

LD50 (Mouse): 42 - 84 mg/kg

Acute inhalation toxicity : LC50 (Rat): 3.28 mg/l

Exposure time: 5 h

Test atmosphere: dust/mist

LC50 (Rat): 2.87 - 4.06 mg/l Test atmosphere: dust/mist

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

Remarks: No significant adverse effects were reported

Acute toxicity (other routes of : LD50 (Rat): 394 mg/kg

administration)

Application Route: Intraperitoneal

LD50 (Mouse): 84 mg/kg

Application Route: Intraperitoneal

LD50 (Rat): > 640 mg/kg

Application Route: Subcutaneous

LD50 (Mouse): 263 mg/kg

Application Route: Subcutaneous

#### Skin corrosion/irritation

Not classified based on available information.

#### **Components:**

### Fluralaner:

Species Rabbit

No skin irritation Result

### Magnesium Aluminometasilicate:

Species Rabbit

Result No skin irritation

Remarks Based on data from similar materials

## Sodium n-dodecyl sulfate:

Species Rabbit Result Skin irritation

#### Moxidectin:

**Species** Rabbit

Result Mild skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### Fluralaner:

**Species** Rabbit

Result Mild eye irritation

### Magnesium Aluminometasilicate:

Species : Rabbit

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Result : No eye irritation

Remarks : Based on data from similar materials

Sodium n-dodecyl sulfate:

Species : Rabbit

Result : Irreversible effects on the eye
Method : OECD Test Guideline 405

Moxidectin:

Species : Rabbit

Result : Moderate eye irritation

## Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

#### Components:

#### Fluralaner:

Test Type : Maximization Test

Routes of exposure : Dermal Species : Guinea pig

Result : Not a skin sensitizer.

### Magnesium Aluminometasilicate:

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

Method : OECD Test Guideline 406

Result : negative

Remarks : Based on data from similar materials

## Sodium n-dodecyl sulfate:

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

Remarks : Based on data from similar materials

## Moxidectin:

Test Type : Buehler Test Routes of exposure : Dermal Species : Guinea pig

Result : Not a skin sensitizer.

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## Germ cell mutagenicity

Not classified based on available information.

#### Components:

#### Cellulose:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Test Type: Mammalian erythrocyte micronucleus test (in vivo Genotoxicity in vivo

> cytogenetic assay) Species: Mouse

Application Route: Ingestion

Result: negative

## 4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

Genotoxicity in vitro Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Fluralaner:

Test Type: Bacterial reverse mutation assay (AMES) Genotoxicity in vitro

Result: negative

Test Type: Mouse Lymphoma

Result: negative

Test Type: Chromosomal aberration

Result: negative

Genotoxicity in vivo Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow Application Route: Oral Result: negative

### Magnesium Aluminometasilicate:

Genotoxicity in vitro Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro

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Result: negative

Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Sodium n-dodecyl sulfate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: Ingestion

Result: negative

Moxidectin:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Result: negative

Test Type: in vitro test Test system: Escherichia coli

Result: negative

Genotoxicity in vivo : Test Type: Chromosomal aberration

Species: Rat

Cell type: Bone marrow Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with

mammalian liver cells in vivo

Species: Rat Cell type: Liver cells Result: negative

#### Carcinogenicity

Not classified based on available information.

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### Components:

#### Cellulose:

**Species** Rat Application Route Exposure time : Ingestion : 72 weeks Result : negative

#### Fluralaner:

Carcinogenicity - Assess-: No data available

ment

## Magnesium Aluminometasilicate:

Species Application Route
Exposure time : Ingestion 103 weeks Result : negative

Remarks Based on data from similar materials

### Sodium n-dodecyl sulfate:

Species Rat Application Route :
Exposure time :
Method : Ingestion : 2 Years

Method : OECD Test Guideline 453

Result : negative

Remarks : Based on data from similar materials

#### Moxidectin:

: Mouse Species Application Route
Exposure time Oral : 2 Years

NOAEL : 4.5 mg/kg body weight

Result : negative

Species
Application Route
Exposure time Rat : Oral : 2 Years

: 4.5 mg/kg body weight NOAEL

Result negative

Species Dog Application Route Oral Exposure time 1 Years

NOAEL 0.5 mg/kg body weight

Result negative

No ingredient of this product present at levels greater than or equal to 0.1% is IARC

identified as probable, possible or confirmed human carcinogen by IARC.

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**OSHA** No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

**NTP** No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

## Reproductive toxicity

Suspected of damaging the unborn child.

#### Components:

#### Cellulose:

Effects on fertility Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Effects on fetal development: Test Type: Fertility/early embryonic development

Species: Rat

Application Route: Ingestion

Result: negative

## 4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

Effects on fetal development: Test Type: Embryo-fetal development

Species: Rat

Application Route: Oral

Developmental Toxicity: NOAEL: 3,000 mg/kg body weight

Result: No effects on fertility and early embryonic

development were detected.

Test Type: Embryo-fetal development

Species: Rabbit Application Route: Oral

Developmental Toxicity: NOAEL: 1,000 mg/kg body weight

Result: No effects on fertility and early embryonic

development were detected.

### Fluralaner:

Test Type: Two-generation study Effects on fertility

Species: Rat

Application Route: Oral

General Toxicity Parent: NOAEL: 50 mg/kg body weight General Toxicity F1: LOAEL: 100 mg/kg body weight

Result: No effects on fertility., Postimplantation loss., Adverse

neonatal effects.

Test Type: One-generation reproduction toxicity study

Species: Dog

Application Route: Oral

Fertility: NOAEL: 75 mg/kg body weight

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Result: No effects on fertility and early embryonic

development were detected.

Remarks: No significant adverse effects were reported

Effects on fetal development : Test Type: Development

Species: Rat

Application Route: Oral

Developmental Toxicity: NOAEL: 100 mg/kg body weight Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses,

No teratogenic effects.

Test Type: Development

Species: Rabbit Application Route: Oral

Developmental Toxicity: NOAEL: 10 mg/kg body weight Result: Skeletal malformations., Visceral malformations.

Remarks: Maternal toxicity observed.

Test Type: Development

Species: Rabbit

Application Route: Dermal

Developmental Toxicity: NOAEL: 100 mg/kg body weight

Result: Skeletal malformations.

Reproductive toxicity - As-

sessment

Suspected of damaging the unborn child.

# Magnesium Aluminometasilicate:

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

### Sodium n-dodecyl sulfate:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 416

Result: negative

Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Moxidectin:

Effects on fertility : Test Type: Two-generation reproduction toxicity study

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Species: Rat

Application Route: Oral

General Toxicity F1: LOAEL: 0.8 mg/kg body weight Symptoms: Reduced fetal weight., Fetal mortality. Result: No effects on fertility., Some evidence of adverse effects on development, based on animal experiments.

Test Type: Three-generation reproduction toxicity study

Species: Rat

Application Route: Oral

General Toxicity F1: LOAEL: 0.8 mg/kg body weight Symptoms: Reduced fetal weight., Fetal mortality. Result: No effects on fertility., Some evidence of adverse effects on development, based on animal experiments.

Effects on fetal development : Test Type: Embryo-fetal development

Species: Rat

Application Route: Oral

General Toxicity Maternal: LOAEL: 10 mg/kg body weight Embryo-fetal toxicity.: LOAEL: 10 mg/kg body weight

Result: Skeletal malformations.

Remarks: The effects were seen only at maternally toxic dos-

es.

Test Type: Embryo-fetal development

Species: Rabbit Application Route: Oral

General Toxicity Maternal: LOAEL: 5 mg/kg body weight Developmental Toxicity: NOAEL: 10 mg/kg body weight Result: No teratogenic effects., No embryotoxic effects.

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on development, based on

animal experiments.

## STOT-single exposure

Not classified based on available information.

#### STOT-repeated exposure

Not classified based on available information.

#### Components:

#### Moxidectin:

Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

according to the OSHA Hazard Communication Standard



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#### Repeated dose toxicity

#### **Components:**

#### Cellulose:

Species : Rat

>= 9,000 mg/kgNOAEL

Application Route : Ingestion Exposure time : 90 Days

## 4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

Species Doa NOAEL 10 mg/kg 30 mg/kg LOAEL Application Route Ingestion

Exposure time 3 d

Remarks No significant adverse effects were reported

Species Dog 600 mg/kg NOAEL Application Route Oral Exposure time 19 d

Remarks No significant adverse effects were reported

Species Dog NOAEL 600 mg/kg Application Route Oral Exposure time 30 d

Remarks No significant adverse effects were reported

Species Dog NOAEL 600 mg/kg Application Route Oral Exposure time 90 d

Remarks No significant adverse effects were reported

#### Fluralaner:

Species Dog NOAEL 1 mg/kg Application Route Oral : 52 Weeks Exposure time Target Organs : Liver

Remarks No significant adverse effects were reported

Species Juvenile dog LOAEL : 56 - 280 mg/kg

Application Route : Oral Exposure time 24 Weeks Symptoms Diarrhea

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate **Formulation**

Version Revision Date: SDS Number: Date of last issue: 04/13/2024 07/06/2024 7900798-00011 3.0 Date of first issue: 03/17/2021

**Species** Rat Species : Rat
LOAEL : 400 mg/k
Application Route : Oral
Exposure time : 90 Days
Target Organs : Liver, thy 400 mg/kg

: Liver, thymus gland Target Organs

Species Rat NOAEL 500 mg/kg Application Route : Derm Exposure time : 90 Da Target Organs : Liver Remarks : No signature : 500 n Dermal : 90 Days

Remarks : No significant adverse effects were reported

### Magnesium Aluminometasilicate:

Species

: >= 1000 mg/kg

: >= 1000 n
Application Route : Ingestion
Exposure time : 100 Days Exposure time

### Sodium n-dodecyl sulfate:

Species Rat NOAEL : 488 mg/kg
Application Route : Ingestion
Exposure time : 90 Days 488 mg/kg

Remarks : Based on data from similar materials

#### Moxidectin:

Species : Mouse NOAEL : 3.9 mg/kg LOAEL : 15.4 mg/kg Application Route
Exposure time : Oral 4 Weeks Symptoms : Tremors

Species NOAEL LOAEL Application Route Exposure time Target Organs Symptoms Rat 3.9 mg/kg : 7.9 mg/kg Oral 13 Weeks

Central nervous system Symptoms Tremors, Salivation

Species Dog NOAEL 0.3 mg/kg LOAEL : 0.9 mg/kg Application Route
Exposure time
Target Organs
Symptoms : Oral : 90 Days

: Central nervous system

Symptoms Tremors, Lachrymation, Salivation

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

Version Revision Date: SDS Number: Date of last issue: 04/13/2024 3.0 07/06/2024 7900798-00011 Date of first issue: 03/17/2021

Species : Dog
NOAEL : 1.15 mg/kg
Application Route : Oral
Exposure time : 52 Weeks

Target Organs : Central nervous system Symptoms : Tremors, Lachrymation

### **Aspiration toxicity**

Not classified based on available information.

### **Components:**

#### Fluralaner:

Not applicable

#### **Experience with human exposure**

#### Components:

4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

Ingestion : Symptoms: Abdominal pain, Nausea, Vomiting, Diarrhea,

Headache, Dizziness, Fever

Fluralaner:

Skin contact : Remarks: May irritate skin.

Eye contact : Remarks: May cause eye irritation.

Moxidectin:

Inhalation : Remarks: No human information is available.
Skin contact : Remarks: No human information is available.
Eye contact : Remarks: No human information is available.
Ingestion : Remarks: No human information is available.

#### **SECTION 12. ECOLOGICAL INFORMATION**

#### **Ecotoxicity**

### Components:

#### Cellulose:

Toxicity to fish : LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l

Exposure time: 48 h

Remarks: Based on data from similar materials

4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-thienyl)vinyl]pyrimidine (1:1):

## **Ecotoxicology Assessment**

Acute aquatic toxicity : Toxic effects cannot be excluded

Chronic aquatic toxicity : Toxic effects cannot be excluded

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate **Formulation**

Version Revision Date: Date of last issue: 04/13/2024 SDS Number: 07/06/2024 3.0 7900798-00011 Date of first issue: 03/17/2021

П

Fluralaner:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.0488 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Remarks: No toxicity at the limit of solubility.

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 0.015 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic

plants

: NOEC (Pseudokirchneriella subcapitata (green algae)): >=

0.08 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Remarks: No toxicity at the limit of solubility.

Toxicity to fish (Chronic tox-

icity)

NOEC (Zebrafish): >= 0.049 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 204

Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other: aguatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.0736 μg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

#### Magnesium Aluminometasilicate:

**Ecotoxicology Assessment** 

Chronic aquatic toxicity : No toxicity at the limit of solubility.

Sodium n-dodecyl sulfate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 29 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Ceriodaphnia dubia (water flea)): 5.55 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

ErC50 (Desmodesmus subspicatus (green algae)): > 120 mg/l

Exposure time: 72 h

NOEC (Desmodesmus subspicatus (green algae)): 30 mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): >= 1.357

Exposure time: 42 d

Toxicity to daphnia and other : NOEC (Ceriodaphnia dubia (water flea)): 0.88 mg/l

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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aquatic invertebrates (Chron-

ic toxicity)

Toxicity to microorganisms

Exposure time: 7 d

EC50: 135 mg/l

Exposure time: 3 h

Moxidectin:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.0006 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

LC50 (Oncorhynchus mykiss (rainbow trout)): 0.0002 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 0.00003 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

: EC50 (Pseudokirchneriella subcapitata (green algae)): 0.087

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

#### Persistence and degradability

#### **Components:**

Cellulose:

Biodegradability : Result: Readily biodegradable.

Sodium n-dodecyl sulfate:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 95 % Exposure time: 28 d

Method: OECD Test Guideline 301B

Bioaccumulative potential

**Components:** 

Fluralaner:

Bioaccumulation : Species: Zebrafish

Bioconcentration factor (BCF): 79.4 Method: OECD Test Guideline 305

Partition coefficient: n-

octanol/water

: log Pow: 4.5

Sodium n-dodecyl sulfate:

Partition coefficient: n-

octanol/water

log Pow: 0.83

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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Moxidectin:

Partition coefficient: n- : log Pow: 4.7

octanol/water

Mobility in soil

**Components:** 

Fluralaner:

Distribution among environ-

mental compartments

: log Koc: 4.1

Other adverse effects

**Components:** 

Fluralaner:

Results of PBT and vPvB

assessment

Substance is not persistent, bioaccumulative, and toxic (PBT).

**SECTION 13. DISPOSAL CONSIDERATIONS** 

**Disposal methods** 

Waste from residues : Dispose of in accordance with local regulations.

Do not dispose of waste into sewer.

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.

956

(Fluralaner, Moxidectin)

Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 3077

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

(Fluralaner, Moxidectin)

Class : 9 Packing group : III

Labels : Miscellaneous

Packing instruction (cargo

aircraft)

Packing instruction (passen- : 956

22 / 26

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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ger aircraft)

Environmentally hazardous : yes

**IMDG-Code** 

UN number : UN 3077

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID,

N.O.S.

(Fluralaner, Moxidectin)

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**

**49 CFR** 

UN/ID/NA number : UN 3077

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

(Fluralaner, Moxidectin)

Class : 9
Packing group : III
Labels : CLA

Labels : CLASS 9 ERG Code : 171

Marine pollutant : yes(Fluralaner, Moxidectin)

Remarks : Above applies only to containers over 119 gallons or 450

liters.

Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

#### 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**

## **CERCLA Reportable Quantity**

Listed substances in the product are at low enough levels to not be expected to exceed the RQ

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

### SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Combustible dust

Reproductive toxicity

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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SARA 313 : This material does not contain any chemical components with

known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **US State Regulations**

## Pennsylvania Right To Know

Cellulose 9004-34-6 4,4'-Methylenebis[3-hydroxy-2-naphthoic] acid, compound 22204-24-6

with (E)-1,4,5,6-tetrahydro-1-methyl-2-[2-(2-

thienyl)vinyl]pyrimidine (1:1)

Fluralaner 864731-61-3
Propylene oxide polymer with ethylene oxide 9003-11-6
Croscarmellose sodium 74811-65-7
Pork by products Not Assigned
Magnesium Aluminometasilicate 12511-31-8
Hydroxypropyl methylcellulose 9004-65-3
Sodium hydroxide 1310-73-2

**California Permissible Exposure Limits for Chemical Contaminants** 

Cellulose 9004-34-6

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

AICS : not determined

DSL : not determined

IECSC : not determined

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

#### **Further information**

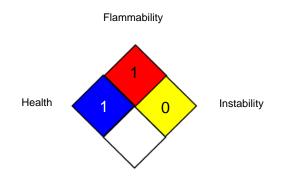
according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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#### NFPA 704:



Special hazard

#### HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "\*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

## Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
NIOSH REL : USA. NIOSH Recommended Exposure Limits

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-1 Lim-

its for Air Contaminants

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

NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour

workday during a 40-hour workweek

OSHA Z-1 / TWA : 8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office

according to the OSHA Hazard Communication Standard



# Fluralaner / Moxidectin / Pyrantel Pamoate Formulation

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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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Sources of key data used to compile the Material Safety

Data Sheet

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

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

Revision Date : 07/06/2024

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

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.

US / Z8