

## Fluazuron / Abamectin Formulation

Version **Revision Date:** SDS Number: Date of last issue: 06.04.2024 800392-00025 7.0 06.07.2024 Date of first issue: 12.07.2016

**SECTION 1: IDENTIFICATION** 

Fluazuron / Abamectin Formulation Product name

Manufacturer or supplier's details

Company Intervet Australia Pty Limited (trading as MSD Animal Health)

Address 91-105 Harpin Street

Bendigo 3550, Victoria Austrailia

Telephone 1 800 033 461

Emergency telephone number : Poisons Information Centre: Phone 13 11 26

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** 

Flammable liquids Category 3

Acute toxicity (Inhalation) Category 4

Skin corrosion/irritation Category 2

Serious eye damage/eye irri-

tation

Category 2A

Skin sensitisation Category 1

Germ cell mutagenicity Category 2

Reproductive toxicity Category 1B

Specific target organ toxicity -

single exposure

Category 3

repeated exposure

Specific target organ toxicity - : Category 2 (Central nervous system)

### **GHS** label elements



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Hazard pictograms :







Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction. H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H341 Suspected of causing genetic defects. H360D May damage the unborn child.

H373 May cause damage to organs (Central nervous system)

through prolonged or repeated exposure.

Precautionary statements : pr

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P241 Use explosion-proof electrical/ ventilating/ lighting equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P260 Do not breathe mist or vapours.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ at-

tention.



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards which do not result in classification

Vapours may form explosive mixture with air.

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

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)
Propan-2-ol	67-63-0	>= 30 -< 60
N-Methyl-2-pyrrolidone	872-50-4	>= 30 -< 60
Fluazuron	86811-58-7	< 10
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	>= 1 -< 3
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	2386-87-0	>= 1 -< 10

## **SECTION 4. FIRST AID MEASURES**

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water

for at least 15 minutes while removing contaminated clothing

and shoes.

Get medical attention. Wash clothing before reuse.

Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water

for at least 15 minutes.

If easy to do, remove contact lens, if worn.

Get medical attention.

If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

Never give anything by mouth to an unconscious person.

Most important symptoms : Causes skin irritation.



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

and effects, both acute and

delayed

May cause an allergic skin reaction.

Causes serious eye irritation.

Harmful if inhaled.

May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing genetic defects.

May damage the unborn child.

May cause damage to organs through prolonged or repeated

exposure.

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. FIREFIGHTING MEASURES**

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire-

fighting

Do not use a solid water stream as it may scatter and spread

fire.

Flash back possible over considerable distance. Vapours may form explosive mixtures with air.

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Nitrogen oxides (NOx) Chlorine compounds Fluorine 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

SO.

Evacuate area.

Special protective equipment

for firefighters Hazchem Code In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

: •3Y

### **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protec- :

tive equipment and emer-

gency procedures

Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

Prevent spreading over a wide area (e.g. by containment or oil



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

barriers).

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

Non-sparking tools should be used. Soak up with inert absorbent material.

Suppress (knock down) gases/vapours/mists with a water

spray jet.

For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absor-

bent.

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 deter-

mine 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 : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Advice on safe handling

Do not get on skin or clothing.

Do not breathe mist or vapours.

Do not swallow. Do not get in eyes.

Wash skin thoroughly after handling.

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

sessment

Non-sparking tools should be used. Keep container tightly closed.

Already sensitised individuals, and those susceptible

to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respira-

tory irritants or sensitisers.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

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



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

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 labelled containers.

Store locked up. Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition.

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

Self-reactive substances and mixtures

Organic peroxides Oxidizing agents Flammable gases Pyrophoric liquids Pyrophoric solids

Self-heating substances and mixtures

Poisonous gases Explosives

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis	
Propan-2-ol	67-63-0	STEL	500 ppm 1,230 mg/m3	AU OEL	
		TWA	400 ppm 983 mg/m3	AU OEL	
		TWA	200 ppm	ACGIH	
		STEL	400 ppm	ACGIH	
N-Methyl-2-pyrrolidone	872-50-4	TWA	25 ppm 103 mg/m3	AU OEL	
	Further information: Skin absorption				
		STEL	75 ppm 309 mg/m3	AU OEL	
	Further informa	ation: Skin absorption			
Fluazuron	86811-58-7	TWA	60 μg/m3 (OEB 3)	Internal	
		Wipe limit	600 μg/ 100cm2	Internal	
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	TWA	15 μg/m3 (OEB 3)	Internal	



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Wipe limit 150 μg/100 cm<sup>2</sup> Internal

## Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
N-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI

**Engineering measures** 

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections).

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to

protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face con-

tainment devices). Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type Hand protection Combined particulates and organic vapour type

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flam-

mable, which may impact the selection of hand protection.

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



# Fluazuron / Abamectin Formulation

Version 7.0

Revision Date: 06.07.2024

SDS Number: 800392-00025

Date of last issue: 06.04.2024 Date of first issue: 12.07.2016

task being performed (e.g., sleevelets, apron, gauntlets, dis-

posable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

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

Appearance : liquid

Colour : No data available

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : 28 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : Not applicable

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-

octanol/water

: Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Viscosity

Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Molecular weight : No data available

Particle characteristics

Particle size : Not applicable

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

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

Possibility of hazardous reac-

t's as

tions Vapours may form explosive mixture with air.

Can react with strong oxidizing agents.

Flammable liquid and vapour.

Conditions to avoid : Heat, flames and sparks.

Incompatible materials : Oxidizing agents

Hazardous decomposition : No hazardous

products

No hazardous decomposition products are known.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Exposure routes : Inhalation

Skin contact Ingestion Eye contact

Acute toxicity

Harmful if inhaled.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: 2.06 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg

Method: Calculation method



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

### **Components:**

Propan-2-ol:

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

Acute inhalation toxicity : LC50 (Rat): > 25 mg/l

Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

N-Methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

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

Fluazuron:

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

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 6.0 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

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

Method: OECD Test Guideline 402

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

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

LD50 (Mouse): 10 mg/kg

LDLo (Monkey): 24 mg/kg

Symptoms: Dilatation of the pupil

Acute inhalation toxicity : LC50 (Rat): 0.023 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): 330 mg/kg

LD50 (Rabbit): 2,000 mg/kg

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Acute oral toxicity : LD50 (Rat, male): > 2,959 - 5,000 mg/kg

Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): >= 5.19 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist Method: OECD Test Guideline 436

Assessment: The substance or mixture has no acute inhala-

tion toxicity

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

Method: OECD Test Guideline 402

Assessment: The substance or mixture has no acute dermal

toxicity

#### Skin corrosion/irritation

Causes skin irritation.

#### **Components:**

Propan-2-ol:

Species : Rabbit

Result : No skin irritation

N-Methyl-2-pyrrolidone:

Result : Skin irritation

Fluazuron:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rabbit

Result : No skin irritation

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

## Serious eye damage/eye irritation

Causes serious eye irritation.

**Components:** 

Propan-2-ol:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

N-Methyl-2-pyrrolidone:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Fluazuron:

Species : Rabbit

Result : Mild eye irritation

Method : OECD Test Guideline 405

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rabbit

Result : Mild eye irritation

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

**Components:** 

Propan-2-ol:

Test Type : Buehler Test Exposure routes : Skin contact Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

N-Methyl-2-pyrrolidone:

Test Type : Local lymph node assay (LLNA)

Exposure routes : Skin contact Species : Mouse

Method : OECD Test Guideline 429

Result : negative

Remarks : Based on data from similar materials

Fluazuron:

Exposure routes : Skin contact Species : Guinea pig Result : negative



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

#### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Test Type : Maximisation Test Exposure routes : Skin contact

Result : Not a skin sensitizer.

### 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : positive

Assessment : Probability or evidence of skin sensitisation in humans

### **Chronic toxicity**

### Germ cell mutagenicity

Suspected of causing genetic defects.

#### **Components:**

### Propan-2-ol:

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

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

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

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

### N-Methyl-2-pyrrolidone:

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

Method: OECD Test Guideline 476

Result: negative

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

thesis in mammalian cells (in vitro)

Result: negative

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

cytogenetic assay) Species: Mouse



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Application Route: Ingestion

Method: OECD Test Guideline 474

Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Hamster

Application Route: Ingestion Method: OECD Test Guideline 475

Result: negative

Fluazuron:

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

Result: negative

Test Type: DNA Repair

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Cytogenetic assay

Species: Hamster Result: equivocal

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

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 lung cells

Result: negative

Test Type: Alkaline elution assay

Result: negative

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

cytogenetic test, chromosomal analysis)

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

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

Method: OECD Test Guideline 471

Result: positive

Test Type: In vitro mammalian cell gene mutation test

Result: positive



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Test Type: In vitro sister chromatid exchange assay in mam-

malian cells Result: positive

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

thesis in mammalian cells (in vitro)

Result: positive

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with

mammalian liver cells in vivo

Species: Rat

Application Route: Ingestion

Method: OECD Test Guideline 486

Result: negative

Test Type: Micronucleus test

Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

Test Type: Transgenic rodent somatic cell gene mutation as-

say

Species: Mouse

Application Route: Ingestion Method: OECD Test Guideline 488

Result: positive

Germ cell mutagenicity -

Assessment

Positive result(s) from in vivo mammalian somatic cell muta-

genicity tests.

#### Carcinogenicity

Not classified based on available information.

#### **Components:**

### Propan-2-ol:

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 104 weeks

Method : OECD Test Guideline 451

Result : negative

# N-Methyl-2-pyrrolidone:

Species: RatApplication Route: IngestionExposure time: 2 YearsResult: negative

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 2 Years



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Result : negative

Fluazuron:

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

Method : OECD Test Guideline 453

Result : negative

Species : Mouse
Application Route : Ingestion
Exposure time : 2 Years
Result : negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rat
Application Route : Oral
Exposure time : 105 weeks
Result : negative

Species : Mouse
Application Route : Oral
Exposure time : 93 weeks
Result : negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species : Mouse
Application Route : Skin contact
Exposure time : 29 Months
Result : negative

Reproductive toxicity

May damage the unborn child.

**Components:** 

Propan-2-ol:

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

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop: Test Type: Embryo-foetal development

ment Species: Rat

Application Route: Ingestion

Result: negative

N-Methyl-2-pyrrolidone:

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



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Species: Rat

Application Route: Ingestion
Method: OECD Test Guideline 416

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: positive

Test Type: Fertility/early embryonic development

Species: Rat

Application Route: inhalation (vapour)

Result: positive

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion

Result: positive

Reproductive toxicity - As-

sessment

Clear evidence of adverse effects on development, based on

animal experiments.

Fluazuron:

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

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion

Method: OECD Test Guideline 414

Result: negative

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Effects on fertility : Test Type: Fertility

Species: Rat, male Application Route: Oral Result: Effects on fertility

Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Oral

Early Embryonic Development: NOAEL: 0.12 mg/kg body



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

weight

Result: Fetotoxicity

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Mouse

Application Route: Oral

General Toxicity Maternal: NOAEL: 0.05 mg/kg body weight Developmental Toxicity: NOAEL: 0.2 mg/kg body weight

Result: Cleft palate

Remarks: Adverse developmental effects were observed

Test Type: Embryo-foetal development

Species: Rabbit Application Route: Oral

Developmental Toxicity: LOAEL: 2 mg/kg body weight Result: Cleft palate, Teratogenic effects, Reduced embryonic

survival

Remarks: Adverse developmental effects were observed

Test Type: Development

Species: Rat

Application Route: Oral

Developmental Toxicity: LOAEL: 1.6 mg/kg body weight

Result: Teratogenic effects

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of

adverse effects on development, based on animal experi-

ments.

#### 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Effects on foetal develop-

: Test Type: Embryo-foetal development

ment

Species: Rat Application Route: Ingestion

Method: OECD Test Guideline 414

Result: negative

#### STOT - single exposure

May cause respiratory irritation. May cause drowsiness or dizziness.

## **Components:**

Propan-2-ol:

Assessment : May cause drowsiness or dizziness.

N-Methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

### STOT - repeated exposure

May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

### Components:

## abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Exposure routes : Ingestion

Target Organs : Central nervous system

Assessment : Causes damage to organs through prolonged or repeated

exposure.

# 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Exposure routes : Ingestion
Target Organs : nasal cavity

Assessment : Shown to produce significant health effects in animals at con-

centrations of >10 to 100 mg/kg bw.

### Repeated dose toxicity

#### **Components:**

### Propan-2-ol:

Species : Rat NOAEL : 12.5 mg/l

Application Route : inhalation (vapour)

Exposure time : 104 Weeks

## N-Methyl-2-pyrrolidone:

Species: Rat, maleNOAEL: 169 mg/kgLOAEL: 433 mg/kgApplication Route: IngestionExposure time: 90 Days

Method : OECD Test Guideline 408

 Species
 : Rat

 NOAEL
 : 0.5 mg/l

 LOAEL
 : 1 mg/l

Application Route : inhalation (dust/mist/fume)

Exposure time : 96 Days

Method : OECD Test Guideline 413

Species : Rabbit

NOAEL : 826 mg/kg

LOAEL : 1,653 mg/kg

Application Route : Skin contact

Exposure time : 20 Days

Fluazuron:

Species : Rat



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

LOAEL : 240 mg/kg
Application Route : Ingestion
Exposure time : 13 Weeks

Target Organs : Liver, Thyroid, Pituitary gland

Species: RatNOAEL: 10 mg/kgLOAEL: 100 mg/kgApplication Route: Skin contactExposure time: 3 Weeks

Species : Dog
NOAEL : 7.5 mg/kg
LOAEL : 110 mg/kg
Application Route : Ingestion
Exposure time : 52 Weeks
Target Organs : Liver

### abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species : Rat

NOAEL : 1.5 mg/kg

Application Route : Oral

Exposure time : 24 Months

Target Organs : Central nervous system

Symptoms : Tremors, ataxia

Species: MouseNOAEL: 4.0 mg/kgApplication Route: OralExposure time: 24 Months

Target Organs : Central nervous system

Symptoms : Tremors, ataxia

 Species
 : Dog

 NOAEL
 : 0.25 mg/kg

 LOAEL
 : 0.5 mg/kg

 Application Route
 : Oral

 Exposure time
 : 53 Weeks

Target Organs : Central nervous system
Symptoms : Tremors, weight loss
Remarks : mortality observed

Species : Monkey
NOAEL : 1.0 mg/kg
Application Route : Oral
Exposure time : 14 Weeks

Target Organs : Central nervous system

## 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species : Rat NOAEL : 5 mg/kg



## Fluazuron / Abamectin Formulation

Version SDS Number: Date of last issue: 06.04.2024 Revision Date: 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

LOAEL 50 mg/kg Application Route : Ingestion Exposure time 90 Davs

Method : OECD Test Guideline 408

**Aspiration toxicity** 

Not classified based on available information.

**Experience with human exposure** 

**Components:** 

N-Methyl-2-pyrrolidone:

Skin contact : Symptoms: Skin irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Symptoms: May cause, Tremors, Diarrhoea, central nervous Ingestion

system effects, Salivation, tearing

**SECTION 12. ECOLOGICAL INFORMATION** 

**Ecotoxicity** 

**Components:** 

Propan-2-ol:

: LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l Toxicity to fish

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l

Exposure time: 24 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 1,050 mg/l

Exposure time: 16 h

N-Methyl-2-pyrrolidone:

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): > 500 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 1,000 mg/l

Exposure time: 24 h Method: DIN 38412

Toxicity to algae/aquatic

plants

: ErC50 (Desmodesmus subspicatus (green algae)): 600.5 mg/l

Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 92.6 mg/l

Exposure time: 72 h

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 12.5 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211



## Fluazuron / Abamectin Formulation

Version SDS Number: Date of last issue: 06.04.2024 Revision Date: 800392-00025 7.0 06.07.2024 Date of first issue: 12.07.2016

Toxicity to microorganisms : EC50: > 600 mg/l

> Exposure time: 30 min Method: ISO 8192

Fluazuron:

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 9.1 mg/l

Exposure time: 96 h

aquatic invertebrates

Toxicity to daphnia and other : EC50 (Daphnia sp. (water flea)): 0.0006 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

NOEC (Raphidocelis subcapitata (freshwater green alga)):

27.9 mg/l

Exposure time: 72 h

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 µg/l

Exposure time: 96 h

LC50 (Lepomis macrochirus (Bluegill sunfish)): 9.6 µg/l

Exposure time: 96 h

LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l

Exposure time: 96 h

LC50 (Cyprinus carpio (Carp)): 42 µg/l

Exposure time: 96 h

LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Americamysis): 0.022 µg/l

Exposure time: 96 h

EC50 (Daphnia magna (Water flea)): 0.34 μg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

EC50 (Pseudokirchneriella subcapitata (green algae)): 100

mg/l

Exposure time: 72 h

Toxicity to fish (Chronic tox-

icity)

NOEC (Pimephales promelas (fathead minnow)): 0.52 µg/l

Exposure time: 32 d

Toxicity to daphnia and other:

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 0.03 µg/l

Exposure time: 21 d

NOEC (Mysidopsis bahia (opossum shrimp)): 0.0035 µg/l

Exposure time: 28 d



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Toxicity to microorganisms : EC50: > 1,000 mg/l

Exposure time: 3 h

Test Type: Respiration inhibition

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other :

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 40 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Raphidocelis subcapitata (freshwater green alga)): >

110 mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Raphidocelis subcapitata (freshwater green alga)): 30

mg/l

Exposure time: 72 h

Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 (activated sludge): 409 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

#### Persistence and degradability

## **Components:**

Propan-2-ol:

Biodegradability : Result: rapidly degradable

BOD/COD : BOD: 1,19 (BOD5)

COD: 2,23 BOD/COD: 53 %

N-Methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 73 % Exposure time: 28 d

Method: OECD Test Guideline 301C

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Stability in water : Hydrolysis: 50 %(< 12 h)

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Biodegradability : Result: Not readily biodegradable.



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

Biodegradation: 71 % Exposure time: 28 d

Method: OECD Test Guideline 301B

Bioaccumulative potential

**Components:** 

Propan-2-ol:

Partition coefficient: n-

: log Pow: 0.05

octanol/water

N-Methyl-2-pyrrolidone:

Partition coefficient: n-

: log Pow: -0.46

octanol/water

Method: OECD Test Guideline 107

Fluazuron:

Partition coefficient: n-

log Pow: 5.1

octanol/water

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 52

Partition coefficient: n-

octanol/water

log Pow: 4

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Partition coefficient: n- : log Pow: 1.34

octanol/water Method: OECD Test Guideline 107

Mobility in soil

**Components:** 

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Distribution among environ-

mental compartments

: log Koc: > 3.6

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 han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources



## Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 800392-00025 7.0 06.07.2024 Date of first issue: 12.07.2016

> of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

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

#### **International Regulations**

**UNRTDG** 

**UN** number UN 1993

Proper shipping name FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol)

Class 3 Ш Packing group Labels 3 Environmentally hazardous no

IATA-DGR

UN/ID No. UN 1993

Flammable liquid, n.o.s. Proper shipping name

(Propan-2-ol)

Class 3 Packing group Ш

Labels Flammable Liquids 366

Packing instruction (cargo

aircraft)

Packing instruction (passen: 355

ger aircraft)

**IMDG-Code** 

**UN** number UN 1993

Proper shipping name FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol, Fluazuron, abamectin (combination of avermec-

tin B1a and avermectin B1b) (ISO))

Class 3 Packing group Ш Labels 3 **EmS Code** F-E, S-E Marine pollutant ves

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

**National Regulations** 

**ADG** 

**UN** number UN 1993

FLAMMABLE LIQUID, N.O.S. Proper shipping name

(Propan-2-ol)

Class 3 Ш Packing group Labels 3 Hazchem Code •3Y Environmentally hazardous no



## Fluazuron / Abamectin Formulation

Date of last issue: 06.04.2024 Version Revision Date: SDS Number: 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

### 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 mix-

Therapeutic Goods (Poisons: Standard) Instrument

Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might

apply for this chemical)

Prohibition/Licensing Requirements There is no applicable prohibition,

> authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regula-

tions.

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

**AICS** not determined

DSL not determined

**IECSC** not determined

#### **SECTION 16: ANY OTHER RELEVANT INFORMATION**

**Further information** 

**Revision Date** 06.07.2024

Sources of key data used to compile the Safety Data

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

Sheet 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.

Date format

Full text of other abbreviations

**ACGIH** USA. ACGIH Threshold Limit Values (TLV) ACGIH BEI ACGIH - Biological Exposure Indices (BEI)

dd.mm.yyyy

Australia. Workplace Exposure Standards for Airborne Con-AU OEL

taminants.

8-hour, time-weighted average ACGIH / TWA Short-term exposure limit ACGIH / STEL

AU OEL / TWA Exposure standard - time weighted average



# Fluazuron / Abamectin Formulation

Version Revision Date: SDS Number: Date of last issue: 06.04.2024 7.0 06.07.2024 800392-00025 Date of first issue: 12.07.2016

AU OEL / STEL : Exposure standard - short term exposure limit

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 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.

AU / EN