

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

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

#### 1.1 Product identifier

Trade name : Fluazuron / Abamectin Formulation

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

#### 1.3 Details of the supplier of the safety data sheet

Company : MSD  
 20 Spartan Road  
 1619 Spartan, South Africa

Telephone : +27119239300

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

#### 1.4 Emergency telephone number

+1-908-423-6000

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### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)





Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Reproductive toxicity, Category 1B	H360D: May damage the unborn child.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

## 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**

- 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 through prolonged or repeated exposure.  
 H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**  
 P201 Obtain special instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- Response:**  
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
 P391 Collect spillage.

Hazardous components which must be listed on the label:

Propan-2-ol  
 N-Methyl-2-pyrrolidone  
 7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate  
 abamectin (combination of avermectin B1a and avermectin B1b) (ISO)

**Additional Labelling**

Restricted to professional users.

## 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Vapours may form explosive mixture with air.

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Components**

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Propan-2-ol	67-63-0 200-661-7 603-117-00-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 30 - < 50
N-Methyl-2-pyrrolidone	872-50-4 212-828-1 606-021-00-7	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Repr. 1B; H360D STOT SE 3; H335	>= 30 - < 50
Fluazuron	86811-58-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 1.000 M-Factor (Chronic aquatic toxicity): 1.000	>= 2,5 - < 10
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2 606-143-00-0	Acute Tox. 2; H300 Acute Tox. 1; H330 Acute Tox. 3; H311 Repr. 2; H361fd STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 10.000	>= 1 - < 2,5
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	2386-87-0 219-207-4	Skin Sens. 1; H317 Muta. 2; H341 STOT RE 2; H373 (nasal cavity) Aquatic Chronic 3; H412	>= 1 - < 2,5
2,6-Di-tert-butyl-p-cresol	128-37-0 204-881-4	Aquatic Acute 1; H400	>= 0,1 - < 0,25

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

		Aquatic Chronic 1; H410	
		M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of 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.
- 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).
- 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 : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.  
Never give anything by mouth to an unconscious person.

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

- Risks : Causes skin irritation.  
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.

**Fluazuron / Abamectin Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

May cause damage to organs through prolonged or repeated exposure.

**4.3 Indication of any immediate medical attention and special treatment needed**

Treatment : Treat symptomatically and supportively.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
Dry chemical

Unsuitable extinguishing media : High volume water jet

**5.2 Special hazards arising from the substance or mixture**

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 products : Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Chlorine compounds  
Fluorine compounds

**5.3 Advice for firefighters**

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
Use water spray to cool unopened containers.  
Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Personal precautions : Remove all sources of ignition.  
Use personal protective equipment.  
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

**6.2 Environmental precautions**

Environmental precautions : Avoid release to the environment.

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## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Prevent further leakage or spillage if safe to do so.  
Prevent spreading over a wide area (e.g. by containment or oil barriers).  
Retain and dispose of contaminated wash water.  
Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : 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 absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting equipment.

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 assessment  
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 respiratory irritants or sensitisers.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Take precautionary measures against static discharges.

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

Hygiene measures : Do not eat, drink or smoke when using this product.  
 Take care to prevent spills, waste and minimize release to the environment.  
 : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace.  
 Wash contaminated clothing before re-use.  
 The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:  
 Strong oxidizing agents  
 Self-reactive substances and mixtures  
 Organic peroxides  
 Flammable solids  
 Pyrophoric liquids  
 Pyrophoric solids  
 Self-heating substances and mixtures  
 Substances and mixtures, which in contact with water, emit flammable gases  
 Explosives  
 Gases  
 Very acutely toxic substances and mixtures

**7.3 Specific end use(s)**

Specific use(s) : No data available

**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Propan-2-ol	67-63-0	OEL-RL	400 ppm	ZA OEL
		Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents		
		OEL- RL STEL/C	800 ppm	ZA OEL
		Further information: Occupational Exposure Limits - Restricted Limits For Hazardous Chemical Agents		
N-Methyl-2-pyrrolidone	872-50-4	TWA	10 ppm 40 mg/m <sup>3</sup>	2009/161/EU
		STEL	20 ppm	2009/161/EU

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

			80 mg/m <sup>3</sup>	
		TWA	10 ppm 40 mg/m <sup>3</sup>	2004/37/EC
		STEL	20 ppm 80 mg/m <sup>3</sup>	2004/37/EC
Fluazuron	86811-58-7	TWA	60 µg/m <sup>3</sup> (OEB 3)	Internal
		Wipe limit	600 µg/ 100cm <sup>2</sup>	Internal
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	TWA	15 µg/m <sup>3</sup> (OEB 3)	Internal
		Wipe limit	150 µg/100 cm <sup>2</sup>	Internal

**Biological occupational exposure limits**

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Propan-2-ol	67-63-0	Acetone: 40 mg/l (Urine)	End of shift at end of workweek	ZA BEI

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

Substance name	End Use	Exposure routes	Potential health effects	Value
N-Methyl-2-pyrrolidone	Workers	Inhalation	Long-term systemic effects	14,4 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	40 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	4,8 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	3,6 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	4,5 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	2,4 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,85 mg/kg bw/day
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	Workers	Inhalation	Long-term systemic effects	0,18 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	0,18 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	0,05 mg/kg bw/day
Propan-2-ol	Workers	Inhalation	Long-term systemic effects	500 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	888 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	89 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	319 mg/kg



# SAFETY DATA SHEET



## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

			effects	bw/day
	Consumers	Ingestion	Long-term systemic effects	26 mg/kg bw/day
2,6-Di-tert-butyl-p-cresol	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Dermal	Long-term systemic effects	0,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,86 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,25 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,25 mg/kg bw/day

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

Substance name	Environmental Compartment	Value
N-Methyl-2-pyrrolidone	Fresh water	0,25 mg/l
	Freshwater - intermittent	5 mg/l
	Marine water	0,025 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	1,09 mg/kg dry weight (d.w.)
	Marine sediment	1,09 mg/kg dry weight (d.w.)
	Soil	0,07 mg/kg dry weight (d.w.)
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	Fresh water	0,024 mg/l
	Freshwater - intermittent	0,24 mg/l
	Marine water	0,0024 mg/l
	Sewage treatment plant	19,5 mg/l
	Fresh water sediment	0,211 mg/kg dry weight (d.w.)
	Marine sediment	0,0211 mg/kg dry weight (d.w.)
Propan-2-ol	Soil	0,0282 mg/kg dry weight (d.w.)
	Fresh water	140,9 mg/l
	Marine water	140,9 mg/l
	Intermittent use/release	140,9 mg/l
	Sewage treatment plant	2251 mg/l
	Fresh water sediment	552 mg/kg dry weight (d.w.)
2,6-Di-tert-butyl-p-cresol	Marine sediment	552 mg/kg dry weight (d.w.)
	Soil	28 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	160 mg/kg food
2,6-Di-tert-butyl-p-cresol	Fresh water	0,199 µg/l
	Intermittent use/release	0,02 µg/l
	Marine water	0,02 µg/l
	Sewage treatment plant	0,17 mg/l

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

	Fresh water sediment	0,0996 mg/kg dry weight (d.w.)
	Marine sediment	0,00996 mg/kg dry weight (d.w.)
	Soil	0,04769 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	8,33 mg/kg food

**8.2 Exposure controls****Engineering measures**

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less 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 containment devices).

Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

**Personal protective equipment**

- Eye/face protection : Wear safety glasses with side shields or goggles.  
 If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
 Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
- Hand protection
- Material : Chemical-resistant gloves
- Remarks : Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.
- Skin and body protection : Work uniform or laboratory coat.  
 Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.  
 Use appropriate degowning techniques to remove potentially contaminated clothing.
- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type : Combined particulates and organic vapour type (A-P)

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

- Appearance : liquid
- Colour : No data available
- Odour : No data available
- Odour Threshold : No data available
- pH : No data available

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

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
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
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

**9.2 Other information**

Flammability (liquids)	:	Not applicable
Molecular weight	:	No data available
Particle size	:	Not applicable

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**SECTION 10: Stability and reactivity****10.1 Reactivity**

Not classified as a reactivity hazard.

**Fluazuron / Abamectin Formulation**

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

Hazardous reactions : Flammable liquid and vapour.  
Vapours may form explosive mixture with air.  
Can react with strong oxidizing agents.

**10.4 Conditions to avoid**

Conditions to avoid : Heat, flames and sparks.

**10.5 Incompatible materials**

Materials to avoid : Oxidizing agents

**10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects**

Information on likely routes of exposure : 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

**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:**

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

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:**

Acute oral toxicity : LD50 (Rat, male): > 2.959 - 5.000 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat):  $\geq$  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 inhalation 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

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

**2,6-Di-tert-butyl-p-cresol:**

Acute oral toxicity : LD50 (Rat): > 6.000 mg/kg  
Method: OECD Test Guideline 401

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

**2,6-Di-tert-butyl-p-cresol:**

Species : Rabbit  
Method : OECD Test Guideline 404  
Result : No skin irritation  
Remarks : Based on data from similar materials

**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: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

**N-Methyl-2-pyrrolidone:**

Species	: Rabbit
Result	: Irritation to eyes, reversing within 21 days

**Fluazuron:**

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: Mild eye irritation

**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
Method	: OECD Test Guideline 405
Result	: No eye irritation

**2,6-Di-tert-butyl-p-cresol:**

Species	: Rabbit
Method	: OECD Test Guideline 405
Result	: No eye irritation
Remarks	: Based on data from similar materials

**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:**

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

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

**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

**2,6-Di-tert-butyl-p-cresol:**

Test Type : Human repeat insult patch test (HRIPT)  
 Exposure routes : Skin contact  
 Species : Humans  
 Result : negative

**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 synthesis in mammalian cells (in vitro)



## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Genotoxicity in vivo : Result: negative

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

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Result: positive

Test Type: In vitro sister chromatid exchange assay in mammalian cells

Result: positive

Test Type: DNA damage and repair, unscheduled DNA synthesis 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 assay

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 mutagenicity tests.

**2,6-Di-tert-butyl-p-cresol:**

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: Chromosome aberration test in vitro

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Rat  
Application Route: Ingestion  
Result: negative

**Carcinogenicity**

Not classified based on available information.

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

**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 : Rat  
Application Route : Ingestion  
Exposure time : 2 Years  
Result : negative

Species : Rat  
Application Route : inhalation (vapour)  
Exposure time : 2 Years  
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

**2,6-Di-tert-butyl-p-cresol:**

Species : Rat

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Application Route : Ingestion  
 Exposure time : 22 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 development : Test Type: Embryo-foetal development  
 Species: Rat  
 Application Route: Ingestion  
 Result: negative

**N-Methyl-2-pyrrolidone:**

Effects on fertility : Test Type: Two-generation reproduction toxicity study  
 Species: Rat  
 Application Route: Ingestion  
 Method: OECD Test Guideline 416  
 Result: negative

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

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

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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 weight  
Result: Fetotoxicity

Effects on foetal development

: 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 - Assessment

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

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

Effects on foetal development

: Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Method: OECD Test Guideline 414

Result: negative

**2,6-Di-tert-butyl-p-cresol:**

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

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

**STOT - repeated exposure**

May cause damage to organs 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 concentrations of >10 to 100 mg/kg bw.

**2,6-Di-tert-butyl-p-cresol:**

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

**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, male  
NOAEL : 169 mg/kg  
LOAEL : 433 mg/kg  
Application Route : Ingestion  
Exposure 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  
LOAEL : 240 mg/kg  
Application Route : Ingestion  
Exposure time : 13 Weeks  
Target Organs : Liver, Thyroid, Pituitary gland

Species : Rat  
NOAEL : 10 mg/kg  
LOAEL : 100 mg/kg  
Application Route : Skin contact  
Exposure 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

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

NOAEL : 1,5 mg/kg  
Application Route : Oral  
Exposure time : 24 Months  
Target Organs : Central nervous system  
Symptoms : Tremors, ataxia

Species : Mouse  
NOAEL : 4,0 mg/kg  
Application Route : Oral  
Exposure 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  
LOAEL : 50 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days  
Method : OECD Test Guideline 408

**2,6-Di-tert-butyl-p-cresol:**

Species : Rat  
NOAEL : 25 mg/kg  
Application Route : Ingestion  
Exposure time : 22 Months

**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):**

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



## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

system effects, Salivation, tearing

**SECTION 12: Ecological information****12.1 Toxicity****Components:****Propan-2-ol:**

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9.640 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : 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

Toxicity to daphnia and other aquatic invertebrates : 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 microorganisms : EC50 : > 600 mg/l  
Exposure time: 30 min  
Method: ISO 8192

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 12,5 mg/l  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: OECD Test Guideline 211

**Fluazuron:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): > 9,1 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : 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

M-Factor (Acute aquatic tox- : 1.000

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

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M-Factor (Chronic aquatic toxicity) : 1.000

**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

M-Factor (Acute aquatic toxicity) : 10.000

Toxicity to microorganisms : EC50 : > 1.000 mg/l  
 Exposure time: 3 h  
 Test Type: Respiration inhibition

Toxicity to fish (Chronic toxicity) : NOEC: 0,52 µg/l  
 Exposure time: 32 d  
 Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,03 µg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)

NOEC: 0,0035 µg/l  
 Exposure time: 28 d  
 Species: Mysidopsis bahia (opossum shrimp)

M-Factor (Chronic aquatic toxicity) : 10.000

**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

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
 Date of first issue: 12.07.2016

- 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
- 2,6-Di-tert-butyl-p-cresol:**
- Toxicity to fish : LC50 (Danio rerio (zebra fish)): > 0,57 mg/l  
 Exposure time: 96 h  
 Method: Directive 67/548/EEC, Annex V, C.1.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,48 mg/l  
 Exposure time: 48 h  
 Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0,24 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24 mg/l  
 Exposure time: 72 h  
 Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC50 : > 10.000 mg/l  
 Exposure time: 3 h  
 Method: OECD Test Guideline 209
- Toxicity to fish (Chronic toxicity) : NOEC: 0,053 mg/l  
 Exposure time: 30 d  
 Species: Oryzias latipes (Japanese medaka)  
 Method: OECD Test Guideline 210
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,316 mg/l  
 Exposure time: 21 d  
 Species: Daphnia magna (Water flea)

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

M-Factor (Chronic aquatic toxicity) : 1

**12.2 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.  
Biodegradation: 71 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B

**2,6-Di-tert-butyl-p-cresol:**

Biodegradability : Result: Not readily biodegradable.  
Biodegradation: 4,5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301C

**12.3 Bioaccumulative potential****Components:****Propan-2-ol:**

Partition coefficient: n-octanol/water : log Pow: 0,05

**N-Methyl-2-pyrrolidone:**

Partition coefficient: n-octanol/water : log Pow: -0,46  
Method: OECD Test Guideline 107

**Fluazuron:**

Partition coefficient: n-octanol/water : log Pow: 5,1

## Fluazuron / Abamectin Formulation

Version 6.1      Revision Date: 30.09.2023      SDS Number: 800411-00024      Date of last issue: 04.04.2023  
Date of first issue: 12.07.2016

---

**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-octanol/water : log Pow: 1,34  
Method: OECD Test Guideline 107

**2,6-Di-tert-butyl-p-cresol:**

Bioaccumulation : Species: Cyprinus carpio (Carp)  
Bioconcentration factor (BCF): 330 - 1.800

Partition coefficient: n-octanol/water : log Pow: 5,1

**12.4 Mobility in soil****Components:****abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Distribution among environmental compartments : log Koc: > 3,6

**12.5 Results of PBT and vPvB assessment****Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects****Product:**

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

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**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Product : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

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

**SECTION 14: Transport information****14.1 UN number**

<b>ADN</b>	:	UN 1993
<b>ADR</b>	:	UN 1993
<b>RID</b>	:	UN 1993
<b>IMDG</b>	:	UN 1993
<b>IATA</b>	:	UN 1993

**14.2 UN proper shipping name**

<b>ADN</b>	:	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
<b>ADR</b>	:	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
<b>RID</b>	:	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
<b>IMDG</b>	:	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Fluazuron, abamectin (combination of avermectin B1a and avermectin B1b) (ISO))
<b>IATA</b>	:	Flammable liquid, n.o.s. (Propan-2-ol)

**14.3 Transport hazard class(es)**

	Class	Subsidiary risks
<b>ADN</b>	:	3
<b>ADR</b>	:	3
<b>RID</b>	:	3
<b>IMDG</b>	:	3
<b>IATA</b>	:	3

**14.4 Packing group**

<b>ADN</b>	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
<b>ADR</b>	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

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Labels : 3  
Tunnel restriction code : (D/E)

**RID**

Packing group : III  
Classification Code : F1  
Hazard Identification Number : 30  
Labels : 3

**IMDG**

Packing group : III  
Labels : 3  
EmS Code : F-E, S-E

**IATA (Cargo)**

Packing instruction (cargo aircraft) : 366  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids

**IATA (Passenger)**

Packing instruction (passenger aircraft) : 355  
Packing instruction (LQ) : Y344  
Packing group : III  
Labels : Flammable Liquids

**14.5 Environmental hazards****ADN**

Environmentally hazardous : yes

**ADR**

Environmentally hazardous : yes

**RID**

Environmentally hazardous : yes

**IMDG**

Marine pollutant : yes

**14.6 Special precautions for user**

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

**14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**

Remarks : Not applicable for product as supplied.

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**SECTION 15: Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

AICS : not determined

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

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DSL : not determined

IECSC : not determined

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

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

#### Full text of H-Statements

H225 : Highly flammable liquid and vapour.  
 H300 : Fatal if swallowed.  
 H311 : Toxic in contact with skin.  
 H315 : Causes skin irritation.  
 H317 : May cause an allergic skin reaction.  
 H319 : Causes serious eye irritation.  
 H330 : Fatal 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.  
 H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.  
 H372 : Causes damage to organs through prolonged or repeated exposure if swallowed.  
 H373 : May cause damage to organs through prolonged or repeated exposure.  
 H400 : Very toxic to aquatic life.  
 H410 : Very toxic to aquatic life with long lasting effects.  
 H412 : Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox. : Acute toxicity  
 Aquatic Acute : Short-term (acute) aquatic hazard  
 Aquatic Chronic : Long-term (chronic) aquatic hazard  
 Eye Irrit. : Eye irritation  
 Flam. Liq. : Flammable liquids  
 Muta. : Germ cell mutagenicity  
 Repr. : Reproductive toxicity  
 Skin Irrit. : Skin irritation  
 Skin Sens. : Skin sensitisation  
 STOT RE : Specific target organ toxicity - repeated exposure  
 STOT SE : Specific target organ toxicity - single exposure  
 2004/37/EC : Europe. Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work  
 2009/161/EU : Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending



## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

ZA BEI	:	Commission Directive 2000/39/EC South Africa. The Regulations for Hazardous Chemical Agents, Biological Exposure Indices
ZA OEL	:	South Africa. The Regulations for Hazardous Chemical Agents, Occupational Exposure Limits
2004/37/EC / STEL	:	Short term exposure limit
2004/37/EC / TWA	:	Long term exposure limit
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
ZA OEL / OEL-RL	:	Occupational Exposure Limit Restricted limit - 8- hour exposure or equivalent (12 hour shifts)
ZA OEL / OEL- RL STEL/C	:	Occupational Exposure Limit Restricted limit - Short term occupational exposure limits / ceiling limits

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; 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

**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

**Classification of the mixture:**

Flam. Liq. 3                                      H226

**Classification procedure:**

Based on product data or assessment

## Fluazuron / Abamectin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 04.04.2023
6.1	30.09.2023	800411-00024	Date of first issue: 12.07.2016

---

Acute Tox. 4	H332	Calculation method
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Repr. 1B	H360D	Calculation method
STOT SE 3	H335	Calculation method
STOT SE 3	H336	Calculation method
STOT RE 2	H373	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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