

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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

1.1 Product identifier

Trade name : Fluazuron / Fipronil 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
Walton Manor, Walton
MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

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

1.4 Emergency telephone number

+1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK
SI 2019/720, and UK SI 2020/1567)**

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Skin irritation, Category 2 H315: Causes skin irritation.

Eye irritation, Category 2 H319: Causes serious eye irritation.

Reproductive toxicity, Category 1B H360D: May damage the unborn child.

Specific target organ toxicity - single ex-
posure, Category 3 H335: May cause respiratory irritation.

Specific target organ toxicity - repeated
exposure, Category 2 H373: May cause damage to organs through pro-
longed or repeated exposure.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :



Signal word : Danger

Hazard statements :

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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:

N-Methyl-2-pyrrolidone
Fipronil (ISO)

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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2-(2-Butoxyethoxy)ethanol	112-34-5 203-961-6 603-096-00-8	Eye Irrit. 2; H319	>= 50 - < 70
Ethanol#	64-17-5 200-578-6 603-002-00-5	Flam. Liq. 2; H225 Eye Irrit. 2; H319 specific concentra- tion limit Eye Irrit. 2; H319 >= 50 % Eye Irrit. 2; H319 >= 50 %	>= 10 - < 20
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 specific concentra- tion limit STOT SE 3; H335 >= 10 %	>= 10 - < 20
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
Fipronil (ISO)	120068-37-3 424-610-5 608-055-00-8	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 STOT RE 1; H372 (Central nervous system, Kidney) Aquatic Acute 1; H400 Aquatic Chronic 1;	>= 1 - < 2.5

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

		H410 M-Factor (Acute aquatic toxicity): 1,000 M-Factor (Chronic aquatic toxicity): 10,000	
2,6-Di-tert-butyl-p-cresol	128-37-0 204-881-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0.1 - < 0.25
tert-Butyl-4-methoxyphenol	25013-16-5 246-563-8	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Carc. 2; H351 Repr. 2; H361d Aquatic Chronic 2; H411	>= 0.1 - < 0.25

For explanation of abbreviations see section 16.
#: Voluntarily-disclosed substance

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.
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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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.

4.2 Most important symptoms and effects, both acute and delayed

Risks : There may be delayed neurological effects, including brain oedema.
Must not be confused with organophosphorous compounds!

Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
May damage the unborn child.
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.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
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_x)
Chlorine compounds
Fluorine compounds
Sulphur oxides

5.3 Advice for firefighters

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

for firefighters 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.

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.
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.
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

- | | | |
|-------------------------|---|---|
| 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.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment. |
| Hygiene measures | : | If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. 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 |

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

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
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA	10 ppm 67.5 mg/m3	GB EH40
		STEL	15 ppm 101.2 mg/m3	GB EH40
		TWA	10 ppm 67.5 mg/m3	2006/15/EC
	Further information: Indicative			
		STEL	15 ppm 101.2 mg/m3	2006/15/EC
	Further information: Indicative			
N-Methyl-2-pyrrolidone	872-50-4	TWA	10 ppm 40 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	20 ppm 80 mg/m3	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		TWA	10 ppm 40 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	20 ppm 80 mg/m3	2009/161/EU
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	10 ppm 40 mg/m3	2004/37/EC
	Further information: Skin, Carcinogens or mutagens			
		STEL	20 ppm 80 mg/m3	2004/37/EC
	Further information: Skin, Carcinogens or mutagens			
Ethanol	64-17-5	TWA	1,000 ppm	GB EH40

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

			1,920 mg/m3	
Fluazuron	86811-58-7	TWA	60 µg/m3 (OEB 3)	Internal
		Wipe limit	600 µg/ 100cm2	Internal
Fipronil (ISO)	120068-37-3	TWA	2 µg/m3 (OEB 4)	Internal
	Further information: Skin			
		Wipe limit	20 µg/100 cm2	Internal
2,6-Di-tert-butyl-p-cresol	128-37-0	TWA	10 mg/m3	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
N-Methyl-2-pyrrolidone	Workers	Inhalation	Long-term systemic effects	14.4 mg/m3
	Workers	Inhalation	Long-term local effects	40 mg/m3
	Workers	Skin contact	Long-term systemic effects	4.8 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	3.6 mg/m3
	Consumers	Inhalation	Long-term local effects	4.5 mg/m3
	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
	Workers	Inhalation	Long-term systemic effects	380 mg/m3
	Workers	Skin contact	Long-term systemic effects	267 mg/kg bw/day
Ethanol	Consumers	Inhalation	Long-term systemic effects	114 mg/m3
	Workers	Inhalation	Long-term systemic effects	67.5 mg/m3
	Workers	Inhalation	Long-term local effects	67.5 mg/m3
	Workers	Inhalation	Acute local effects	101.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	40.5 mg/m3
	Consumers	Inhalation	Long-term local effects	40.5 mg/m3
	Consumers	Inhalation	Acute local effects	60.7 mg/m3
	Consumers	Skin contact	Long-term systemic effects	50 mg/kg bw/day
2,6-Di-tert-butyl-p-cresol	Consumers	Ingestion	Long-term systemic effects	5 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	3.5 mg/m3

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

	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
tert-Butyl-4-methoxyphenol	Workers	Inhalation	Long-term systemic effects	4.93 mg/m3
	Workers	Skin contact	Long-term systemic effects	1.4 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.87 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0.5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.5 mg/kg bw/day

Predicted No Effect Concentration (PNEC)

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	0.109 mg/kg dry weight (d.w.)
	Soil	0.07 mg/kg dry weight (d.w.)
Ethanol	Fresh water	0.96 mg/l
	Freshwater - intermittent	2.75 mg/l
	Marine water	0.79 mg/l
	Sewage treatment plant	580 mg/l
	Fresh water sediment	3.6 mg/kg dry weight (d.w.)
	Marine sediment	2.9 mg/kg dry weight (d.w.)
2-(2-Butoxyethoxy)ethanol	Soil	0.63 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	380 mg/kg food
	Fresh water	1.1 mg/l
	Freshwater - intermittent	11 mg/l
	Marine water	0.11 mg/l
	Sewage treatment plant	200 mg/l
	Fresh water sediment	4.4 mg/kg dry weight (d.w.)
	Marine sediment	0.44 mg/kg dry weight (d.w.)
	Soil	0.32 mg/kg dry weight (d.w.)

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version 6.1 Revision Date: 14.04.2025 SDS Number: 9372569-00011 Date of last issue: 28.09.2024
Date of first issue: 27.08.2021

	Secondary Poisoning	56 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
	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
tert-Butyl-4-methoxyphenol	Fresh water	0.0124 mg/l
	Freshwater - intermittent	0.0156 mg/l
	Marine water	0.00124 mg/l
	Marine water - intermittent	0.00156 mg/l
	Fresh water sediment	1.78 mg/kg dry weight (d.w.)
	Marine sediment	0.178 mg/kg dry weight (d.w.)
	Soil	0.348 mg/kg dry weight (d.w.)

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.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Respiratory protection	: Use appropriate degowning techniques to remove potentially contaminated clothing. : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Filter should conform to BS EN 14387
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	: light yellow
Odour	: solvent-like
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	: 32 °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
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: No data available

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Explosive properties : Not explosive

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

9.2 Other information

Molecular weight : No data available

Particle size : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

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.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity

Not classified based on available information.

Product:

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

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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:

2-(2-Butoxyethoxy)ethanol:

Acute oral toxicity : LD50 (Mouse): 2,410 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 2,764 mg/kg

Ethanol:

Acute oral toxicity : LD50 (Rat): 10,470 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male): 116.9 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 15,800 mg/kg

N-Methyl-2-pyrrolidone:

Acute oral toxicity : LD50 (Rat): 4,150 mg/kg
Method: OECD Test Guideline 401
Remarks: The test was conducted equivalent or similar to guideline

Acute inhalation toxicity : LC50 (Rat): > 5.1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Remarks: The test was conducted according to guideline

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402
Remarks: The test was conducted equivalent or similar to guideline

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

Fipronil (ISO):

Acute oral toxicity : LD50 (Rat): 92 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.36 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 354 mg/kg

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

tert-Butyl-4-methoxyphenol:

Acute oral toxicity : LD50 (Rabbit): 2,100 mg/kg

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:

2-(2-Butoxyethoxy)ethanol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Mild skin irritation

Ethanol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

N-Methyl-2-pyrrolidone:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : The test was conducted equivalent or similar to guideline

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Fluazuron:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Fipronil (ISO):

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

tert-Butyl-4-methoxyphenol:

Species	:	Rabbit
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Ethanol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

N-Methyl-2-pyrrolidone:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days
Remarks	:	The test was conducted equivalent or similar to guideline

Fluazuron:

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

Fipronil (ISO):

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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

tert-Butyl-4-methoxyphenol:

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Remarks	:	Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Ethanol:

Test Type	:	Mouse ear swelling test (MEST)
Exposure routes	:	Skin contact
Species	:	Mouse
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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Result : negative

Fipronil (ISO):

Test Type	: Buehler Test
Exposure routes	: Skin contact
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: negative

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

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

tert-Butyl-4-methoxyphenol:

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

Germ cell mutagenicity

Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:

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: Mouse Application Route: Ingestion Result: negative

Ethanol:

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Test Type: Chromosome aberration test in vitro
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: Ingestion
Result: negative

N-Methyl-2-pyrrolidone:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: The test was conducted according to guideline

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: The test was conducted according to guideline

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482
Result: negative
Remarks: The test was conducted equivalent or similar to guideline

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative
Remarks: The test was conducted according to guideline

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

Fipronil (ISO):

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474
Result: negative

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

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

tert-Butyl-4-methoxyphenol:

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

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Test Type: Chromosome aberration test in vitro
Result: negative

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)

Result: negative

Carcinogenicity

Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 2 Years
Method	: OECD Test Guideline 451
Result	: negative
Remarks	: The test was conducted according to guideline

Species	: Rat
Application Route	: Inhalation
Exposure time	: 2 Years
Method	: OECD Test Guideline 453
Result	: negative
Remarks	: The test was conducted equivalent or similar to guideline

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

Fipronil (ISO):

Species	: Mouse
Application Route	: Ingestion
Exposure time	: 78 weeks
Method	: Directive 67/548/EEC, Annex V, B.32.
Result	: negative

Species	: Rat
Application Route	: Ingestion
Exposure time	: 104 weeks
Method	: Directive 67/548/EEC, Annex, B.33
Result	: positive
Remarks	: The mechanism or mode of action is not relevant in humans.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	22 Months
Result	:	negative

tert-Butyl-4-methoxyphenol:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	104 weeks
Result	:	positive

Species	:	Hamster, male
Application Route	:	Ingestion
Exposure time	:	24 weeks
Result	:	positive

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies
------------------------------	---	---

Reproductive toxicity

May damage the unborn child.

Components:

2-(2-Butoxyethoxy)ethanol:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 415 Result: negative
----------------------	---	--

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

Ethanol:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Mouse 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 Remarks: The test was conducted according to guideline
----------------------	---	--

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

- | | |
|------------------------------------|---|
| Effects on foetal development | :
Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: The test was conducted according to guideline

Test Type: Fertility/early embryonic development
Species: Rat
Application Route: inhalation (vapour)
Method: OECD Test Guideline 414
Result: positive
Remarks: The test was conducted equivalent or similar to guideline

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: The test was conducted equivalent or similar to guideline |
| 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
Species: Rat
Application Route: Ingestion
Result: negative

Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: negative |
| Fipronil (ISO): | |
| 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: Rabbit
Application Route: Ingestion |

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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

tert-Butyl-4-methoxyphenol:

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

Effects on foetal development : Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: Ingestion
Result: positive

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

STOT - single exposure

May cause respiratory irritation.

Components:

N-Methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

Fipronil (ISO):

Exposure routes : Ingestion
Target Organs : Central nervous system, Kidney
Assessment : Shown to produce significant health effects in animals at concentrations of 10 mg/kg bw or less.

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

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Repeated dose toxicity

Components:

2-(2-Butoxyethoxy)ethanol:

Species	: Rat
NOAEL	: 250 mg/kg
LOAEL	: 1,000 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408

Species	: Rat
NOAEL	: ≥ 0.094 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 90 Days
Method	: OECD Test Guideline 413

Species	: Rat
NOAEL	: $\geq 2,000$ mg/kg
Application Route	: Skin contact
Exposure time	: 90 Days

Ethanol:

Species	: Rat
NOAEL	: 1,730 mg/kg
LOAEL	: 3,200 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days

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
Remarks	: The test was conducted according to guideline

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
Remarks	: The test was conducted according to guideline

Species	: Rabbit, male
NOAEL	: 826 mg/kg

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

LOAEL : 1,653 mg/kg
Application Route : Skin contact
Exposure time : 20 Days
Method : OECD Test Guideline 410
Remarks : The test was conducted equivalent or similar to guideline

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

Fipronil (ISO):

Species : Rabbit
NOAEL : 5 mg/kg
LOAEL : 10 mg/kg
Application Route : Skin contact
Exposure time : 21 Days
Method : OECD Test Guideline 410

Species : Rat, male
NOAEL : 0.059 mg/kg
LOAEL : 0.019 mg/kg
Application Route : Ingestion
Exposure time : 89 Weeks
Method : Directive 67/548/EEC, Annex, B.33

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

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

tert-Butyl-4-methoxyphenol:

Species : Rat
NOAEL : 50 mg/kg

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

LOAEL : 250 mg/kg
Application Route : Ingestion
Exposure time : 8 Months

Aspiration toxicity

Not classified based on available information.

Experience with human exposure

Components:

N-Methyl-2-pyrrolidone:

Skin contact : Symptoms: Skin irritation

SECTION 12: Ecological information

12.1 Toxicity

Components:

2-(2-Butoxyethoxy)ethanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,300 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): > 100 mg/l
aquatic invertebrates Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic : ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
plants Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): >= 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC10 : > 1,995 mg/l
Exposure time: 30 min

Ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l
Exposure time: 96 h

Toxicity to daphnia and other : EC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l
aquatic invertebrates Exposure time: 48 h

Toxicity to algae/aquatic : ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l
plants Exposure time: 72 h

EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l
Exposure time: 72 h

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Toxicity to microorganisms : EC50 (Protozoa): 5,800 mg/l
Exposure time: 4 h

Toxicity to fish (Chronic toxicity) : NOEC: ≥ 79 mg/l
Exposure time: 100 d
Species: *Oryzias latipes* (Japanese medaka)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 9.6 mg/l
Exposure time: 9 d
Species: *Daphnia magna* (Water flea)

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
Remarks: The test was conducted according to guideline

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 (activated sludge): > 600 mg/l
Exposure time: 30 min
Method: ISO 8192
Remarks: The test was conducted according to guideline

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
Remarks: The test was conducted according to guideline

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 toxicity) : 1,000

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

M-Factor (Chronic aquatic toxicity) : 1,000

Fipronil (ISO):

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 85.2 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Mysidopsis bahia (opossum shrimp)): 0.14 µg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 68 µg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

NOEC (Desmodesmus subspicatus (green algae)): 40 µg/l
Exposure time: 96 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1,000

Toxicity to microorganisms : EC50 : > 1,000 mg/l
Exposure time: 3 h

Toxicity to fish (Chronic toxicity) : NOEC: 2.9 µg/l
Exposure time: 35 d
Species: Cyprinodon variegatus (sheepshead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.0077 µg/l
Exposure time: 28 d
Species: Mysidopsis bahia (opossum shrimp)

M-Factor (Chronic aquatic toxicity) : 10,000

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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)

M-Factor (Chronic aquatic toxicity) : 1

tert-Butyl-4-methoxyphenol:

Toxicity to fish : LC50 (*Danio rerio* (zebra fish)): 1.56 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 2.3 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): 1.9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (*Pseudokirchneriella subcapitata* (green algae)): 0.25 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

12.2 Persistence and degradability

Components:

2-(2-Butoxyethoxy)ethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 85 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Ethanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 84 %
Exposure time: 20 d

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

N-Methyl-2-pyrrolidone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 73 %
Exposure time: 28 d
Method: OECD Test Guideline 301C
Remarks: The test was conducted according to guideline

Fipronil (ISO):

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 47 %
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:

2-(2-Butoxyethoxy)ethanol:

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

Ethanol:

Partition coefficient: n-octanol/water : log Pow: -0.35

N-Methyl-2-pyrrolidone:

Partition coefficient: n-octanol/water : log Pow: -0.46
Method: OECD Test Guideline 107
Remarks: The test was conducted according to guideline

Fluazuron:

Partition coefficient: n-octanol/water : log Pow: 5.1

Fipronil (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 321

Partition coefficient: n-octanol/water : log Pow: 4

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

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1,800

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Partition coefficient: n-octanol/water : log Pow: 5.1

tert-Butyl-4-methoxyphenol:

Bioaccumulation : Species: *Oryzias latipes* (Orange-red killifish)
Bioconcentration factor (BCF): 16 - 21

Partition coefficient: n-octanol/water : log Pow: 2.82
Method: OECD Test Guideline 117

12.4 Mobility in soil

No data available

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 : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

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. 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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

ADN	:	UN 1170
ADR	:	UN 1170
RID	:	UN 1170
IMDG	:	UN 1170
IATA	:	UN 1170

14.2 UN proper shipping name

ADN	:	ETHANOL SOLUTION
ADR	:	ETHANOL SOLUTION
RID	:	ETHANOL SOLUTION
IMDG	:	ETHANOL SOLUTION (Fluazuron, Fipronil (ISO))
IATA	:	Ethanol solution

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	:	3
ADR	:	3
RID	:	3
IMDG	:	3
IATA	:	3

14.4 Packing group

ADN	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
ADR	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
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-D

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 30: N-Methyl-2-pyrrolidone Number on list 55: 2-(2-Butoxyethoxy)ethanol Number on list 71: N-Methyl-2-pyrrolidone
--	---	---

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

Number on list 72: N-Methyl-2-pyrrolidone

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	N-Methyl-2-pyrrolidone
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	:	Fipronil (ISO)
Control of Major Accident Hazards Regulations 2015 (COMAH)	:	

		Quantity 1	Quantity 2
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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.
H301	: Toxic if swallowed.
H311	: Toxic in contact with skin.
H315	: Causes skin irritation.
H319	: Causes serious eye irritation.
H330	: Fatal if inhaled.
H335	: May cause respiratory irritation.
H351	: Suspected of causing cancer.
H360D	: May damage the unborn child.
H361d	: Suspected of damaging the unborn child.
H372	: Causes damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic 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
Carc.	: Carcinogenicity
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
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, mutagens or reprotoxic substances at work - Annex III
2006/15/EC	: Europe. Indicative occupational exposure limit values
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 Commission Directive 2000/39/EC
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2004/37/EC / STEL	: Short term exposure limit
2004/37/EC / TWA	: Long term exposure limit
2006/15/EC / TWA	: Limit Value - eight hours
2006/15/EC / STEL	: Short term exposure limit
2009/161/EU / TWA	: Limit Value - eight hours
2009/161/EU / STEL	: Short term exposure limit
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

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 Test-

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

ing 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
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Repr. 1B	H360D
STOT SE 3	H335
STOT RE 2	H373
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Fluazuron / Fipronil Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.1	14.04.2025	9372569-00011	Date of first issue: 27.08.2021

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.

GB / EN