according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

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

1.1 Product identifier

Trade name : Fluazuron / Citronellal Formulation

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

Use of the Sub- : Veterinary product

stance/Mixture

Recommended restrictions

on use

Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD

Kilsheelan

Clonmel Tipperary, IE

Telephone : 353-51-601000

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)

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.

Skin sensitisation, Category 1

Reproductive toxicity, Category 1B

Specific target organ toxicity - single ex
H317: May cause an allergic skin reaction.

H360D: May damage the unborn child.

H335: May cause respiratory irritation.

posure, Category 3

Short-term (acute) aquatic hazard, Cate- H400: Very toxic to aquatic life.

gory 1

Long-term (chronic) aquatic hazard, Cat- H410: Very toxic to aquatic life with long lasting

egory 1 effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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.
 H335 May cause respiratory irritation.
 H360D May damage the unborn child.

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 6-Octenal, 3,7-dimethyl-

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.

Ecological information: 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.

Toxicological information: 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.

Vapours may form explosive mixture with air.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878 $\,$



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Soya oil	8001-22-7 232-274-4	Aquatic Chronic 4; H413	>= 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
		specific concentration limit STOT SE 3; H335 >= 10 %	
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	>= 1 - < 10
Butanone	78-93-3 201-159-0 606-002-00-3	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 EUH066	>= 1 - < 10
6-Octenal, 3,7-dimethyl-	106-23-0 203-376-6	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 1 - < 10
Fluazuron	86811-58-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2.5 - < 10
		M-Factor (Acute aquatic toxicity): 1,000 M-Factor (Chronic aquatic toxicity): 1,000	
2,6-Di-tert-butyl-p-cresol	128-37-0 204-881-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 1
		M-Factor (Acute aquatic toxicity): 1	

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

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 ad-

vice 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.

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

Get medical attention.

If swallowed, DO NOT induce vomiting.

Get medical attention.

Rinse mouth thoroughly with water.

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.
May cause respiratory irritation.
May damage the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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 prod-

ucts

Carbon oxides

Nitrogen oxides (NOx) 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 meth-

ods

Use extinguishing measures that are appropriate to local cir-

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

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

SO.

Evacuate area.

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 pro-

tective 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

parriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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 absor-

bent.

Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

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

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

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

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

Advice on safe handling : Do not get on skin or clothing.

Avoid breathing mist or vapours.

Do not swallow. Do not get in eyes.

Wash skin thoroughly after handling.

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

sessment

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

Already sensitised individuals, and those susceptible

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

tory irritants or sensitisers.

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

other ignition sources. No smoking.

Take precautionary measures against static discharges. 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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

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
N-Methyl-2- pyrrolidone	872-50-4	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			

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878 $\,$



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

1	1	l	l	1 -	
		STEL	20 ppm	2004/37/EC	
			80 mg/m3		
	Further information: Skin, Carcinogens or mutagens				
		OELV - 8 hrs	10 ppm	IE OEL	
		(TWA)	40 mg/m3		
	Further information: Substances which have the capacity to penetrate intact				
	skin when the		ith it, and be absorbed into th	ne body	
		OELV - 15 min	20 ppm	IE OEL	
		(STEL)	80 mg/m3		
	Further inform	nation: Substances w	hich have the capacity to pe	netrate intact	
			th it, and be absorbed into th		
Propan-2-ol	67-63-0	OELV - 8 hrs	200 ppm	IE OÉL	
		(TWA)			
	Further inform		hich have the capacity to pe	netrate intact	
			ith it, and be absorbed into the		
		OELV - 15 min	400 ppm	IE OEL	
		(STEL)	100 pp	12 022	
	Further information: Substances which have the capacity to penetrate intact				
			ith it, and be absorbed into the		
Butanone	78-93-3	STEL	300 ppm	2000/39/EC	
Datariono	70 00 0	0122	900 mg/m3	2000/00/20	
	Further information: Indicative				
	i dittiei iiiloiti	TWA	200 ppm	2000/39/EC	
		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	600 mg/m3	2000/33/20	
	Further information: Indicative				
	ruittiei iiiloitti	OELV - 15 min	200	IE OEL	
			300 ppm	IE OEL	
	F (1) ((STEL)	900 mg/m3		
	Further information: Substances which have the capacity to penetrate intact				
	skin when they come in contact with it, and be absorbed into the body				
		OELV - 8 hrs	200 ppm	IE OEL	
		(TWA)	600 mg/m3		
	Further information: Substances which have the capacity to penetrate intact				
			th it, and be absorbed into the		
Fluazuron	86811-58-7	TWA	60 μg/m3 (OEB 3)	Internal	
	I	Wipe limit	600 µg/ 100cm2	Internal	
<u></u> ,		vvipe iii iii	000 pg/ 1000111 <u>2</u>		
2,6-Di-tert-butyl-p-	128-37-0	OELV - 8 hrs (TWA)	2 mg/m3	IE OEL	

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

Substance name	End Use	Exposure routes	Potential health effects	Value
6-Octenal, 3,7- dimethyl-	Workers	Inhalation	Long-term systemic effects	9 mg/m3
	Workers	Skin contact	Long-term systemic effects	1.7 mg/kg bw/day
	Workers	Skin contact	Long-term local ef- fects	0.140 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	2.7 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1 mg/kg bw/day

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

	Consumers	Skin contact	Long-term local effects	0.140 mg/cm2
	Consumers	Ingestion	Long-term systemic effects	0.6 mg/kg bw/day
N-Methyl-2- pyrrolidone	Workers	Inhalation	Long-term systemic effects	14.4 mg/m3
	Workers	Inhalation	Long-term local ef- fects	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 ef- fects	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
Propan-2-ol	Workers	Inhalation	Long-term systemic effects	500 mg/m3
	Workers	Skin contact	Long-term systemic effects	888 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	89 mg/m3
	Consumers	Skin contact	Long-term systemic effects	319 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	26 mg/kg bw/day
Butanone	Workers	Inhalation	Long-term systemic effects	600 mg/m3
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	106 mg/m3
	Workers	Skin contact	Long-term systemic effects	412 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	31 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
6-Octenal, 3,7-dimethyl-	Fresh water	0.009 mg/l

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

Freshwater - intermittent	0.087 mg/l
Marine water	0.001 mg/l
Sewage treatment plant	4 mg/l
Fresh water sediment	0.159 mg/kg dry
	weight (d.w.)
Marine sediment	0.016 mg/kg dry
	weight (d.w.)
Soil	0.027 mg/kg dry
	weight (d.w.)
Fresh water	0.25 mg/l
Freshwater - intermittent	5 mg/l
Marine water	0.025 mg/l
Sewage treatment plant	10 mg/l
	1.09 mg/kg dry
The state of the s	weight (d.w.)
Marine sediment	1.09 mg/kg dry
	weight (d.w.)
Soil	0.07 mg/kg dry
	weight (d.w.)
Fresh water	140.9 mg/l
	140.9 mg/l
	140.9 mg/l
	2251 mg/l
	552 mg/kg dry
1 room water occurrent	weight (d.w.)
Marine sediment	552 mg/kg dry
Marino Scamon	weight (d.w.)
Soil	28 mg/kg dry
	weight (d.w.)
Oral (Secondary Poisoning)	160 mg/kg food
<u> </u>	55.8 mg/l
	55.8 mg/l
	55.8 mg/l
<u> </u>	709 mg/l
	284.74 mg/kg dry
1 restr water seament	weight (d.w.)
Marine sediment	284.7 mg/kg dry
Wallie Scallicit	weight (d.w.)
Soil	22.5 mg/kg dry
3011	weight (d.w.)
Oral (Secondary Poisoning)	1000 mg/kg food
	0.199 µg/l
	0.199 μg/l 0.02 μg/l
	0.02 μg/l
	0.02 μg/l
	0.0996 mg/kg dry
i lesti water sedililetit	
Marina andiment	weight (d.w.) 0.00996 mg/kg
Marine sediment	
	dry words (d ···)
Soil	dry weight (d.w.)
Soil	0.04769 mg/kg dry weight (d.w.)
	Sewage treatment plant Fresh water sediment Marine sediment Soil Fresh water Freshwater - intermittent

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

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 flam-

mable, 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, dis-

posable 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 expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Equipment should conform to I.S. EN 14387

Filter type : Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : Aqueous solution

Colour : yellow

Odour : No data available

Odour Threshold : No data available

Melting point/freezing point : -4 °C

Initial boiling point and boiling :

range

78 °C

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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

Flash point : 52 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : No data available

Viscosity

Viscosity, kinematic : 5.3 - 5.7 mm2/s (25 °C)

Solubility(ies)

Water solubility : practically insoluble

Solubility in other solvents : Solvent: Ethanol

soluble

Partition coefficient: n-

octanol/water

log Pow: -0.54

Vapour pressure : No data available

Relative density : 0.94 - 0.96

Density : No data available

Relative vapour density : No data available

Particle characteristics

Particle size : Not applicable

9.2 Other information

Explosives : Not explosive

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

Evaporation rate : No data available

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Molecular weight : 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 hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of : Inhalation

exposure Skin contact Ingestion

Eye contact

Acute toxicity

Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:

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

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

Exposure time: 4 h

Test atmosphere: dust/mist

Method: OECD Test Guideline 403

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

Propan-2-ol:

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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

Exposure time: 6 h
Test atmosphere: vapour

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

Butanone:

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

Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 25.5 mg/l

Exposure time: 4 h
Test atmosphere: vapour

Method: OECD Test Guideline 436

Remarks: Based on data from similar materials

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

6-Octenal, 3,7-dimethyl-:

Acute oral toxicity : LD50 (Rat, female): 2,150 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,500 - 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

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:

N-Methyl-2-pyrrolidone:

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Result : Skin irritation

Propan-2-ol:

Species : Rabbit

Result : No skin irritation

Butanone:

Assessment : Repeated exposure may cause skin dryness or cracking.

Species : Rabbit

Method : OECD Test Guideline 404

Result : No skin irritation

Remarks : Based on data from similar materials

6-Octenal, 3,7-dimethyl-:

Species : Rabbit Result : Skin irritation

Fluazuron:

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:

N-Methyl-2-pyrrolidone:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Propan-2-ol:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Butanone:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Irritation to eyes, reversing within 21 days

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

6-Octenal, 3,7-dimethyl-:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Fluazuron:

Species : Rabbit

Method : OECD Test Guideline 405

Result : Mild 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:

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

Propan-2-ol:

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

Method : OECD Test Guideline 406

Result : negative

Butanone:

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

Method : OECD Test Guideline 406

Result : negative

6-Octenal, 3,7-dimethyl-:

Test Type : Maximisation Test

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

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

Assessment : Probability or evidence of skin sensitisation in humans

Fluazuron:

Exposure routes : Skin contact
Species : Guinea pig
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

Germ cell mutagenicity

Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:

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

Method: OECD Test Guideline 471

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Method: OECD Test Guideline 476

Result: negative

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

thesis in mammalian cells (in vitro)

Result: negative

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

cytogenetic assay) Species: Mouse

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

Propan-2-ol:

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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

Butanone:

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

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

thesis in mammalian cells (in vitro)

Result: negative

Test Type: Saccharomyces cerevisiae, gene mutation assay

(in vitro)

Result: negative

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

cytogenetic assay) Species: Mouse

Application Route: Intraperitoneal injection

Result: negative

6-Octenal, 3,7-dimethyl-:

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: in vitro micronucleus test Method: OECD Test Guideline 487

Result: negative

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

cytogenetic assay) Species: Mouse

Application Route: Ingestion

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Result: negative

Remarks: Based on data from similar materials

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

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.

Components:

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

Propan-2-ol:

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 104 weeks

Method : OECD Test Guideline 451

Result : negative

6-Octenal, 3,7-dimethyl-:

Species : Rat Application Route : Ingestion

Exposure time : 104 - 105 weeks

Result : negative

Remarks : Based on data from similar materials

Species : Mouse Application Route : Ingestion

Exposure time : 104 - 105 weeks

Result : negative

Remarks : Based on data from similar materials

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

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

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

Reproductive toxicity

May damage the unborn child.

Components:

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: positive

Test Type: Fertility/early embryonic development

Species: Rat

Application Route: inhalation (vapour)

Result: positive

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion

Result: positive

Reproductive toxicity - As-

sessment

Clear evidence of adverse effects on development, based on

animal experiments.

Propan-2-ol:

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

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Butanone:

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

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Inhalation Method: OECD Test Guideline 414

Result: negative

6-Octenal, 3,7-dimethyl-:

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

Species: Rat

Application Route: Ingestion

Method: OECD Test Guideline 443

Result: negative

Remarks: Based on data from similar materials

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

Effects on foetal develop-

ment

: Test Type: One-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 443

Result: negative

Remarks: Based on data from similar materials

Fluazuron:

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

Species: Rat

Application Route: Ingestion

Result: negative

Effects on foetal develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion Method: OECD Test Guideline 414

Result: negative

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 develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

STOT - single exposure

May cause respiratory irritation.

Components:

N-Methyl-2-pyrrolidone:

Assessment : May cause respiratory irritation.

Propan-2-ol:

Assessment : May cause drowsiness or dizziness.

Butanone:

Assessment : May cause drowsiness or dizziness.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

STOT - repeated exposure

Not classified based on available information.

Components:

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

Assessment : No significant health effects observed in animals at concentra-

tions of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Soya oil:

Species : Rat

NOAEL : 4,000 mg/kg
Application Route : Ingestion
Exposure time : 90 h

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: RabbitNOAEL: 826 mg/kgLOAEL: 1,653 mg/kgApplication Route: Skin contactExposure time: 20 Days

Propan-2-ol:

Species : Rat NOAEL : 12.5 mg/l

Application Route : inhalation (vapour)

Exposure time : 104 Weeks

Butanone:

Species : Rat NOAEL : 14.84 mg/l

Application Route : inhalation (vapour)

Exposure time : 90 Days

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

Method : OECD Test Guideline 413

6-Octenal, 3,7-dimethyl-:

Species : Rat

LOAEL : > 100 mg/kg
Application Route : Ingestion
Exposure time : 14 Weeks

Remarks : Based on data from similar materials

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

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.

Components:

Butanone:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered 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.

Experience with human exposure

Components:

N-Methyl-2-pyrrolidone:

Skin contact : Symptoms: Skin irritation

SECTION 12: Ecological information

12.1 Toxicity

Components:

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 (Chron-

ic toxicity)

NOEC: 12.5 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

Propan-2-ol:

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

Exposure time: 96 h

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 28.09.2024 4637954-00015 Date of first issue: 09.07.2019 5.0

aquatic invertebrates Exposure time: 24 h

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

Exposure time: 16 h

Butanone:

LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l Toxicity to fish

Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 308 mg/l

Exposure time: 48 h

Method: OECD Test Guideline 202

Toxicity to algae/aquatic

plants

ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,029

Exposure time: 96 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 1,240

ma/l

Exposure time: 96 h

Method: OECD Test Guideline 201

6-Octenal, 3,7-dimethyl-:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 22 mg/l

> Exposure time: 96 h Method: DIN 38412

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 8.7 mg/l

Exposure time: 48 h

Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic

plants

ErC50 (Desmodesmus subspicatus (green algae)): 13.33 mg/l

Exposure time: 72 h

EC10 (Desmodesmus subspicatus (green algae)): 4.52 mg/l

Exposure time: 72 h

EC10 (Pseudomonas putida): 650 mg/l Toxicity to microorganisms

Exposure time: 30 min

Fluazuron:

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

Exposure time: 96 h

aquatic invertebrates

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

Exposure time: 48 h

Toxicity to algae/aquatic

plants

NOEC (Raphidocelis subcapitata (freshwater green alga)):

27.9 mg/l

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

icity)

1,000

M-Factor (Chronic aquatic

toxicity)

: 1,000

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

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 tox-

icity)

Toxicity to microorganisms EC50 : > 10,000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

Toxicity to fish (Chronic tox-

icity)

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 (Chron-

ic toxicity)

NOEC: 0.316 mg/l Exposure time: 21 d

Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic

toxicity)

12.2 Persistence and degradability

Components:

N-Methyl-2-pyrrolidone:

Biodegradability Result: Readily biodegradable.

> Biodegradation: 73 % Exposure time: 28 d

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Method: OECD Test Guideline 301C

Propan-2-ol:

Biodegradability Result: rapidly degradable

BOD/COD BOD: 1,19 (BOD5)

> COD: 2,23 BOD/COD: 53 %

Butanone:

Biodegradability Result: Readily biodegradable.

Biodegradation: 98 % Exposure time: 28 d

Method: OECD Test Guideline 301D

6-Octenal, 3,7-dimethyl-:

Biodegradability Result: Readily biodegradable.

Biodegradation: 83 % 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:

Soya oil:

Partition coefficient: nlog Pow: > 4

Remarks: Calculation octanol/water

N-Methyl-2-pyrrolidone:

Partition coefficient: nlog Pow: -0.46

octanol/water Method: OECD Test Guideline 107

Propan-2-ol:

Partition coefficient: nlog Pow: 0.05

octanol/water **Butanone:**

Partition coefficient: n-

log Pow: 0.3 octanol/water

6-Octenal, 3,7-dimethyl-:

Partition coefficient: nlog Pow: 3.62

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

octanol/water

Fluazuron:

Partition coefficient: n-

octanol/water

log Pow: 5.1

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

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 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered 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.

12.7 Other adverse effects

No data available

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 han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 1993
ADR : UN 1993
RID : UN 1993
IMDG : UN 1993
IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol, Butanone)

ADR : FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol, Butanone)

RID : FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol, Butanone)

IMDG : FLAMMABLE LIQUID, N.O.S.

(Propan-2-ol, Butanone, Fluazuron, 2,6-Di-tert-butyl-p-cresol)

IATA : Flammable liquid, n.o.s.

(Propan-2-ol, Butanone)

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

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG

Packing group : III
Labels : 3
EmS Code : F-E, <u>S-E</u>

IATA (Cargo)

Packing instruction (cargo : 366

aircraft)

Packing instruction (LQ) : Y344
Packing group : III

Labels : Flammable Liquids

IATA (Passenger)

Packing instruction (passen: 355

ger aircraft)

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 Maritime transport in bulk according to IMO instruments

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,

 Conditions of restriction for the following entries should be considered: Number on list 3

Number on list 30: N-Methyl-2-

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

mixtures and articles (Annex XVII)

pyrrolidone

Number on list 71: N-Methyl-2-

pyrrolidone

Number on list 72: N-Methyl-2-

pyrrolidone

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Number on list 75: If you intend to use this product as tattoo ink, please

contact your vendor.

N-Methyl-2-pyrrolidone

Not applicable

Not applicable

Not applicable

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.

REACH - Candidate List of Substances of Very High

Concern for Authorisation (Article 59).

Regulation (EC) on substances that deplete the ozone

layer

Regulation (EU) 2019/1021 on persistent organic pollu-

tants (recast)

Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import

of dangerous chemicals

REACH - List of substances subject to authorisation : Not applicable

(Annex XIV)

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of

major-accident hazards involving dangerous substances.

P5c PLAMMABLE LIQUIDS 5,000 t 50,000 t

E1 ENVIRONMENTAL 100 t 200 t

HAZARDS

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

AICS : not determined

DSL : not determined

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

Version Revision Date: SDS Number: Date of last issue: 06.07.2024 5.0 28.09.2024 4637954-00015 Date of first issue: 09.07.2019

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.

H315 : Causes skin irritation.

H317 : May cause an allergic skin reaction.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H336 : May cause drowsiness or dizziness.
H360D : May damage the unborn child.

H400 : Very toxic to aquatic life.

H410 : Very toxic to aquatic life with long lasting effects.
 H413 : May cause long lasting harmful effects to aquatic life.
 EUH066 : Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard

Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Repr. : Reproductive toxicity

Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation

STOT SE : Specific target organ toxicity - single exposure

2000/39/EC : Europe. Commission Directive 2000/39/EC establishing a first

list of indicative occupational exposure limit values

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

Commission Directive 2000/39/EC

IE OEL : Ireland. List of Chemical Agents and Carcinogens with Occu-

pational Exposure Limit Values - Code of Practice, Schedule 1

and 2

2000/39/EC / TWA : Limit Value - eight hours 2000/39/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

IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

IE OEL / OELV - 15 min : Occupational exposure limit value (15-minute reference peri-

(STEL) o

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; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; 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 procedure:

Classification of the mixture:

Flam. Liq. 3 H226 Based on product data or assessment Skin Irrit. 2 H315 Calculation method Eye Irrit. 2 H319 Calculation method Skin Sens. 1 H317 Calculation method Repr. 1B H360D Calculation method STOT SE 3 H335 Calculation method Aquatic Acute 1 H400 Calculation method

according to Regulation (EC) No. 1907/2006, as amended by Commission Regulation (EU) 2020/878



Fluazuron / Citronellal Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 06.07.2024

 5.0
 28.09.2024
 4637954-00015
 Date of first issue: 09.07.2019

Aquatic Chronic 1 H410 Calculation method

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

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

IE / EN