

# Fluazuron / Citronellal Formulation

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

 5.0
 28.09.2024
 4624621-00014
 Date of first issue: 09.07.2019

#### **SECTION 1. IDENTIFICATION**

Product identifier : Fluazuron / Citronellal Formulation

Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530

Cruzeiro - Sao Paulo - Brazil CEP 12730-340

Telephone : 908-740-4000

Emergency telephone : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product Restrictions on use : Not applicable

#### **SECTION 2. HAZARDS IDENTIFICATION**

GHS Classification in accordance with ABNT NBR 14725 Standard

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

Reproductive toxicity : Category 1B

Specific target organ toxicity - :

single exposure

Category 3

Short-term (acute) aquatic

hazard

Category 1

Long-term (chronic) aquatic

hazard

Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms :









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Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.

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. P233 Keep container tightly closed. P264 Wash skin thoroughly after handling.

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

P272 Contaminated work clothing should not be allowed out of

the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediate-

ly all contaminated clothing. Rinse skin with water.

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

doctor if you feel unwell.

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

easy to do. Continue rinsing.

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

attention.

P333 + P313 If skin irritation or rash occurs: Get medical ad-

vice/ attention.

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

tention.

P391 Collect spillage.

Storage:

P405 Store locked up.

#### Other hazards which do not result in classification

Vapors may form explosive mixture with air.

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

Substance / Mixture : Mixture

#### Components

	CAS-No.	Classification	Concentration (% w/w)	
Soya oil	8001-22-7	Aquatic Chronic, 4	>= 30 -< 50	



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N-Methyl-2-pyrrolidone	872-50-4	Flam. Liq., 4 Acute Tox. (Oral), 5 Skin Irrit., 2 Eye Irrit., 2A Repr., 1B STOT SE, 3	>= 30 -< 50
Propan-2-ol	67-63-0	Flam. Liq., 2 Eye Irrit., 2A STOT SE, 3	>= 5 -< 10
Butanone	78-93-3	Flam. Liq., 2 Acute Tox. (Oral), 5 Eye Irrit., 2A STOT SE, 3 Asp. Tox., 2	>= 5 -< 10
6-Octenal, 3,7-dimethyl-	106-23-0	Flam. Liq., 4 Acute Tox. (Oral), 5 Acute Tox. (Dermal), 5 Skin Irrit., 2 Eye Irrit., 2A Skin Sens., 1 Aquatic Acute, 2	>= 2,5 -< 5
Fluazuron	86811-58-7	Aquatic Acute, 1 Aquatic Chronic, 1	>= 2,5 -< 5
2,6-Di-tert-butyl-p-cresol	128-37-0	Aquatic Acute, 1 Aquatic Chronic, 1	>= 0,25 -< 1

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

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

advice immediately.

When symptoms persist or in all cases of doubt seek medical

advice.

If inhaled : If inhaled, remove to fresh air.

Get medical attention.

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

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.

Most important symptoms : Causes skin irritation.



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and effects, both acute and

delayed

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

May cause respiratory irritation. May damage the unborn child.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

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

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

Dry chemical

Unsuitable extinguishing

media

High volume water jet

Specific hazards during fire

fighting

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

fire.

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

Exposure to combustion products may be a hazard to health.

Hazardous combustion prod-

ucts

Carbon oxides

Nitrogen oxides (NOx) Chlorine compounds Fluorine compounds

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

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

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

SO.

Evacuate area.

Special protective equipment:

for fire-fighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

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

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.

Use personal protective equipment.

Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.

Prevent further leakage or spillage if safe to do so.

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

oil barriers).

Retain and dispose of contaminated wash water.

Local authorities should be advised if significant spillages

cannot be contained.



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Methods and materials for containment and cleaning up

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

Suppress (knock down) gases/vapors/mists with a water spray

jet.

For large spills, provide diking or other appropriate

containment to keep material from spreading. If diked 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.

#### **SECTION 7. HANDLING AND STORAGE**

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

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

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment

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

Avoid breathing mist or vapors.

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 sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease,

should consult their physician regarding working with

respiratory irritants or sensitizers.

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

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



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engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

Conditions for safe storage : Keep in properly labeled containers.

Store locked up. Keep tightly closed.

Keep in a cool, well-ventilated place.

Store in accordance with the particular national regulations.

Keep away from heat and sources of ignition.

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

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

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

## Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis	
Propan-2-ol	67-63-0	LT	310 ppm 765 mg/m <sup>3</sup>	BR OEL	
	Further information: Absorption through the skin, Degree of harmfulness: medium				
		TWA	200 ppm	ACGIH	
		STEL	400 ppm	ACGIH	
Butanone	78-93-3	LT	155 ppm 460 mg/m³	BR OEL	
	Further information: Degree of harmfulness: medium				
		TWA	75 ppm	ACGIH	
		STEL	150 ppm	ACGIH	
Fluazuron	86811-58-7	TWA	60 μg/m3 (OEB 3)	Internal	
		Wipe limit	600 μg/ 100cm2	Internal	
2,6-Di-tert-butyl-p-cresol	128-37-0	TWA (Inhalable fraction and vapor)	2 mg/m³	ACGIH	

#### **Biological occupational exposure limits**

Components	CAS-No.	Control	Biological	Sam-	Permissible	Basis
		parameters	specimen	pling	concentra-	
				time	tion	



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N-Methyl-2-pyrrolidone	872-50-4	5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of workday	100 mg/l	BR BEI
		5-Hydroxy- N-methyl-2- pyrrolidone	Urine	End of shift (As soon as possible after exposure ceases)	100 mg/l	ACGIH BEI
Propan-2-ol	67-63-0	Acetone	Urine	End of workday at end of work- week	40 mg/l	BR BEI
		Acetone	Urine	End of shift at end of work- week	40 mg/l	ACGIH BEI
Butanone	78-93-3	MEK (methyl- ethyl- ketone)	Urine	End of workday	2 mg/l	BR BEI
		methyl ethyl ketone	Urine	End of shift (As soon as possible after exposure ceases)	2 mg/l	ACGIH BEI

**Engineering measures** 

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

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

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

containment devices). Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

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

exposure assessment demonstrates exposures outside the

recommended guidelines, use respiratory protection.

Filter type Hand protection

: Organic vapor Type

Material : Chemical-resistant gloves



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

flammable, which may impact the selection of hand

protection.

Eye protection : Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions,

mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

aerosols.

Skin and body protection : Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets,

disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially

contaminated clothing.

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

Physical state : Aqueous solution

Color : yellow

Odor : No data available

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : -4 °C

Initial boiling point and boiling

range

78 °C

Flash point : 52 °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

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : 0,94 - 0,96

Density : No data available



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Solubility(ies)

Water solubility practically insoluble

Solubility in other solvents soluble

Solvent: Ethanol

Partition coefficient: n-

octanol/water

log Pow: -0,54

Autoignition temperature No data available

Decomposition temperature No data available

Viscosity

Viscosity, kinematic 5,3 - 5,7 mm<sup>2</sup>/s ( 25 °C)

Explosive properties Not explosive

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

Molecular weight No data available

Particle characteristics

Particle size Not applicable

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

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

Possibility of hazardous reac-

tions

Flammable liquid and vapor.

Vapors may form explosive mixture with air. Can react with strong oxidizing agents.

Conditions to avoid Heat, flames and sparks.

Incompatible materials Oxidizing agents

Hazardous decomposition

products

No hazardous decomposition products are known.

## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on likely routes of: Inhalation exposure

Skin contact Inaestion Eye contact

**Acute toxicity** 

Not classified based on available information.

**Product:** 

Acute oral toxicity Acute toxicity estimate: > 5.000 mg/kg

Method: Calculation method

Acute toxicity estimate: > 5.000 mg/kg Acute dermal toxicity

Method: Calculation method



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## **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

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

Exposure time: 6 h
Test atmosphere: vapor

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: vapor

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



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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:

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.



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#### **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

Result : Irritation to eyes, reversing within 21 days

Method : OECD Test Guideline 405

6-Octenal, 3,7-dimethyl-:

Species : Rabbit

Result : Irritation to eyes, reversing within 21 days

Fluazuron:

Species : Rabbit

Result : Mild eye irritation

Method : OECD Test Guideline 405

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

Species : Rabbit

Result : No eye irritation

Method : OECD Test Guideline 405

Remarks : Based on data from similar materials

## Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

Not classified based on available information.

Components:

N-Methyl-2-pyrrolidone:

Test Type : Local lymph node assay (LLNA)

Routes of exposure : 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 Routes of exposure : Skin contact



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Species : Guinea pig

Method : OECD Test Guideline 406

Result : negative

**Butanone:** 

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

Method : OECD Test Guideline 406

Result : negative

6-Octenal, 3,7-dimethyl-:

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

Assessment : Probability or evidence of skin sensitization in humans

Fluazuron:

Routes of exposure : Skin contact Species : Guinea pig Result : negative

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

Test Type : Human repeat insult patch test (HRIPT)

Routes of exposure : 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



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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:

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



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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

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: RatApplication Route: IngestionExposure time: 2 YearsResult: negative



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Species : Rat

Application Route : inhalation (vapor)

Exposure time : 2 Years
Result : negative

Propan-2-ol:

Species : Rat

Application Route : inhalation (vapor)
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



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Application Route: Ingestion

Method: OECD Test Guideline 416

Result: negative

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

Species: Rat

Application Route: Ingestion Method: OECD Test Guideline 414

Result: positive

Test Type: Fertility/early embryonic development

Species: Rat

Application Route: inhalation (vapor)

Result: positive

Test Type: Embryo-fetal 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 fetal development: Test Type: Embryo-fetal 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 fetal development : Test Type: Embryo-fetal 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



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Remarks: Based on data from similar materials

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

Species: Rat

Application Route: Ingestion

Result: negative

Test Type: Embryo-fetal 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 fetal development : Test Type: Embryo-fetal 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.



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#### 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 : Ingestion Application Route 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 Davs

Method **OECD Test Guideline 408** 

: Rat Species NOAEL : 0,5 mg/l LOAEL : 1 mg/l

Application Route
Exposure time : inhalation (dust/mist/fume)

96 Days

Method : OECD Test Guideline 413

Species : Rabbit NOAEL : 826 mg/kg LOAEL 1.653 mg/kg Application Route Skin contact Exposure time 20 Days

#### Propan-2-ol:

Species Rat NOAEL : 12,5 mg/l

: inhalation (vapor) Application Route Exposure time : 104 Weeks

#### **Butanone:**

Species Rat NOAEL 14,84 mg/l

Application Route : inhalation (vapor)

Exposure time 90 Days

Method **OECD Test Guideline 413** 



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#### 6-Octenal, 3,7-dimethyl-:

Species Rat

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

Remarks : Based on data from similar materials

#### Fluazuron:

Species Rat LOAEL 240 mg/kg Application Route
Exposure time
Target Organs : Ingestion 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 : 52 Weeks Exposure time 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.

# **Experience with human exposure**

# **Components:**

## N-Methyl-2-pyrrolidone:

Skin contact Symptoms: Skin irritation



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

#### **Ecotoxicity**

#### **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 daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

NOEC (Daphnia magna (Water flea)): 12,5 mg/l

Exposure time: 21 d

Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: > 600 mg/l

Exposure time: 30 min Method: ISO 8192

Propan-2-ol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 9.640 mg/l

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia magna (Water flea)): > 10.000 mg/l

Exposure time: 24 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 1.050 mg/l

Exposure time: 16 h

**Butanone:** 

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2.993 mg/l

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

mg/l

Exposure time: 96 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 1.240



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mg/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

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

Exposure time: 30 min

Fluazuron:

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

Exposure time: 96 h

Toxicity to daphnia and other:

aquatic invertebrates

EC50 (Daphnia sp. (Water flea)): 0,0006 mg/l

Exposure time: 48 h

Toxicity to algae/aquatic

plants

NOEC (Raphidocelis subcapitata (freshwater green alga)):

27,9 mg/l

Exposure time: 72 h

M-Factor (Acute aquatic tox- :

icity)

tic tox- : 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

ma/l

Exposure time: 72 h

Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,24

mg/l



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Exposure time: 72 h

Method: OECD Test Guideline 201

M-Factor (Acute aquatic tox- :

Toxicity to fish (Chronic tox-

icity)

NOEC (Oryzias latipes (Japanese medaka)): 0,053 mg/l

NOEC (Daphnia magna (Water flea)): 0,316 mg/l

Exposure time: 30 d

Exposure time: 21 d

Method: OECD Test Guideline 210

Toxicity to daphnia and other : aquatic invertebrates (Chron-

ic toxicity)

M-Factor (Chronic aquatic : 1

toxicity)

Toxicity to microorganisms

EC50: > 10.000 mg/l

Exposure time: 3 h

Method: OECD Test Guideline 209

#### Persistence and degradability

#### **Components:**

N-Methyl-2-pyrrolidone:

Biodegradability Result: Readily biodegradable.

Biodegradation: 73 % Exposure time: 28 d

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



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II

Bioaccumulative potential

**Components:** 

Soya oil:

Partition coefficient: n-

octanol/water

log Pow: > 4

Remarks: Calculation

N-Methyl-2-pyrrolidone:

Partition coefficient: n-

log Pow: -0,46

octanol/water

Method: OECD Test Guideline 107

Propan-2-ol:

Partition coefficient: n-

octanol/water

log Pow: 0,05

**Butanone:** 

Partition coefficient: n-

octanol/water

log Pow: 0,3

6-Octenal, 3,7-dimethyl-:

Partition coefficient: n-

octanol/water

log Pow: 3,62

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

Mobility in soil

No data available

Other adverse effects

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS** 

**Disposal methods** 

Waste from residues Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.

Empty containers should be taken to an approved waste Contaminated packaging

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.



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If not otherwise specified: Dispose of as unused product.

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

#### **International Regulations**

**UNRTDG** 

UN number : UN 1993

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

(Propan-2-ol, Butanone)

Class : 3
Packing group : III
Labels : 3
Environmentally hazardous : no

**IATA-DGR** 

UN/ID No. : UN 1993

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

(Propan-2-ol, Butanone)

Class : 3 Packing group : III

Labels : Flammable Liquids

Packing instruction (cargo : 366

aircraft)

Packing instruction (passen: :

ger aircraft)

355

**IMDG-Code** 

UN number : UN 1993

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

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

Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes

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

Not applicable for product as supplied.

#### **Domestic regulation**

**ANTT** 

UN number : UN 1993

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

(Propan-2-ol, Butanone)

Class : 3
Packing group : III
Labels : 3
Hazard Identification Number : 30

## 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.



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#### **SECTION 15. REGULATORY INFORMATION**

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

National List of Carcinogenic Agents for Humans - : Not applicable

(LINACH)

Brazil. List of chemicals controlled by the Federal : Propan-2-ol

Police

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

AICS : not determined

DSL : not determined

IECSC : not determined

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

Revision Date : 28.09.2024 Date format : dd.mm.yyyy

**Further information** 

Sources of key data used to compile the Material Safety

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

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

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

#### Full text of other abbreviations

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

BR BEI : Brazil. NR7. Parameters for Biological Control of Occupational

Exposure to Some Chemical Agents

BR OEL : Brazil. NR 15 - Unhealthy activities and operations

ACGIH / TWA : 8-hour, time-weighted average ACGIH / STEL : Short-term exposure limit : Up to 48 hours /week

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory con-



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centration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China: IMDG - International Maritime Dangerous Goods: IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

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