

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

SECTION 1. IDENTIFICATION

Product identifier : Flumethrin (2%) 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**

Acute toxicity (Oral) : Category 3

Acute toxicity (Dermal) : Category 2

Skin irritation : Category 2

Eye irritation : Category 2A

Reproductive toxicity : Category 1B

Specific target organ toxicity -
single exposure (Oral) : Category 2

Specific target organ toxicity -
repeated exposure : Category 2 (Auditory system)

Specific target organ toxicity -
repeated exposure (Oral) : Category 2

Aspiration hazard : Category 1

Short-term (acute) aquatic
hazard : Category 3

Long-term (chronic) aquatic
hazard : Category 2

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

GHS label elements in accordance with ABNT NBR 14725 Standard

Hazard pictograms

:



Signal Word

:

Danger

Hazard Statements

:

H301 Toxic if swallowed.
H304 May be fatal if swallowed and enters airways.
H310 Fatal in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H360D May damage the unborn child.
H371 May cause damage to organs if swallowed.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
H373 May cause damage to organs (Auditory system) through prolonged or repeated exposure.
H402 Harmful to aquatic life.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

:

Prevention:

P201 Obtain special instructions before use.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.
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 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

Storage:

P405 Store locked up.

Other hazards which do not result in classification

May form explosive dust-air mixture during processing, handling or other means.

Flumethrin (2%) Formulation

Version 4.0 Revision Date: 14.04.2025 SDS Number: 10225111-00009 Date of last issue: 24.02.2025
 Date of first issue: 12.11.2021

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
Paraffin oil	8012-95-1	Asp. Tox., 1 Aquatic Chronic, 4	≥ 50 -< 70
Xylene	1330-20-7	Flam. Liq., 3 Acute Tox. (Oral), 5 Acute Tox. (Inhalation), 5 Acute Tox. (Dermal), 5 Skin Irrit., 2 Eye Irrit., 2A STOT SE, 3 STOT RE, (Auditory system), 2 Asp. Tox., 1 Aquatic Acute, 2 Aquatic Chronic, 3	≥ 10 -< 20
Flumethrin	69770-45-2	Acute Tox. (Oral), 2 Acute Tox. (Dermal), 1 Eye Irrit., 2B Repr., 1B STOT SE (Oral), 1 STOT RE (Oral), 1 Aquatic Chronic, 1	$\geq 2,5$ -< 5

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 immediately.
 Wash clothing before reuse.
 Destroy contaminated shoes.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
 If easy to do, remove contact lens, if worn.
 Get medical attention.
- If swallowed : If swallowed, DO NOT induce vomiting.
 If vomiting occurs have person lean forward.
 Call a physician or poison control center immediately.
 Rinse mouth thoroughly with water.

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

- | | |
|---|--|
| Most important symptoms and effects, both acute and delayed | : Never give anything by mouth to an unconscious person.
Toxic if swallowed.
May be fatal if swallowed and enters airways.
Fatal in contact with skin.
Causes skin irritation.
Causes serious eye irritation.
May damage the unborn child.
May cause damage to organs if swallowed.
May cause damage to organs through prolonged or repeated exposure. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| Notes to physician | : Treat symptomatically and supportively. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|--|---|
| Suitable extinguishing media | : Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
Dry chemical |
| Unsuitable extinguishing media | : None known. |
| Specific hazards during fire fighting | : Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : Carbon oxides |
| Specific extinguishing methods | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area. |
| 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 emergency procedures | : Evacuate personnel to safe areas.
Only trained personnel should re-enter the area.
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 |

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.
Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.
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 : Static electricity may accumulate and ignite suspended dust causing an explosion.
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

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

Advice on safe handling : Do not get on skin or clothing.
Do not breathe 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
Keep container tightly closed.
Minimize dust generation and accumulation.
Keep container closed when not in use.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures,

Flumethrin (2%) Formulation

Version 4.0 Revision Date: 14.04.2025 SDS Number: 10225111-00009 Date of last issue: 24.02.2025
 Date of first issue: 12.11.2021

- 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.
 Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
 Strong oxidizing agents
 Self-reactive substances and mixtures
 Organic peroxides
 Flammable liquids
 Flammable solids
 Pyrophoric liquids
 Pyrophoric solids
 Self-heating substances and mixtures
 Substances and mixtures which in contact with water emit flammable gases
 Explosives
 Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Paraffin oil	8012-95-1	TWA (Inhalable particulate matter)	5 mg/m ³	ACGIH
Xylene	1330-20-7	LT	78 ppm 340 mg/m ³	BR OEL
Further information: Degree of harmfulness: medium				
		TWA	20 ppm	ACGIH
Flumethrin	69770-45-2	TWA	30 µg/m ³ (OEB 3)	Internal
Further information: Skin				
		Wipe limit	300 µg/100 cm ²	Internal

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	methyl hippuric acid	Urine	End of workday	1.5 mg/g creatinine	BR BEI
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	0.3 g/g creatinine	ACGIH BEI

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

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.

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 : Combined particulates and organic vapor type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

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 : liquid

Color : light brown

Odor : odorized

Odor Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : No data available

Flash point : No data available

Evaporation rate : No data available

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, handling or other means.
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	:	No data available
Density	:	0,750 - 0,950 g/cm ³
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
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 reactions	:	May form explosive dust-air mixture during processing, handling or other means. Can react with strong oxidizing agents.
Conditions to avoid	:	Heat, flames and sparks. Avoid dust formation.
Incompatible materials	:	Oxidizing agents

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Toxic if swallowed.
Fatal in contact with skin.

Product:

Acute oral toxicity : Acute toxicity estimate: 186,2 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 185,64 mg/kg
Method: Calculation method

Components:**Paraffin oil:**

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Xylene:

Acute oral toxicity : LD50 (Rat): 3.523 mg/kg
Method: Directive 67/548/EEC, Annex V, B.1.
Acute inhalation toxicity : LC50 (Rat): 27,571 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Acute dermal toxicity : LD50 (Rabbit): > 4.200 mg/kg

Flumethrin:

Acute oral toxicity : LD50 (Rat): > 20 mg/kg
LD50 (Mouse): > 20 mg/kg
Acute inhalation toxicity : LC50 (Rat): > 2.934 mg/l
Acute dermal toxicity : LD50 (Rat): > 5 mg/kg

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Skin corrosion/irritation

Causes skin irritation.

Components:**Paraffin oil:**

Species	: Rabbit
Result	: No skin irritation

Xylene:

Species	: Rabbit
Result	: Skin irritation

Flumethrin:

Result	: No skin irritation
--------	----------------------

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**Paraffin oil:**

Species	: Rabbit
Result	: No eye irritation

Xylene:

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

Flumethrin:

Result	: Mild eye irritation
--------	-----------------------

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:**Xylene:**

Test Type	: Local lymph node assay (LLNA)
Routes of exposure	: Skin contact
Species	: Mouse
Result	: negative

Germ cell mutagenicity

Not classified based on available information.

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Components:**Xylene:**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: Chromosome aberration test in vitro Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative
Genotoxicity in vivo	: Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Mouse Application Route: Skin contact Result: negative

Flumethrin:

Genotoxicity in vitro	: Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Result: equivocal Test Type: Chromosomal aberration Test system: Chinese hamster ovary cells Result: positive Remarks: Not classified due to inconclusive data. Test Type: Chromosomal aberration Test system: Human lymphocytes Result: negative Test Type: in vitro micronucleus test Test system: Mouse Result: negative
Germ cell mutagenicity - Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Not classified based on available information.

Components:**Xylene:**

Species	: Rat
Application Route	: Ingestion
Exposure time	: 103 weeks
Result	: negative

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Flumethrin:

Species	: Rat
Application Route	: Oral
Exposure time	: 2 Years
NOAEL	: 0,5 mg/kg body weight
Result	: negative

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
------------------------------	--

Reproductive toxicity

May damage the unborn child.

Components:**Xylene:**

Effects on fertility	: Test Type: One-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapor) Result: negative
----------------------	--

Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: inhalation (vapor) Result: negative
------------------------------	--

Flumethrin:

Effects on fetal development	: Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 0,36 mg/kg body weight Result: Maternal toxicity observed., Reduced offspring weight gain., Fetal abnormalities.
------------------------------	---

	: Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 0,5 mg/kg body weight Result: Maternal toxicity observed., Skeletal malformations., Reduced fetal weight.
--	--

	: Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 1,7 mg/kg body weight Result: No teratogenic potential.
--	---

Reproductive toxicity - Assessment	: May damage the unborn child.
------------------------------------	--------------------------------

STOT-single exposure

May cause damage to organs if swallowed.

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Components:**Xylene:**

Assessment	:	May cause respiratory irritation.
------------	---	-----------------------------------

Flumethrin:

Routes of exposure	:	Oral
Assessment	:	Causes damage to organs.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure if swallowed.

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

Components:**Xylene:**

Routes of exposure	:	inhalation (vapor)
Target Organs	:	Auditory system
Assessment	:	Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Flumethrin:

Routes of exposure	:	Oral
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Paraffin oil:**

Species	:	Rat, female
LOAEL	:	161 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Xylene:

Species	:	Rat
LOAEL	:	> 0,2 - 1 mg/l
Application Route	:	inhalation (vapor)
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

Species	:	Rat
LOAEL	:	150 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days

Flumethrin:

Species	:	Rat
NOAEL	:	0,7 mg/kg

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Application Route	: Oral
Exposure time	: 13 Weeks
Target Organs	: digestive system, Skin
Symptoms	: decrease in appetite, Skin disorders

Species	: Dog
NOAEL	: 0,88 mg/kg
Application Route	: Oral
Exposure time	: 13 Weeks
Target Organs	: digestive system, Hair, Skin
Symptoms	: decrease in appetite, Skin disorders

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:**Paraffin oil:**

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Xylene:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Paraffin oil:**

Toxicity to fish	: LL50 (Scophthalmus maximus (turbot)): > 100 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EL50 (Acartia tonsa (Calanoid copepod)): > 100 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	: EL50 (Skeletonema costatum (marine diatom)): > 100 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials
	NOELR (Skeletonema costatum (marine diatom)): > 1 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Xylene:

- | | | |
|--|---|--|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l
Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : | EC50 (Skeletonema costatum (marine diatom)): 10 mg/l
Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): > 0,1 - < 1 mg/l
Exposure time: 35 d
Method: OECD Test Guideline 210
Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : | NOEC: > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials |

Flumethrin:

- | | | |
|-------------------------------------|---|---|
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): 0,046 mg/l
Exposure time: 144 h |
| M-Factor (Chronic aquatic toxicity) | : | 1 |

Persistence and degradability**Components:****Xylene:**

- | | | |
|------------------|---|--|
| Biodegradability | : | Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials |
|------------------|---|--|

Bioaccumulative potential**Components:****Paraffin oil:**

- | | | |
|--|---|--------------------------------------|
| Partition coefficient: n-octanol/water | : | log Pow: > 4
Remarks: Calculation |
|--|---|--------------------------------------|

Xylene:

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

Partition coefficient: n-octanol/water : log Pow: 3,16
Remarks: Calculation

Flumethrin:

Partition coefficient: n-octanol/water : log Pow: 6,2

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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number : UN 2810
Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.
(Flumethrin)

Class : 6.1
Packing group : II
Labels : 6.1
Environmentally hazardous : yes

IATA-DGR

UN/ID No. : UN 2810
Proper shipping name : Toxic liquid, organic, n.o.s.
(Flumethrin)

Class : 6.1
Packing group : II
Labels : Toxic
Packing instruction (cargo aircraft) : 662
Packing instruction (passenger aircraft) : 654

IMDG-Code

UN number : UN 2810
Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.
(Flumethrin)

Class : 6.1
Packing group : II
Labels : 6.1
EmS Code : F-A, S-A

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

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 2810
Proper shipping name	: TOXIC LIQUID, ORGANIC, N.O.S. (Flumethrin)
Class	: 6.1
Packing group	: II
Labels	: 6.1
Hazard Identification Number	: 60

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

National List of Carcinogenic Agents for Humans - (LINACH) : Not applicable

Brazil. List of chemicals controlled by the Federal Police : Xylene

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	: 14.04.2025
Date format	: dd.mm.yyyy

Further information

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <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

Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.02.2025
4.0	14.04.2025	10225111-00009	Date of first issue: 12.11.2021

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

BR / Z8