

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Flumethrin (1%) Formulation

Manufacturer or supplier's details

Company : MSD

Address : Briahnager - Off Pune Nagar Road
Wagholi - Pune - India 412 207

Telephone : +1-908-740-4000

Emergency telephone number : +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

2. HAZARDS IDENTIFICATION

Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

Classification

Toxic, Highly flammable liquids

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 5

Acute toxicity (Dermal) : Category 3

Skin corrosion/irritation : Category 2

Serious eye damage/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)

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic hazard : Category 3

GHS label elements

Hazard pictograms	:	  
Signal word	:	Danger
Hazard statements	:	<p>H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H315 + H319 Causes skin irritation and serious eye irritation. H333 May be harmful if inhaled. 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. H412 Harmful to aquatic life with long lasting effects.</p>

Precautionary statements

Prevention:

P203 Obtain, read and follow all safety instructions before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapours.
P262 Do not get in eyes, on skin, or on clothing.
P264+P265 Wash hands thoroughly after handling. Do not touch eyes.
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 + P316 + P330 IF SWALLOWED: Get emergency medical help immediately. Rinse mouth.
P303 + P361 + P353 + P316 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water. Get emergency medical help immediately.
P304 + P317 IF INHALED: Get medical help.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P316 If exposed or concerned: Get emergency medical help immediately.
P331 Do NOT induce vomiting.
P332 + P317 If skin irritation occurs: Get medical help.
P337 + P317 If eye irritation persists: Get medical help.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards which do not result in classification

Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (%) w/w)
Paraffin oil	8012-95-1	>= 50 - < 70
Glycerides, mixed decanoyl and octanoyl	73398-61-5	>= 20 - < 30
Xylene	1330-20-7	>= 10 - < 20
Flumethrin	69770-45-2	>= 1 - < 2.5
Toluene	108-88-3	>= 0.25 - < 1

Alternative CAS Numbers for some regions

Chemical name	Alternative CAS Number(s)
Glycerides, mixed decanoyl and octanoyl	52622-27-2

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.

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.

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

If swallowed	Get medical attention. : If swallowed, DO NOT induce vomiting. If vomiting occurs have person lean forward. Call a physician or poison control centre immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	: Harmful if swallowed. May be fatal if swallowed and enters airways. Toxic in contact with skin. Causes skin irritation and serious eye irritation. May be harmful if inhaled. 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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) 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. Vapours may form explosive mixtures with air. 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 firefighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	: Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro-
---	--

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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.

Methods and materials for containment and cleaning up : Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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 equipment.

Advice on safe handling : Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

Conditions for safe storage : Keep in properly labelled containers. Store locked up. Keep tightly closed.

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Materials to avoid

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:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable gases
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Poisonous gases
Explosives

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Paraffin oil	8012-95-1	TWA (Mist)	5 mg/m ³	IN OEL
		STEL (Mist)	10 mg/m ³	IN OEL
		TWA (Inhal- able particu- late matter)	5 mg/m ³	ACGIH
Xylene	1330-20-7	TWA	100 ppm 435 mg/m ³	IN OEL
		STEL	150 ppm 655 mg/m ³	IN OEL
		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
Toluene	108-88-3	TWA	100 ppm 375 mg/m ³	IN OEL
		STEL	150 ppm 560 mg/m ³	IN OEL
		TWA	20 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
Xylene	1330-20-7	Methylhip- puric acids	Urine	End of shift (As soon as possible after exposure ceases)	0.3 g/g cre- atinine	ACGIH BEI
Toluene	108-88-3	Toluene	In blood	Prior to	0.02 mg/l	ACGIH

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

				last shift of work- week		BEI
		Toluene	Urine	End of shift (As soon as possible after exposure ceases)	0.03 mg/l	ACGIH BEI
		o-Cresol	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/g creatinine	ACGIH BEI

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

Respiratory protection	: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	: Combined particulates and organic vapour type
Hand protection	
Material	: Chemical-resistant gloves
Remarks	: Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.
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

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Aqueous solution
Colour	: light brown, yellow
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: 54 °C
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: 0.820 - 0.900 g/cm ³
Solubility(ies)	
Water solubility	: No data available

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics	:	
Particle size	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Flammable liquid and vapour. Vapours 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.

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Harmful if swallowed.
Toxic in contact with skin.
May be harmful if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 404.59 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 25 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Acute dermal toxicity : Acute toxicity estimate: 402.36 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

Glycerides, mixed decanoyl and octanoyl:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	: LC50 (Rat): > 1.86 mg/l Exposure time: 6 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

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: vapour
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

Toluene:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 28.1 mg/l Exposure time: 4 h Test atmosphere: vapour

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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

Skin corrosion/irritation

Causes skin irritation.

Components:

Paraffin oil:

||| Species : Rabbit
||| Result : No skin irritation

Glycerides, mixed decanoyl and octanoyl:

||| Species : Rabbit
||| Result : No skin irritation

Xylene:

||| Species : Rabbit
||| Result : Skin irritation

Flumethrin:

||| Result : No skin irritation

Toluene:

||| Species : Rabbit
||| Method : Directive 67/548/EEC, Annex V, B.4.
||| Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Paraffin oil:

||| Species : Rabbit
||| Result : No eye irritation

Glycerides, mixed decanoyl and octanoyl:

||| Species : Rabbit
||| Result : No eye irritation

Xylene:

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

Flumethrin:

||| Result : Mild eye irritation

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Toluene:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Glycerides, mixed decanoyl and octanoyl:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

Xylene:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Result	:	negative

Toluene:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	Directive 67/548/EEC, Annex V, B.6.
Result	:	negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Glycerides, mixed decanoyl and octanoyl:

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Method: Directive 67/548/EEC, Annex, B.13/14 Result: negative Remarks: Based on data from similar materials
	:	Test Type: Chromosome aberration test in vitro Result: negative Remarks: Based on data from similar materials
	:	Test Type: In vitro mammalian cell gene mutation test

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

		<p>Result: negative Remarks: Based on data from similar materials</p>
		<p>Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative Remarks: Based on data from similar materials</p>
Genotoxicity in vivo	:	<p>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative Remarks: Based on data from similar materials</p>
Xylene:		
Genotoxicity in vitro	:	<p>Test Type: Bacterial reverse mutation assay (AMES) Result: negative</p>
		<p>Test Type: Chromosome aberration test in vitro Result: negative</p>
		<p>Test Type: In vitro mammalian cell gene mutation test Result: negative</p>
		<p>Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative</p>
Genotoxicity in vivo	:	<p>Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Mouse Application Route: Skin contact Result: negative</p>
Flumethrin:		
Genotoxicity in vitro	:	<p>Test Type: Microbial mutagenesis assay (Ames test) Test system: Salmonella typhimurium Result: equivocal</p>
		<p>Test Type: Chromosomal aberration Test system: Chinese hamster ovary cells Result: positive Remarks: Not classified due to inconclusive data.</p>
		<p>Test Type: Chromosomal aberration Test system: Human lymphocytes Result: negative</p>
		<p>Test Type: in vitro micronucleus test Test system: Mouse Result: negative</p>
Germ cell mutagenicity -	:	<p>Weight of evidence does not support classification as a germ</p>

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Assessment cell mutagen.

Toluene:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

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

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

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: inhalation (vapour)
Method: OECD Test Guideline 478
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Xylene:

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

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

Toluene:

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 103 weeks
Result : negative

Species : Mouse
Application Route : Skin contact
Exposure time : 24 Months
Result : negative

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Reproductive toxicity

May damage the unborn child.

Components:

Glycerides, mixed decanoyl and octanoyl:

Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	: Test Type: Embryo-foetal development Species: Rat Application Route: Intravenous injection Result: negative Remarks: Based on data from similar materials

Xylene:

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

Flumethrin:

Effects on foetal 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, foetal 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 foetal weight
	: Test Type: Development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 1.7 mg/kg body weight Result: No teratogenic potential

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Reproductive toxicity - Assessment : May damage the unborn child.

Toluene:

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

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: positive

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

STOT - single exposure

May cause damage to organs if swallowed.

Components:

Xylene:

Assessment : May cause respiratory irritation.

Flumethrin:

Exposure routes : Oral
Assessment : Causes damage to organs.

Toluene:

Assessment : May cause drowsiness or dizziness.

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:

Exposure routes : inhalation (vapour)
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:

Exposure routes : Oral
Assessment : Causes damage to organs through prolonged or repeated exposure.

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Toluene:

Exposure routes	:	Inhalation
Target Organs	:	Central nervous system
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Paraffin oil:

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

Glycerides, mixed decanoyl and octanoyl:

Species	:	Rat
NOAEL	:	5,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

Xylene:

Species	:	Rat
NOAEL	:	> 0.2 - 1 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	13 Weeks
Remarks	:	Based on data from similar materials

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

Flumethrin:

Species	:	Rat
NOAEL	:	0.7 mg/kg
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

Toluene:

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Species	:	Rat
LOAEL	:	1.875 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	6 Months

Species	:	Rat
NOAEL	:	625 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks

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.

Toluene:

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.

Experience with human exposure

Components:

Toluene:

Inhalation	:	Target Organs: Central nervous system Symptoms: Neurological disorders
------------	---	---

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
---	---	--

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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

Glycerides, mixed decanoyl and octanoyl:

Toxicity to fish : LL50 (Danio rerio (zebra fish)): > 1,000 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: Directive 67/548/EEC, Annex V, C.1.

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: Directive 67/548/EEC, Annex V, C.2.
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL10 (Desmodesmus subspicatus (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: Directive 67/548/EEC, Annex V, C.3.

EL50 (Desmodesmus subspicatus (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: Directive 67/548/EEC, Annex V, C.3.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: >= 0.01 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials
No toxicity at the limit of solubility

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

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version 6.0 Revision Date: 14.04.2025 SDS Number: 4019090-00018 Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Toxicity to microorganisms : NOEC: > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - < 1 mg/l
Exposure time: 35 d
Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 210
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EL10: > 1 - 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Flumethrin:

Toxicity to fish (Chronic toxicity) : NOEC: 0.046 mg/l
Exposure time: 144 h
Species: Danio rerio (zebra fish)

M-Factor (Chronic aquatic toxicity) : 1

Toluene:

Toxicity to fish : LC50 (Oncorhynchus kisutch (coho salmon)): 5.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): 3.78 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC (Skeletonema costatum (marine diatom)): 10 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Nitrosomonas sp.): 84 mg/l
Exposure time: 24 h

Toxicity to fish (Chronic toxicity) : NOEC: 1.39 mg/l
Exposure time: 40 d
Species: Oncorhynchus kisutch (coho salmon)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.74 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)

Persistence and degradability

Components:

Glycerides, mixed decanoyl and octanoyl:

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

Biodegradability
Result: Readily biodegradable.
Biodegradation: 95.4 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Xylene:

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

Toluene:

Biodegradability
Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 20 d

Bioaccumulative potential

Components:

Paraffin oil:

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

Glycerides, mixed decanoyl and octanoyl:

Partition coefficient: n-octanol/water
log Pow: > 8

Xylene:

Partition coefficient: n-octanol/water
log Pow: 3.16
Remarks: Calculation

Flumethrin:

Partition coefficient: n-octanol/water
log Pow: 6.2

Toluene:

Bioaccumulation
Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 90
Partition coefficient: n-octanol/water
log Pow: 2.73

Mobility in soil

No data available

Other adverse effects

No data available

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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.
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.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 1992

Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.
(Xylene, Flumethrin)

Class : 3

Subsidiary risk : 6.1

Packing group : III

Labels : 3 (6.1)

Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 1992

Proper shipping name : Flammable liquid, toxic, n.o.s.
(Xylene, Flumethrin)

Class : 3

Subsidiary risk : 6.1

Packing group : III

Labels : Flammable Liquids, Toxic

Packing instruction (cargo aircraft) : 366

Packing instruction (passenger aircraft) : 355

IMDG-Code

UN number : UN 1992

Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.
(Xylene, Flumethrin)

Class : 3

Subsidiary risk : 6.1

Packing group : III

Labels : 3 (6.1)

EmS Code : F-E, S-D

Marine pollutant : no

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

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.

15. REGULATORY INFORMATION

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

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

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

Revision Date : 14.04.2025

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/>

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

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)

IN OEL : India. Permissible levels of certain chemical substances in work environment.

ACGIH / TWA : 8-hour, time-weighted average

IN OEL / TWA : Time-Weighted Average Concentration (TWA) (8 hrs.)

IN OEL / STEL : Short-term exposure Limit STEL (15 min)

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 Chemi-

SAFETY DATA SHEET

according to the Globally Harmonized System



Flumethrin (1%) Formulation

Version
6.0

Revision Date:
14.04.2025

SDS Number:
4019090-00018

Date of last issue: 24.02.2025
Date of first issue: 25.02.2019

cal 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.

IN / EN