

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 2020/11/23      SDS Number: 4019098-00009      Date of last issue: 2020/11/17  
Date of first issue: 2019/02/25

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Flumethrin (1%) Formulation

#### Manufacturer or supplier's details

Company : MSD

Address : No. 485 Jing Tai Road  
Pu Tuo District - Shanghai - China 200331

Telephone : +1-908-740-4000

Emergency telephone number : 86-571-87268110

E-mail address : EHSDATASTEWARD@msd.com

#### Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

**Appearance** : Aqueous solution  
**Colour** : light brown, yellow  
**Odour** : No data available

Flammable liquid and vapour. Harmful if swallowed. May be fatal if swallowed and enters airways. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. May damage the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects.

#### GHS Classification

Flammable liquids : Category 3  
Acute toxicity (Oral) : Category 4  
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 : Category 2  
Specific target organ toxicity - repeated exposure : Category 2

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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 : 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 Causes skin irritation.  
H319 Causes serious eye irritation.  
H360D May damage the unborn child.  
H371 May cause damage to organs.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe mist or vapours.  
P264 Wash skin thoroughly after handling.  
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 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water

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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.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

### Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

### Disposal:

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

### Physical and chemical hazards

Flammable liquid and vapour.

### Health hazards

Harmful if swallowed. Toxic in contact with skin. Causes skin irritation. Causes serious eye irritation. May damage the unborn child. May cause damage to organs. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.

### Environmental hazards

Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

### 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
Xylene	1330-20-7	>= 10 -< 20
Flumethrin	69770-45-2	>= 1 -< 2.5
Toluene	108-88-3	>= 0.25 -< 1

## 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.

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- 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 : 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.  
Causes serious eye irritation.  
May damage the unborn child.  
May cause damage to organs.  
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.
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### 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)  
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.

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### 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 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

#### Handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.  
Use explosion-proof electrical, ventilating and lighting 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.

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Avoidance of contact : 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.  
: Oxidizing agents

### Storage

Conditions for safe storage : Keep in properly labelled containers.  
Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Keep away from heat and sources of ignition.

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

Packaging material : Unsuitable material: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components 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 <sup>3</sup>	ACGIH
Xylene	1330-20-7	PC-TWA	50 mg/m <sup>3</sup>	CN OEL
		PC-STEL	100 mg/m <sup>3</sup>	CN OEL
		TWA	100 ppm	ACGIH
		STEL	150 ppm	ACGIH
Flumethrin	69770-45-2	TWA	45 µg/m <sup>3</sup> (OEB 3)	Internal
	Further information: Skin			
		Wipe limit	450 µg/100 cm <sup>2</sup>	Internal
Toluene	108-88-3	PC-TWA	50 mg/m <sup>3</sup>	CN OEL
	Further information: Skin			
		PC-STEL	100 mg/m <sup>3</sup>	CN OEL
	Further information: Skin			
		TWA	20 ppm	ACGIH

### Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
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Xylene	1330-20-7	methylhippuric acids	Urine	End of shift	0.3 g/g creatinine	CN BEI
		methylhippuric acids	Urine	End of shift	0.4 g/l	CN BEI
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
Toluene	108-88-3	hippuric acid	Urine	End of workshift (after exposure has ended)	1 mol/mol creatinine	CN BEI
		hippuric acid	Urine	End of workshift (after exposure has ended)	1.5 g/g creatinine	CN BEI
		hippuric acid	Urine	End of workshift (after exposure has ended)	11 Millimoles per liter	CN BEI
		hippuric acid	Urine	End of workshift (after exposure has ended)	2 g/l	CN BEI
		toluene	end exhaled air	End of workshift (15-30 min after exposure has ended)	20 mg/m <sup>3</sup>	CN BEI
		toluene	end exhaled air	Prior to shift	5 mg/m <sup>3</sup>	CN BEI
		Toluene	In blood	Prior to last shift of work-week	0.02 mg/l	ACGIH BEI
		Toluene	Urine	End of shift (As soon as possible after	0.03 mg/l	ACGIH BEI

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				exposure ceases)		
		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  
**Eye/face protection** : Wear safety glasses with side shields or goggles.  
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

**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.

### 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.

**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,



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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 <sup>3</sup>
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		

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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 size	:	Not applicable

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### 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.

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### 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Inhalation Skin contact Ingestion Eye contact
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#### **Acute toxicity**

Harmful if swallowed.  
Toxic in contact with skin.

#### **Product:**

Acute oral toxicity	:	Acute toxicity estimate: 404.59 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Calculation method
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

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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: 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

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

### 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

#### Toluene:

Species : Rabbit

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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

##### Xylene:

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

##### Flumethrin:

Result : Mild eye irritation

##### Toluene:

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

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### 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.

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### 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.

#### **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

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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

### Reproductive toxicity

May damage the unborn child.

#### Components:

##### **Xylene:**

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

Effects on foetal develop- : Test Type: Embryo-foetal development

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ment      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

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.

### Components:

#### Xylene:

Assessment : May cause respiratory irritation.

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### 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.

### 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.

### 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  
LOAEL : 161 mg/kg  
Application Route : Ingestion  
Exposure time : 90 Days

#### Xylene:

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

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



# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 2020/11/23      SDS Number: 4019098-00009      Date of last issue: 2020/11/17  
Date of first issue: 2019/02/25

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### 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:

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

# SAFETY DATA SHEET

according to GB/T 16483 and GB/T 17519



## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 2020/11/23      SDS Number: 4019098-00009      Date of last issue: 2020/11/17  
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Symptoms: Neurological disorders

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

##### Components:

##### **Paraffin oil:**

- Toxicity to fish : LL50 (*Scophthalmus maximus* (turbot)): > 1,028 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*): > 3,193 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)): > 3,200 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials
- NOELR (*Skeletonema costatum* (marine diatom)): 993 mg/l  
Exposure time: 72 h  
Test substance: Water Accommodated Fraction  
Remarks: Based on data from similar materials

##### **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

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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

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

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

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

### Persistence and degradability

#### Components:

#### Paraffin oil:

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 82 %  
Exposure time: 24 d  
Method: OECD Test Guideline 301F  
Remarks: Based on data from similar materials

#### 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

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### Bioaccumulative potential

#### Components:

##### **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

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## 13. DISPOSAL CONSIDERATIONS

### **Disposal methods**

Waste from residues : 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.

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## 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)

#### **IATA-DGR**

UN/ID No. : UN 1992  
Proper shipping name : Flammable liquid, toxic, n.o.s.  
(Xylene, Flumethrin)

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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 Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

### National Regulations

#### GB 6944/12268

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)

### 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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## 15. REGULATORY INFORMATION

### National regulatory information

#### Law on the Prevention and Control of Occupational Diseases

#### Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals : Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

No. / Code	Chemical name / Category	Threshold quantity
W5.4	Flammable liquids	5,000 t

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

AICS : not determined

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DSL : not determined

IECSC : not determined

### 16. OTHER INFORMATION

#### 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/>

Date format : yyyy/mm/dd

#### Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)  
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)  
CN BEI : China. Biological Occupational Exposure Indices  
CN OEL : Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA : 8-hour, time-weighted average  
ACGIH / STEL : Short-term exposure limit  
CN OEL / PC-TWA : Permissible concentration - time weighted average  
CN OEL / PC-STEEL : Permissible concentration - short term exposure limit

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; TSCA - Toxic Substances Control Act (United States); UN - Unit-

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ed Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

### Disclaimer

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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