

## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

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### SECTION 1. IDENTIFICATION

Product name : Flumethrin (1%) Formulation  
Other means of identification : No data available

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc  
Address : 2000 Galloping Hill Road  
Kenilworth - New Jersey - U.S.A. 07033  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
E-mail address : EHSDATASTEWARD@merck.com

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

Recommended use : Veterinary product

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### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 3  
Acute toxicity (Oral) : Category 4  
Acute toxicity (Dermal) : Category 3  
Skin irritation : Category 2  
Eye irritation : Category 2A  
Reproductive toxicity : Category 1B  
Specific target organ toxicity - single exposure (Oral) : Category 1  
Specific target organ toxicity - repeated exposure (Oral) : Category 1  
Specific target organ toxicity - repeated exposure : Category 2 (Auditory system)  
Aspiration hazard : Category 1

#### GHS label elements

Hazard pictograms :    

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.  
H302 Harmful if swallowed.

**Flumethrin (1%) Formulation**

Version            Revision Date:            SDS Number:            Date of last issue: 11/17/2020  
3.2                11/23/2020                4019084-00009            Date of first issue: 02/25/2019

---

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.  
H370 Causes damage to organs if swallowed.  
H372 Causes damage to organs through prolonged or repeated exposure if swallowed.  
H373 May cause damage to organs (Auditory system) through prolonged or repeated exposure.

**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, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 Do not breathe mist or vapors.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves, protective clothing, eye protection and face protection.

**Response:**

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of soap and water. Call a doctor if you feel unwell.  
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.  
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 doctor.  
P331 Do NOT induce vomiting.  
P332 + P313 If skin irritation occurs: Get medical attention.  
P337 + P313 If eye irritation persists: Get medical attention.  
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.

**Storage:**

P405 Store locked up.

**Disposal:**

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

**Other hazards**

Vapors may form explosive mixture with air.

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

Substance / Mixture            : Mixture

**Components**

## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
 Date of first issue: 02/25/2019

Chemical name	CAS-No.	Concentration (% w/w)
Paraffin oil	8012-95-1	>= 65.8537 - <= 68.8889
Xylene	1330-20-7	>= 10.5556 - <= 11.5854
Flumethrin	69770-45-2	>= 1.1111 - <= 1.2195
Toluene	108-88-3	>= 0.5556 - <= 0.6098

### SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
 Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
 Get medical attention.  
 Wash clothing before reuse.  
 Thoroughly clean shoes before reuse.
- In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
 If easy to do, remove contact lens, if worn.  
 Get medical attention.
- If swallowed : 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.  
 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.  
 Causes damage to organs if swallowed.  
 Causes damage to organs through prolonged or repeated exposure 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<sub>2</sub>)  
 Dry chemical
- Unsuitable extinguishing media : High volume water jet

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

- Specific hazards during fire fighting : Do not use a solid water stream as it may scatter and spread fire.  
Flash back possible over considerable distance.  
Vapors may form explosive mixtures with air.  
Exposure to combustion products may be a hazard to health.
- Hazardous combustion 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 : 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/vapors/mists with a water spray jet.  
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.  
Clean up remaining materials from spill with suitable absorbent.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.  
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.
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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

- 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 vapors.  
Do not swallow.  
Do not get in eyes.  
Wash skin thoroughly after handling.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Non-sparking tools should be used.  
Keep container tightly closed.  
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 labeled containers.  
Store locked up.  
Keep tightly closed.  
Keep in a cool, well-ventilated place.  
Store in accordance with the particular national regulations.  
Keep away from heat and sources of ignition.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Organic peroxides  
Flammable solids  
Pyrophoric liquids  
Pyrophoric solids  
Self-heating substances and mixtures  
Substances and mixtures which in contact with water emit flammable gases  
Explosives  
Gases

### 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 (Mist)	5 mg/m <sup>3</sup>	CA AB OEL
		STEL (Mist)	10 mg/m <sup>3</sup>	CA AB OEL
		TWAEV (Mist)	5 mg/m <sup>3</sup>	CA QC OEL
		STEV (Mist)	10 mg/m <sup>3</sup>	CA QC OEL
		TWA (Mist)	1 mg/m <sup>3</sup>	CA BC OEL
		TWA (Inhalable particulate)	5 mg/m <sup>3</sup>	ACGIH

# SAFETY DATA SHEET



## Flumethrin (1%) Formulation

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
 Date of first issue: 02/25/2019

		matter)		
Xylene	1330-20-7	STEL	150 ppm 651 mg/m <sup>3</sup>	CA AB OEL
		TWA	100 ppm 434 mg/m <sup>3</sup>	CA AB OEL
		TWAEV	100 ppm 434 mg/m <sup>3</sup>	CA QC OEL
		STEV	150 ppm 651 mg/m <sup>3</sup>	CA QC OEL
		TWA	100 ppm	CA BC OEL
		STEL	150 ppm	CA BC 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	TWA	50 ppm 188 mg/m <sup>3</sup>	CA AB OEL
		TWA	20 ppm	CA BC OEL
		TWAEV	50 ppm 188 mg/m <sup>3</sup>	CA QC 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	Methylhippu ric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
Toluene	108-88-3	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 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

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

- 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 vapor 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 contaminated clothing.
- 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, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

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### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Aqueous solution
- Color : light brown, yellow

**Flumethrin (1%) Formulation**

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

---

Odor : No data available

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 : 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

Vapor pressure : No data available

Relative vapor 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

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 size : Not applicable



**Flumethrin (1%) Formulation**

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.  
Chemical stability : Stable under normal conditions.  
Possibility of hazardous reactions : Flammable liquid and vapor.  
Vapors may form explosive mixture with air.  
Can react with strong oxidizing agents.

Conditions to avoid : Heat, flames and sparks.  
Incompatible materials : Oxidizing agents  
Hazardous decomposition products : No hazardous decomposition products are known.

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**SECTION 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.

**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: vapor  
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  
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

---

**Flumethrin (1%) Formulation**

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

---

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

**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: vapor

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  
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

**Flumethrin (1%) Formulation**

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

---

**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 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

**Toluene:**

Test Type : Maximization Test  
Routes of exposure : 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:****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 mam-

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

malian 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  
Result: negative

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

### Carcinogenicity

Not classified based on available information.

**Flumethrin (1%) Formulation**

Version 3.2      Revision Date: 11/23/2020      SDS Number: 4019084-00009      Date of last issue: 11/17/2020  
Date of first issue: 02/25/2019

---

**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 (vapor)  
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 (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.

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

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.

### **Toluene:**

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

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

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

### **STOT-single exposure**

Causes damage to organs if swallowed.

### **Components:**

#### **Xylene:**

Assessment : May cause respiratory irritation.

#### **Flumethrin:**

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

#### **Toluene:**

Assessment : May cause drowsiness or dizziness.

### **STOT-repeated exposure**

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

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

### 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.

#### **Toluene:**

Routes of exposure	:	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 (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
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

**Flumethrin (1%) Formulation**

Version            Revision Date:            SDS Number:            Date of last issue: 11/17/2020  
3.2                11/23/2020                4019084-00009            Date of first issue: 02/25/2019

---

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 (vapor)  
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

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**SECTION 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



## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

---

- 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  
 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

### 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

**Flumethrin (1%) Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

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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
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**Xylene:**

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

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

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): 90
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Partition coefficient: n-	:	log Pow: 2.73
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## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

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octanol/water

### Mobility in soil

No data available

### Other adverse effects

No data available

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## SECTION 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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## SECTION 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)
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

## Flumethrin (1%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

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Marine pollutant : no

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

Not applicable for product as supplied.

### Domestic regulation

#### TDG

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)
ERG Code	: 131
Marine pollutant	: no

### Special precautions for user

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

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## SECTION 15. REGULATORY INFORMATION

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

AICS	: not determined
DSL	: not determined
IECSC	: not determined

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## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
CA AB OEL	: Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	: Canada. British Columbia OEL
CA QC OEL	: Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
CA AB OEL / TWA	: 8-hour Occupational exposure limit
CA AB OEL / STEL	: 15-minute occupational exposure limit
CA BC OEL / TWA	: 8-hour time weighted average
CA BC OEL / STEL	: short-term exposure limit
CA QC OEL / TWA EV	: Time-weighted average exposure value
CA QC OEL / STEV	: Short-term exposure value

**Flumethrin (1%) Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 11/17/2020
3.2	11/23/2020	4019084-00009	Date of first issue: 02/25/2019

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

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/>

Revision Date : 11/23/2020  
Date format : mm/dd/yyyy

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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