

**Flumethrin (2%) Formulation**

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
Date of first issue: 2021/11/12

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**1. PRODUCT AND COMPANY IDENTIFICATION**

Chemical product name : Flumethrin (2%) Formulation

**Supplier's company name, address and phone number**

Company name of supplier : MSD

Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd.  
Menuma factory

Telephone : 048-588-8411

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

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

Recommended use : Veterinary product

Restrictions on use :  
Not applicable

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**2. HAZARDS IDENTIFICATION****GHS classification of chemical product**

Acute toxicity (Oral) : Category 3

Acute toxicity (Dermal) : Category 2

Skin corrosion/irritation : Category 2

Serious eye damage/eye irritation : Category 2

Reproductive toxicity : Category 1B

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

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

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

Aspiration hazard : Category 1

Short-term (acute) aquatic hazard : Category 3

Long-term (chronic) aquatic : Category 2

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## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

hazard

### GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H301 Toxic if swallowed.  
 H304 May be fatal if swallowed and enters airways.  
 H310 Fatal in contact with skin.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H360D May damage the unborn child.  
 H371 May cause damage to organs (Systemic toxicity) if swallowed.  
 H373 May cause damage to organs (Auditory system) through prolonged or repeated exposure.  
 H373 May cause damage to organs (Systemic toxicity) through prolonged or repeated exposure if swallowed.  
 H402 Harmful to aquatic life.  
 H411 Toxic 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.  
 P260 Do not breathe mist or vapours.  
 P262 Do not get in eyes, on skin, or on clothing.  
 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 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
 P302 + P352 + P310 IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.  
 P331 Do NOT induce vomiting.  
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
 P337 + P313 If eye irritation persists: Get medical advice/ attention.  
 P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.  
 P391 Collect spillage.

## Flumethrin (2%) Formulation

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
 Date of first issue: 2021/11/12

### 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

Important symptoms and out- : May form explosive dust-air mixture during processing, han-  
 lines of the emergency as- dling or other means.  
 sumed

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
Paraffin oil	8012-95-1	>= 60 - < 70	
Xylene	1330-20-7	13.3333	3-3, 3-60
Flumethrin	69770-45-2	>= 2.5 - < 10	

## 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
 When symptoms persist or in all cases of doubt seek medical advice.

If inhaled : If inhaled, remove to fresh air.  
 Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
 Get medical attention immediately.  
 Wash clothing before reuse.  
 Destroy contaminated shoes.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.  
 If easy to do, remove contact lens, if worn.  
 Get medical attention.

If swallowed : If swallowed, DO NOT induce vomiting.  
 If vomiting occurs have person lean forward.  
 Call a physician or poison control 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 : Toxic if swallowed.  
 May be fatal if swallowed and enters airways.  
 Fatal in contact with skin.  
 Causes skin irritation.  
 Causes serious eye irritation.

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

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.

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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 : None known.

Specific hazards during fire-fighting : Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.  
 Use water spray to cool unopened containers.  
 Remove undamaged containers from fire area if it is safe to do so.  
 Evacuate area.

Special protective equipment for 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 : Evacuate personnel to safe areas.  
 Only trained personnel should re-enter the area.  
 Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions : Avoid release to the environment.  
 Prevent further leakage or spillage if safe to do so.  
 Prevent spreading over a wide area (e.g. by containment or oil barriers).  
 Retain and dispose of contaminated wash water.  
 Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Soak up with inert absorbent material.  
 Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).  
 Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.  
 For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

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 : Static electricity may accumulate and ignite suspended dust causing an explosion.  
Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.  
Do not breathe mist or 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  
Keep container tightly closed.  
Minimize dust generation and accumulation.  
Keep container closed when not in use.  
Keep away from heat and sources of ignition.  
Take precautionary measures against static discharges.  
Do not eat, drink or smoke when using this product.  
Take care to prevent spills, waste and minimize release to the environment.
- Avoidance of contact : Oxidizing agents
- 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.

#### Storage

- Conditions for safe storage : Keep in properly labelled containers.  
Store locked up.  
Keep tightly closed.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents

## Flumethrin (2%) Formulation

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
 Date of first issue: 2021/11/12

Packaging material : Unsuitable material: None known.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Reference concentration / Permissible concentration	Basis
Paraffin oil	8012-95-1	OEL-M (Mist)	3 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Group 1: carcinogenic to humans				
		TWA (Inhalable particulate matter)	5 mg/m <sup>3</sup>	ACGIH
Xylene	1330-20-7	OEL-M	50 ppm 217 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Group 2: Substances presumed to cause reproductive toxicity in humans				
		ACL	50 ppm	JP OEL ISHL
		OEL-M	50 ppm 217 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Group 3: Substances suspected to cause reproductive toxicity in humans				
		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

#### Biological occupational exposure limits

Components	CAS-No.	Target substance	Biological specimen	Sampling time	Permissible concentration	Basis
Xylene	1330-20-7	total (o-, m-, p-)methylhippuric acid	Urine	End of shift at end of work-week	800 mg/l	JSOH
		Methylhippuric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/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

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

design and operated in accordance with GMP principles to protect products, workers, and the environment. Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).  
Minimize open handling.

### Personal protective equipment

Respiratory protection	:	If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	:	Combined particulates and organic vapour type
Hand protection	:	
Material	:	Chemical-resistant gloves
Remarks	:	Consider double gloving.
Eye protection	:	Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
Skin and body protection	:	Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	light brown
Odour	:	odourized
Odour Threshold	:	No data available
Melting point/freezing point	:	No data available
Boiling point, initial boiling point and boiling range	:	No data available
Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, handling or other means.
Flammability (liquids)	:	Not applicable
Lower explosion limit and upper explosion limit / flammability limit	:	
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower	:	No data available

**Flumethrin (2%) Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

flammability limit

Flash point : No data available

Decomposition temperature : No data available

pH : No data available

Evaporation rate : No data available

Auto-ignition temperature : No data available

Viscosity

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : No data available

Density and / or relative density

Relative density : No data available

Density : 0.750 - 0.950 g/cm<sup>3</sup>

Relative vapour density : 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

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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 : May form explosive dust-air mixture during processing, handling or other means.  
Can react with strong oxidizing agents.Conditions to avoid : Heat, flames and sparks.  
Avoid dust formation.

Incompatible materials : Oxidizing agents

Hazardous decomposition products : No hazardous decomposition products are known.



**Flumethrin (2%) Formulation**

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
Date of first issue: 2021/11/12

---

**11. TOXICOLOGICAL INFORMATION**

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

**Acute toxicity**

Toxic if swallowed.  
Fatal in contact with skin.

**Product:**

Acute oral toxicity : Acute toxicity estimate: 187.52 mg/kg  
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 187.5 mg/kg  
Method: Calculation method

**Components:****Paraffin oil:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Xylene:**

Acute oral toxicity : LD50 (Rat): 3,523 mg/kg  
Method: Directive 67/548/EEC, Annex V, B.1.

Acute inhalation toxicity : LC50 (Rat): 27.571 mg/l  
Exposure time: 4 h  
Test atmosphere: 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

**Skin corrosion/irritation**

Causes skin irritation.

**Components:****Paraffin oil:**

**Flumethrin (2%) Formulation**

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
Date of first issue: 2021/11/12

---

Species : Rabbit  
Result : No skin irritation

**Xylene:**

Species : Rabbit  
Result : Skin irritation

**Flumethrin:**

Result : No skin irritation

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:****Paraffin oil:**

Species : Rabbit  
Result : No eye irritation

**Xylene:**

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

**Flumethrin:**

Result : Mild eye irritation

**Respiratory or skin 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

**Germ cell mutagenicity**

Not classified based on available information.

**Components:****Xylene:**

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

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

Test Type: Chromosome aberration test in vitro  
Result: negative

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

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: negative

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Skin contact  
Result: negative

### Flumethrin:

Genotoxicity in vitro : Test Type: Microbial mutagenesis assay (Ames test)  
Test system: Salmonella typhimurium  
Result: equivocal

Test Type: Chromosomal aberration  
Test system: Chinese hamster ovary cells  
Result: positive  
Remarks: Not classified due to inconclusive data.

Test Type: Chromosomal aberration  
Test system: Human lymphocytes  
Result: negative

Test Type: in vitro micronucleus test  
Test system: Mouse  
Result: negative

Germ cell mutagenicity - Assessment : Weight of evidence does not support classification as a germ cell mutagen.

### Carcinogenicity

Not classified based on available information.

### Components:

#### Xylene:

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

#### Flumethrin:

Species : Rat  
Application Route : Oral  
Exposure time : 2 Years  
NOAEL : 0.5 mg/kg body weight  
Result : negative

**Flumethrin (2%) Formulation**

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
Date of first issue: 2021/11/12

---

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

**Reproductive toxicity**

May damage the unborn child.

**Components:****Xylene:**

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

Reproductive toxicity - Assessment : May damage the unborn child.

**STOT - single exposure**

May cause damage to organs (Systemic toxicity) if swallowed.

**Components:****Xylene:**

Assessment : May cause respiratory irritation.

**Flumethrin:**

Exposure routes : Oral

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

Assessment : Causes damage to organs.

### STOT - repeated exposure

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

May cause damage to organs (Systemic toxicity) through prolonged or repeated exposure if swallowed.

### 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.

### 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

#### 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

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

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

**Aspiration toxicity**

May be fatal if swallowed and enters airways.

**Components:****Paraffin oil:**

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

**Xylene:**

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

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

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

**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

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

---

Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 10 mg/l  
Exposure time: 72 h

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

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

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

### Flumethrin:

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

M-Factor (Chronic aquatic toxicity) : 1

### Persistence and degradability

#### Components:

#### Xylene:

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

### Bioaccumulative potential

#### Components:

#### Paraffin oil:

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

#### Xylene:

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

#### Flumethrin:

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

**Flumethrin (2%) Formulation**

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
Date of first issue: 2021/11/12

---

**Mobility in soil**

No data available

**Hazardous to the ozone layer**

Not applicable

**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.  
If not otherwise specified: Dispose of as unused product.

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

UN number : UN 2810  
Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.  
(Flumethrin)  
Class : 6.1  
Packing group : II  
Labels : 6.1

**IATA-DGR**

UN/ID No. : UN 2810  
Proper shipping name : Toxic liquid, organic, n.o.s.  
(Flumethrin)  
Class : 6.1  
Packing group : II  
Labels : Toxic  
Packing instruction (cargo aircraft) : 662  
Packing instruction (passenger aircraft) : 654

**IMDG-Code**

UN number : UN 2810  
Proper shipping name : TOXIC LIQUID, ORGANIC, N.O.S.  
(Flumethrin)  
Class : 6.1  
Packing group : II  
Labels : 6.1  
EmS Code : F-A, S-A  
Marine pollutant : yes

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

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.



## Flumethrin (2%) Formulation

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
 Date of first issue: 2021/11/12

### 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

### Related Regulations

#### Fire Service Law

Not applicable to dangerous materials / designated flammables.

#### Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
Xylene	125

#### Industrial Safety and Health Law

#### Harmful Substances Prohibited from Manufacture

Not applicable

#### Harmful Substances Required Permission for Manufacture

Not applicable

#### Substances Prevented From Impairment of Health

Not applicable

#### Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

#### Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

#### Substances Subject to be Notified Names

Article 57-2 (Enforcement Order Table 9)

Chemical name	Number	Concentration (%)
Mineral oil	168	>=60 - <70
Xylene	136	>=10 - <20

#### Substances Subject to be Indicated Names

Article 57 (Enforcement Order Article 18)

Chemical name	Number
Mineral oil	168
xylene	136

#### Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

#### Ordinance on Prevention of Lead Poisoning

Not applicable

#### Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

## Flumethrin (2%) Formulation

Version 1.1      Revision Date: 2022/03/18      SDS Number: 10225128-00002      Date of last issue: 2021/11/12  
 Date of first issue: 2021/11/12

### Ordinance on Prevention of Organic Solvent Poisoning

Organic Solvents Class 2

### Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

### Poisonous and Deleterious Substances Control Law

Not applicable

### Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

### Class I Designated Chemical Substances

Chemical name	Number	Concentration (%)
xylene	80	13

### High Pressure Gas Safety Act

Not applicable

### Explosive Control Law

Not applicable

### Vessel Safety Law

Toxic and infectious substances (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

### Aviation Law

Toxic and infectious substances (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

### Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Y)

Pack transportation : Classified as marine pollutant

### Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

### Waste Disposal and Public Cleansing Law

Industrial waste

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

AICS : not determined

DSL : not determined

IECSC : not determined

## 16. OTHER INFORMATION

### Further information

Sources of key data used to : Internal technical data, data from raw material SDSs, OECD

## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

compile the Safety Data Sheet : 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)  
 JP OEL ISHL : Japan. Administrative Control Levels  
 JP OEL JSOH : Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits  
 JSOH : Occupational exposure limits based on biological monitoring (JSOH).

ACGIH / TWA : 8-hour, time-weighted average  
 ACGIH / STEL : Short-term exposure limit  
 JP OEL ISHL / ACL : Administrative Control level  
 JP OEL JSOH / OEL-M : Occupational Exposure Limit-Mean

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; 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 mate-

# SAFETY DATA SHEET



## Flumethrin (2%) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2021/11/12
1.1	2022/03/18	10225128-00002	Date of first issue: 2021/11/12

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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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