

## Flumethrin (1%) Formulation

Version **Revision Date:** SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

#### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name Flumethrin (1%) Formulation

Manufacturer or supplier's details

Company : MSD

Address 50 Tuas West Drive

Singapore - Singapore 638408

+1-908-740-4000 Telephone

Emergency telephone number : 65 6697 2111 (24/7/365)

E-mail address EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use Veterinary product Restrictions on use Not applicable

#### 2. HAZARDS IDENTIFICATION

**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 irri-

tation

Category 2

Reproductive toxicity Category 1B

Specific target organ toxicity - :

single exposure (Oral)

Category 2

repeated exposure

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

Specific target organ toxicity - :

repeated exposure (Oral)

Category 2

Aspiration hazard Category 1



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 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

#### **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 if swallowed.

H373 May cause damage to organs through prolonged or re-

peated 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.

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P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P233 Keep container tightly closed.

P241 Use explosion-proof electrical/ ventilating/ lighting equip-

ment.

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.

P280 Wear protective gloves/ protective clothing/ eye protec-

tion/ 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 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/ atten-



## Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

tion

P337 + P313 If eye irritation persists: Get medical advice/ at-

tention.

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.

#### 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	>= 0.1 -< 1

#### 4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical ad-

vice 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, 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 : Harmful if swallowed.



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

and effects, both acute and

delayed

May be fatal if swallowed and enters airways.

Toxic in contact with skin.
Causes skin irritation.
Causes serious eve irritation.

May damage the unborn child.

May cause damage to organs if swallowed.

May cause damage to organs through prolonged or repeated

exposure.

Protection of first-aiders : First Aid responders should pay attention to self-protection,

and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

Notes to physician : Treat symptomatically and supportively.

#### 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Water spray

Alcohol-resistant foam Carbon dioxide (CO2)

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 prod-

ucts

Carbon oxides

Specific extinguishing meth-

ods

Use extinguishing measures that are appropriate to local cir-

cumstances and the surrounding environment. Use water spray to cool unopened containers.

Remove undamaged containers from fire area if it is safe to do

so

Evacuate area.

Special protective equipment :

for firefighters

In the event of fire, wear self-contained breathing apparatus.

Use personal protective equipment.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-

gency procedures

Remove all sources of ignition.
Use personal protective equipment.

Follow safe handling advice (see section 7) and personal pro-

tective 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.



# Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

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 absor-

bent.

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 deter-

mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding

certain local or national requirements.

#### 7. HANDLING AND STORAGE

Technical measures : See Engineering measures under EXPOSURE

CONTROLS/PERSONAL PROTECTION section.

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

ventilation.

Use explosion-proof electrical, ventilating and lighting equip-

ment.

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 as-

sessment

Non-sparking tools should be used. Keep container tightly closed.

Keep away from heat, hot surfaces, sparks, open flames and

other ignition sources. No smoking.

Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product.

Take care to prevent spills, waste and minimize release to the

environment.

Conditions for safe storage : Keep in properly labelled containers.

Store locked up. Keep tightly closed.

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



# Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Poisonous gases
Explosives

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis		
Paraffin oil	8012-95-1	PEL (long term) (Mist)	5 mg/m3	SG OEL		
		PEL (short term) (Mist)	10 mg/m3	SG OEL		
		TWA (Inhal- able particu- late matter)	5 mg/m3	ACGIH		
Xylene	1330-20-7	PEL (long term)	100 ppm 434 mg/m3	SG OEL		
		PEL (short term)	150 ppm 651 mg/m3	SG OEL		
		TWA	20 ppm	ACGIH		
Flumethrin	69770-45-2	TWA	45 μg/m3 (OEB 3)	Internal		
	Further inform	Further information: Skin				
		Wipe limit	450 µg/100 cm <sup>2</sup>	Internal		
Toluene	108-88-3	PEL (long term)	50 ppm 188 mg/m3	SG OEL		
		TWÁ	20 ppm	ACGIH		

### **Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sam- pling time	Permissible concentration	Basis
Xylene	1330-20-7	methylhip- puric acid	Urine		1.5 g/g cre- atinine	SG BTLV
		Methylhip- puric acids	Urine	End of shift (As soon as possible after exposure ceases)	1.5 g/g creatinine	ACGIH BEI
Toluene	108-88-3	toluene	Blood	Prior to last shift of work-week	0.05 mg/l	SG BTLV
		Toluene	In blood	Prior to	0.02 mg/l	ACGIH



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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

**Engineering measures** 

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless 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 con-

tainment 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 expo-

sure assessment demonstrates exposures outside the rec-

ommended guidelines, use respiratory protection.

Filter type : Combined particulates and organic vapour type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flam-

mable, 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, dis-



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

posable 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 work-

ing place.

When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the

use of administrative controls.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Aqueous solution

Colour : light brown, yellow

Odour : No data available

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling

range

No data available

Flash point : 54 °C

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Upper explosion limit / Upper

flammability limit

No data available

Lower explosion limit / Lower

flammability limit

No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 0.820 - 0.900 g/cm<sup>3</sup>



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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

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

#### 10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard. Chemical stability : Stable under normal conditions.

Possibility of hazardous reac-

tions

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 : No hazardous d

products

No hazardous decomposition products are known.

#### 11. TOXICOLOGICAL INFORMATION

Information on likely routes of:

exposure

Inhalation Skin contact Ingestion

Eye contact

**Acute toxicity** 

Harmful if swallowed. Toxic in contact with skin.

**Product:** 

Acute oral toxicity : Acute toxicity estimate: 410.05 mg/kg

Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: 410 mg/kg



## Flumethrin (1%) Formulation

Version 3.8

Revision Date: 30.09.2023

SDS Number: 4019095-00015

Date of last issue: 04.04.2023 Date of first issue: 25.02.2019

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

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:



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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

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



## Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

Toluene:

Test Type : Maximisation Test Exposure routes : Skin contact Species : Guinea pig

Method : Directive 67/548/EEC, Annex V, B.6.

Result : negative

Germ cell mutagenicity

Not classified based on available information.

**Components:** 

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-

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.



## Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

Toluene:

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

Result: negative

Test Type: Bacterial reverse mutation assay (AMES)

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow

cytogenetic test, chromosomal analysis)

Species: Rat

Application Route: Intraperitoneal injection

Result: negative

Test Type: Rodent dominant lethal test (germ cell) (in vivo)

Species: Mouse

Application Route: inhalation (vapour) Method: OECD Test Guideline 478

Result: negative

#### Carcinogenicity

Not classified based on available information.

### **Components:**

Xylene:

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

Flumethrin:

Species : Rat
Application Route : Oral
Exposure time : 2 Years

NOAEL : 0.5 mg/kg body weight

Result : negative

Carcinogenicity - Assess-

ment

Weight of evidence does not support classification as a car-

cinogen

Toluene:

Species : Rat

Application Route : inhalation (vapour)

Exposure time : 103 weeks Result : negative

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



## Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

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-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (vapour)

Result: negative

Flumethrin:

Effects on foetal develop-

ment

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 - As-

sessment

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 develop-

ment

Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (vapour)



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

Result: positive

Reproductive toxicity - As-

sessment

Some evidence of adverse effects on development, based on

animal experiments.

STOT - single exposure

May cause damage to organs if swallowed.

**Components:** 

Xylene:

Assessment : May cause respiratory irritation.

Flumethrin:

Exposure routes : Oral

Assessment : Causes damage to organs.

Toluene:

Assessment : May cause drowsiness or dizziness.

STOT - repeated exposure

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

**Components:** 

Xylene:

Exposure routes : inhalation (vapour)
Target Organs : Auditory system

Assessment : Shown to produce significant health effects in animals at con-

centrations 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:



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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
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: RatNOAEL: 625 mg/kgApplication Route: IngestionExposure time: 13 Weeks

**Aspiration toxicity** 

May be fatal if swallowed and enters airways.



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

#### Components:

#### Paraffin oil:

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

### Xylene:

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

#### Toluene:

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

#### **Experience with human exposure**

#### **Components:**

#### Toluene:

Inhalation : Target Organs: Central nervous system

Symptoms: Neurological disorders

#### 12. ECOLOGICAL INFORMATION

### **Ecotoxicity**

### Components:

### Paraffin oil:

Toxicity to fish : LL50 (Scophthalmus maximus (turbot)): > 100 mg/l

Exposure time: 96 h

Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

Toxicity to daphnia and other :

aquatic invertebrates

EL50 (Acartia tonsa (Calanoid copepod)): > 100 mg/l

Exposure time: 48 h

Test substance: Water Accommodated Fraction Remarks: Based on data from similar materials

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:



# Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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 tox-

icity)

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 (Chron-

ic 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 tox-

icity)

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 tox-

icity)

NOEC (Oncorhynchus kisutch (coho salmon)): 1.39 mg/l

Exposure time: 40 d

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic 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



# Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

#### 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

Toluene:

Biodegradability : Result: Readily biodegradable.

Biodegradation: 80 % Exposure time: 20 d

**Bioaccumulative potential** 

**Components:** 

Paraffin oil:

Partition coefficient: n- : log Pow: > 4

octanol/water Remarks: Calculation

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

#### 13. DISPOSAL CONSIDERATIONS

**Disposal methods** 

Waste from residues : Do not dispose of waste into sewer.

Dispose of in accordance with local regulations.



## Flumethrin (1%) Formulation

 Version
 Revision Date:
 SDS Number:
 Date of last issue: 04.04.2023

 3.8
 30.09.2023
 4019095-00015
 Date of first issue: 25.02.2019

Contaminated packaging : Empty containers should be taken to an approved waste han-

dling site for recycling or disposal.

Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

#### 14. TRANSPORT INFORMATION

#### **International Regulations**

**UNRTDG** 

UN number : UN 1992

Proper shipping name : FLAMMABLE LIQUID, TOXIC, N.O.S.

(Xylene, Flumethrin)

Class : 3
Subsidiary risk : 6.1
Packing group : III
Labels : 3 (6.1)
Environmentally hazardous : no

**IATA-DGR** 

UN/ID No. : UN 1992

Proper shipping name : Flammable liquid, toxic, n.o.s.

(Xylene, Flumethrin)

Class : 3
Subsidiary risk : 6.1
Packing group : III

Labels : Flammable Liquids, Toxic

Packing instruction (cargo : 366

aircraft)

Packing instruction (passen-

355

ger aircraft)

**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.

### 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.



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

#### 15. REGULATORY INFORMATION

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

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and

Environmental Protection and Management (Hazard-

ous Substances) Regulations

Not applicable

Fire Safety (Petroleum and Flammable Materials)

Regulations

Mixed Xylenes Isomers

Xylenes Toluene

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

AICS : not determined

DSL : not determined

IECSC : not determined

#### **16. OTHER INFORMATION**

Revision Date : 30.09,2023

**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 Agen-

cy, http://echa.europa.eu/

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
SG BTLV : Singapore. Biological Threshold Limit Values

SG OEL : Singapore. Workplace Safety and Health (General Provisions)

Regulations - First Schedule Permissible Exposure Limits of

Toxic Substances.

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

SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term SG OEL / PEL (short term) : Permissible Exposure Level (PEL) Short Term

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



## Flumethrin (1%) Formulation

Version Revision Date: SDS Number: Date of last issue: 04.04.2023 3.8 30.09.2023 4019095-00015 Date of first issue: 25.02.2019

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 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.

SG / EN