

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



Ethion / Deltamethrin Formulation

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	29.09.2025	11581583-00001	Date of first issue: 29.09.2025

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Ethion / Deltamethrin Formulation

Other means of identification : COOPERS TIXAFly CATTLE DIP AND SPRAY (45981)

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD
Walton Manor, Walton
MK7 7AJ Milton Keynes - United Kingdom

Telephone : +1-908-740-4000

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

+1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 4	H332: Harmful if inhaled.
Acute toxicity, Category 3	H311: Toxic in contact with skin.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.

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Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 1	H372: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	<p>H301 + H311 Toxic if swallowed or in contact with skin.</p> <p>H304 May be fatal if swallowed and enters airways.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H318 Causes serious eye damage.</p> <p>H332 Harmful if inhaled.</p> <p>H336 May cause drowsiness or dizziness.</p> <p>H370 Causes damage to organs.</p> <p>H372 Causes damage to organs through prolonged or repeated exposure.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p>
Supplemental Hazard Statements	:	<p>EUH066 Repeated exposure may cause skin dryness or cracking.</p>
Precautionary statements	:	<p>Prevention:</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>Response:</p> <p>P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.</p> <p>P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.</p> <p>P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.</p>

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P391 Collect spillage.

Hazardous components which must be listed on the label:

Hydrocarbons, C10, aromatics, <1% naphthalene

Ethion

Nonylphenol, ethoxylated

deltamethrin (ISO)

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C10, aromatics, <1% naphthalene	64742-94-5	STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 50 - < 70
Ethion	563-12-2 209-242-3 015-047-00-2	Acute Tox. 2; H300 Acute Tox. 2; H330 Acute Tox. 2; H310 STOT SE 1; H370 (Central nervous system) STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	>= 10 - < 20
Nonylphenol, ethoxylated	9016-45-9	Acute Tox. 4; H302 Eye Dam. 1; H318 Aquatic Acute 1;	>= 3 - < 10

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		H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	
Calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 3; H412	$\geq 3 - < 10$
Oxirane, 2-methyl-, polymer with oxirane, mono(nonylphenyl) ether	37251-69-7	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 10	$\geq 2.5 - < 10$
deltamethrin (ISO)	52918-63-5 258-256-6 607-319-00-X	Acute Tox. 3; H301 Acute Tox. 3; H331 Eye Irrit. 2; H319 Skin Sens. 1A; H317 Repr. 2; H361fd STOT SE 3; H335 STOT RE 1; H372 (Central nervous system, Immune system) STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1,000,000 M-Factor (Chronic aquatic toxicity): 1,000,000	$\geq 2.5 - < 3$
2-Ethylhexan-1-ol	104-76-7 203-234-3	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Chronic 3; H412	$\geq 1 - < 2.5$

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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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. |
| 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). |
| If inhaled | : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
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 immediately. |
| 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. |

4.2 Most important symptoms and effects, both acute and delayed

- | | |
|-------|---|
| Risks | : Toxic if swallowed or in contact with skin.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye damage.
Harmful if inhaled.
May cause drowsiness or dizziness.
Causes damage to organs.
Causes damage to organs through prolonged or repeated exposure.
Repeated exposure may cause skin dryness or cracking. |
|-------|---|

This product contains a pyrethroid.

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Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Bromine compounds
Sulphur oxides
Oxides of phosphorus
Metal oxides
Sulphur compounds

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

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6.2 Environmental precautions

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.
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

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

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

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.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

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. Contaminated work clothing should not be allowed out of the workplace.
Wash contaminated clothing before re-use.
The effective operation of a facility should include review of

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engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Self-reactive substances and mixtures
Organic peroxides
Explosives
Gases

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethion	563-12-2	TWA	4 µg/m3 (OEB 4)	Internal
		Further information: Skin		
		Wipe limit	40 µg/100 cm2	Internal
deltamethrin (ISO)	52918-63-5	TWA	15 µg/m3 (OEB 3)	Internal
		Further information: DSEN, Skin		
		Wipe limit	100 µg/100 cm2	Internal
2-Ethylhexan-1-ol	104-76-7	TWA	1 ppm 5.4 mg/m3	GB EH40
		TWA	1 ppm 5.4 mg/m3	2017/164/EU
		Further information: Indicative		

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C10, aromatics, <1% naphthalene	Workers	Inhalation	Long-term systemic effects	151 mg/m3
	Workers	Skin contact	Long-term systemic effects	12.5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	32 mg/m3

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	Consumers	Skin contact	Long-term systemic effects	7.5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	7.5 mg/kg bw/day
Calcium dodecylbenzenesulphonate	Workers	Inhalation	Long-term systemic effects	52 mg/m3
	Workers	Inhalation	Acute systemic effects	52 mg/m3
	Workers	Inhalation	Long-term local effects	52 mg/m3
	Workers	Inhalation	Acute local effects	52 mg/m3
	Workers	Skin contact	Long-term systemic effects	57.2 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	80 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	1.57 mg/kg bw/day
	Workers	Skin contact	Acute local effects	1.57 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	26 mg/m3
	Consumers	Inhalation	Acute systemic effects	26 mg/m3
	Consumers	Inhalation	Acute local effects	26 mg/m3
	Consumers	Inhalation	Long-term local effects	26 mg/m3
	Consumers	Skin contact	Long-term systemic effects	28.6 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	40 mg/kg bw/day
	Consumers	Skin contact	Acute local effects	0.787 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0.787 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	13 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	13 mg/kg bw/day
2-Ethylhexan-1-ol	Workers	Inhalation	Long-term systemic effects	12.8 mg/m3
	Workers	Inhalation	Long-term local effects	53.2 mg/m3
	Workers	Inhalation	Acute local effects	53.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	23 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	2.3 mg/m3
	Consumers	Inhalation	Long-term local effects	26.6 mg/m3
	Consumers	Inhalation	Acute local effects	26.6 mg/m3
	Consumers	Skin contact	Long-term systemic effects	11.4 mg/kg bw/day

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	Consumers	Ingestion	Long-term systemic effects	1.1 mg/kg bw/day
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Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
Calcium dodecylbenzenesulphonate	Fresh water	0.28 mg/l
	Freshwater - intermittent	0.654 mg/l
	Marine water	0.458 mg/l
	Sewage treatment plant	50 mg/l
	Fresh water sediment	27.5 mg/kg dry weight (d.w.)
	Marine sediment	2.75 mg/kg dry weight (d.w.)
	Air	10 mg/m3
	Soil	25 mg/kg dry weight (d.w.)
	Oral	20 mg/kg food
2-Ethylhexan-1-ol	Fresh water	27.8 µg/l
	Freshwater - intermittent	171 µg/l
	Marine water	2.78 µg/l
	Marine water - intermittent	17.1 µg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.272 mg/kg dry weight (d.w.)
	Marine sediment	0.0272 mg/kg dry weight (d.w.)
	Soil	0.0382 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

The information below is intended for larger pilot/commercial-scale operations and manufacturing. For smaller scale, clinical, or pharmacy settings, site-specific internal risk assessment practices should be conducted to determine appropriate exposure control measures. The health hazard risks of handling this material are dependent on multiple factors, including but not limited to physical form and quantity handled. If applicable, use process enclosures, local exhaust ventilation (e.g., Biosafety Cabinet, Ventilated Balance Enclosures), or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Essentially no open handling permitted.

Use closed processing systems or containment technologies.

If handled in a laboratory, use a properly designed biosafety cabinet, fume hood, or other containment device if the potential exists for aerosolization. If this potential does not exist, handle over lined trays or benchtops.

Personal protective equipment

Eye/face protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

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Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

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.

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter should conform to BS EN 14387

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	: liquid
Colour	: Colorless to pale 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	: No data available
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

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Relative density	:	No data available
Density	:	No data available
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.

9.2 Other information

Molecular weight	:	No data available
Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Can react with strong oxidizing agents.
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10.4 Conditions to avoid

Conditions to avoid	:	None known.
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10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents
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10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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

Acute toxicity

Toxic if swallowed or in contact with skin.
Harmful if inhaled.

Product:

Acute oral toxicity	: Acute toxicity estimate: 90.5 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate: 2.85 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate: 455.55 mg/kg Method: Calculation method

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Acute oral toxicity	: LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 420 Remarks: Based on data from similar materials
Acute inhalation toxicity	: LC50 (Rat): > 4.778 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Remarks: Based on data from similar materials
Acute dermal toxicity	: LD50 (Rabbit): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

Ethion:

Acute oral toxicity	: LD50 (Rat): 13 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 0.450 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50 (Rat): 62 mg/kg

Nonylphenol, ethoxylated:

Acute oral toxicity	: LD50 (Rat): 500 - 2,000 mg/kg
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Calcium dodecylbenzenesulphonate:

Acute oral toxicity	:	LD50 (Rat): > 500 - 2,000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials

Oxirane, 2-methyl-, polymer with oxirane, mono(nonylphenyl) ether:

Acute oral toxicity	:	LD50 (Rat): > 4,000 mg/kg
Acute dermal toxicity	:	LD50 (Rat): > 5,000 mg/kg

deltamethrin (ISO):

Acute oral toxicity	:	LD50 (Rat): 66.7 mg/kg LD50 (Rat): 9 - 139 mg/kg LD50 (Mouse): 19 - 34 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0.8 mg/l Exposure time: 2 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rabbit): 2,000 mg/kg LD50 (Rat): > 800 mg/kg
Acute toxicity (other routes of administration)	:	LD50 (Rat): 2.5 mg/kg Application Route: Intravenous LD50 (Mouse): 10 mg/kg Application Route: Intraperitoneal

2-Ethylhexan-1-ol:

Acute oral toxicity	:	LD50 (Rat, male): 2,047 mg/kg Method: OECD Test Guideline 401 Remarks: The test was conducted equivalent or similar to guideline
Acute inhalation toxicity	:	Acute toxicity estimate: 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgement
Acute dermal toxicity	:	LD50 (Rat): > 3,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal

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toxicity

Remarks: The test was conducted according to guideline

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Assessment : Repeated exposure may cause skin dryness or cracking.

Ethion:

Species : Rabbit
Result : Mild skin irritation

Nonylphenol, ethoxylated:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Calcium dodecylbenzenesulphonate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : Based on data from similar materials

deltamethrin (ISO):

Species : Rabbit
Result : No skin irritation

2-Ethylhexan-1-ol:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation
Remarks : The test was conducted according to guideline

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

Ethion:

Result : No eye irritation

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Nonylphenol, ethoxylated:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye

Calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye
Remarks	:	Based on data from similar materials

deltamethrin (ISO):

Species	:	Rabbit
Result	:	Moderate eye irritation

2-Ethylhexan-1-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days
Remarks	:	The test was conducted according to guideline

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative
Remarks	:	Based on data from similar materials

Ethion:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	negative

Nonylphenol, ethoxylated:

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

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Remarks : Based on data from similar materials

Calcium dodecylbenzenesulphonate:

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

deltamethrin (ISO):

Test Type	: Maximisation Test
Exposure routes	: Dermal
Species	: Guinea pig
Result	: negative

Test Type	: Human repeat insult patch test (HRIPT)
Exposure routes	: Dermal
Species	: Humans
Result	: positive

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Genotoxicity in vitro	: Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative Remarks: Based on data from similar materials
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Genotoxicity in vivo	: Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials
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Ethion:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
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Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

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

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	Test Type: in vitro micronucleus test Result: positive
Genotoxicity in vivo	: Test Type: Chromosomal aberration Species: Rat Result: negative
	Test Type: In vivo micronucleus test Species: Mouse Result: positive
Germ cell mutagenicity- Assessment	: Weight of evidence does not support classification as a germ cell mutagen.

Nonylphenol, ethoxylated:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative Remarks: Based on data from similar materials
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Calcium dodecylbenzenesulphonate:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
	Test Type: In vitro mammalian cell gene mutation test Result: negative Remarks: Based on data from similar materials
	Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative Remarks: Based on data from similar materials

deltamethrin (ISO):

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: DNA Repair Test system: Escherichia coli Result: negative
	Test Type: Chromosomal aberration

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Test system: Chinese hamster ovary cells
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Concentration: LOAEL: 20 mg/kg
Result: positive

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Result: negative

Test Type: dominant lethal test
Species: Mouse
Application Route: Oral
Result: negative

Test Type: sister chromatid exchange assay
Species: Mouse
Cell type: Bone marrow
Application Route: Oral
Result: negative

2-Ethylhexan-1-ol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: The test was conducted according to guideline

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: The test was conducted equivalent or similar to guideline

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: The test was conducted equivalent or similar to guideline

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
Remarks: The test was conducted equivalent or similar to guideline

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Carcinogenicity

Not classified based on available information.

Components:

Ethion:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 18 Months
Result	: negative

Species	: Mouse
Application Route	: Ingestion
Exposure time	: 24 Months
Result	: negative

deltamethrin (ISO):

Species	: Mouse, male and female
Application Route	: oral (feed)
Exposure time	: 104 weeks
NOAEL	: 8 mg/kg body weight
LOAEL	: 4 mg/kg body weight
Result	: positive
Target Organs	: Lymph nodes

Species	: Rat, male and female
Application Route	: oral (feed)
Exposure time	: 2 Years
Result	: negative

Species	: Dog, male and female
Application Route	: oral (feed)
Exposure time	: 2 Years
NOAEL	: 1 mg/kg body weight
Result	: negative

2-Ethylhexan-1-ol:

Species	: Rat
Application Route	: Ingestion
Exposure time	: 2 Years
Method	: OECD Test Guideline 451
Result	: negative
Remarks	: The test was conducted equivalent or similar to guideline

Reproductive toxicity

Not classified based on available information.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Effects on fertility	: Test Type: Three-generation reproduction toxicity study
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Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Ethion:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

Calcium dodecylbenzenesulphonate:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative
Remarks: Based on data from similar materials

deltamethrin (ISO):

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: oral (feed)
Early Embryonic Development: NOAEL: 50 mg/kg body weight
Symptoms: No effects on fertility, Embryo-foetal toxicity
Remarks: Significant toxicity observed in testing

Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Oral

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Early Embryonic Development: LOAEL: 84 - 149 mg/kg body weight

Symptoms: No effects on fertility, Embryo-foetal toxicity

Test Type: Fertility

Species: Rat, male

Application Route: Oral

Fertility: LOAEL: 1 mg/kg body weight

Symptoms: Effects on fertility

Target Organs: Testes

Effects on foetal development

: Test Type: Development

Species: Mouse

Application Route: oral (gavage)

Developmental Toxicity: LOAEL: 1 mg/kg body weight

Result: Skeletal malformations

Remarks: Maternal toxicity observed.

Test Type: Development

Species: Rat, female

Developmental Toxicity: NOAEL: 10 mg/kg body weight

Symptoms: No effects on foetal development

Test Type: Development

Species: Rabbit, female

Application Route: oral (gavage)

Developmental Toxicity: NOAEL: 16 mg/kg body weight

Symptoms: No effects on foetal development

Reproductive toxicity - Assessment

: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

2-Ethylhexan-1-ol:

Effects on fertility

: Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Method: OECD Test Guideline 416

Result: negative

Remarks: The test was conducted according to guideline
Based on data from similar materials

Effects on foetal development

: Test Type: Embryo-foetal development

Species: Rat

Application Route: Skin contact

Method: OECD Test Guideline 414

Result: negative

Remarks: The test was conducted equivalent or similar to guideline

STOT - single exposure

May cause drowsiness or dizziness.

Causes damage to organs.

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Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Assessment	:	May cause drowsiness or dizziness.
Remarks	:	Based on data from similar materials

Ethion:

Assessment	:	Causes damage to organs.
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deltamethrin (ISO):

Assessment	:	May cause respiratory irritation.
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2-Ethylhexan-1-ol:

Assessment	:	May cause respiratory irritation.
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STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Components:

Ethion:

Target Organs	:	Central nervous system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Calcium dodecylbenzenesulphonate:

Assessment	:	No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.
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deltamethrin (ISO):

Exposure routes	:	Ingestion
Target Organs	:	Central nervous system, Immune system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Exposure routes	:	inhalation (dust/mist/fume)
Target Organs	:	Central nervous system
Assessment	:	Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Species	:	Rat
NOAEL	:	300 mg/kg
Application Route	:	Ingestion
Exposure time	:	13 Weeks

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Remarks : Based on data from similar materials

Ethion:

Species : Dog
NOAEL : 0.05 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Calcium dodecylbenzenesulphonate:

Species : Rat
LOAEL : > 200 mg/kg
Application Route : Ingestion
Exposure time : 6 - 7 Weeks
Method : OECD Test Guideline 422
Remarks : Based on data from similar materials

Species : Rabbit
NOAEL : > 100 mg/kg
Application Route : Skin contact
Exposure time : 28 Days
Method : OECD Test Guideline 410
Remarks : Based on data from similar materials

deltamethrin (ISO):

Species : Rat, male and female
NOAEL : 1 mg/kg
LOAEL : 2.5 mg/kg
Application Route : Oral
Exposure time : 13 Weeks
Target Organs : Nervous system
Symptoms : hyperexcitability

Species : Rat
LOAEL : 3 mg/m3
Application Route : inhalation (dust/mist/fume)
Exposure time : 2 wk / 5 d/wk / 6 h/d
Symptoms : Local irritation, respiratory tract irritation

Species : Dog
NOAEL : 0.1 mg/kg
LOAEL : 1 mg/kg
Application Route : Oral
Exposure time : 13 Weeks
Target Organs : Nervous system
Symptoms : Dilatation of the pupil, Vomiting, Tremors, Diarrhoea, Salivation

Species : Rat
NOAEL : 14 mg/kg
LOAEL : 54 mg/kg
Application Route : Oral

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Exposure time	: 91 d
Target Organs	: Nervous system
Species	: Mouse
LOAEL	: 6 mg/kg
Application Route	: Oral
Exposure time	: 12 Weeks
Target Organs	: Immune system
Symptoms	: immune system effects

2-Ethylhexan-1-ol:

Species	: Rat
NOAEL	: 250 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408
Remarks	: The test was conducted according to guideline

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

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:

Ethion:

Ingestion	: Symptoms: Blurred vision, Dizziness, Headache
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deltamethrin (ISO):

Inhalation	: Symptoms: respiratory tract irritation, Dizziness, Sweating, Headache, Nausea, Vomiting, anorexia, Fatigue, tingling, Palpitation, Blurred vision, muscle twitching
Skin contact	: Symptoms: Skin irritation, Erythema, pruritis, Headache, Nausea, Vomiting, Dizziness, tingling, Sweating, muscle twitching, Blurred vision, Fatigue, anorexia, Allergic reactions
Ingestion	: Symptoms: muscle pain, Small pupils

SECTION 12: Ecological information

12.1 Toxicity

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Toxicity to fish	: LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
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Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 - 10 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Ethion:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 : 0.056 - 7.7 µg/l
Exposure time: 48 h

M-Factor (Acute aquatic toxicity) : 10,000

M-Factor (Chronic aquatic toxicity) : 10,000

Nonylphenol, ethoxylated:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): > 0.1 - 1 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Ceriodaphnia dubia (water flea)): > 0.1 - 1 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Selenastrum capricornutum (green algae)): > 1 - 10 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC10 (Selenastrum capricornutum (green algae)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

M-Factor (Acute aquatic toxicity) : 1

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Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l
Exposure time: 100 d
Species: *Oryzias latipes* (Japanese medaka)
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.001 - 0.01 mg/l
Exposure time: 28 d
Species: *Mysidopsis bahia* (opossum shrimp)
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 10

Calcium dodecylbenzenesulphonate:

Toxicity to fish : LC50 (*Leuciscus idus* (Golden orfe)): > 1 - 10 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (*Pseudokirchneriella subcapitata* (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

NOEC (*Pseudokirchneriella subcapitata* (green algae)): > 0.1 - 1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l
Exposure time: 28 d
Species: *Pimephales promelas* (fathead minnow)
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 1 mg/l
Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
Remarks: Based on data from similar materials

Oxirane, 2-methyl-, polymer with oxirane, mono(nonylphenyl) ether:

Toxicity to fish : LC50 (*Pimephales promelas* (fathead minnow)): > 0.1 - 1 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

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- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 0.1 - 1 mg/l
Exposure time: 48 h
Method: ISO 6341
Remarks: Based on data from similar materials
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
- NOEC (Raphidocelis subcapitata (freshwater green alga)): > 1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to microorganisms : EC10 (activated sludge): > 1 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials
- Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l
Exposure time: 100 d
Species: Oryzias latipes (Japanese medaka)
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 0.001 - 0.01 mg/l
Exposure time: 28 d
Species: Mysidopsis bahia (opossum shrimp)
Remarks: Based on data from similar materials
- M-Factor (Chronic aquatic toxicity) : 10
- deltamethrin (ISO):**
- Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 0.00048 mg/l
Exposure time: 96 h
- LC50 (Oncorhynchus mykiss (rainbow trout)): 0.00039 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Mysidopsis bahia (opossum shrimp)): 0.0037 µg/l
Exposure time: 48 h
- EC50 (Daphnia magna (Water flea)): 0.0035 mg/l
Exposure time: 48 h
- LC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l

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Exposure time: 96 h

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility

M-Factor (Acute aquatic toxicity) : 1,000,000

Toxicity to fish (Chronic toxicity) : NOEC: 0.000022 mg/l
Exposure time: 36 d
Species: Pimephales promelas (fathead minnow)

NOEC: 0.000017 mg/l
Exposure time: 260 d
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.0041 µg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1,000,000

2-Ethylhexan-1-ol:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 17.1 mg/l
Exposure time: 96 h
Method: Directive 67/548/EEC, Annex V, C.1.
Remarks: The test was conducted according to guideline

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 39 mg/l
Exposure time: 48 h
Method: Directive 67/548/EEC, Annex V, C.2.
Remarks: The test was conducted according to guideline

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): 13.3 mg/l
Exposure time: 72 h
EC10 (Desmodesmus subspicatus (green algae)): 1.3 mg/l
Exposure time: 72 h

Toxicity to microorganisms : NOEC (activated sludge): > 300 mg/l
Exposure time: 24 h

Toxicity to fish (Chronic toxicity) : EC10: 0.278 mg/l
Exposure time: 30 d
Species: Danio rerio (zebra fish)
Method: OECD Test Guideline 210
Remarks: The test was conducted according to guideline

Toxicity to daphnia and other : EC10: 1.53 mg/l

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aquatic invertebrates (Chronic toxicity)	Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: The test was conducted according to guideline
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12.2 Persistence and degradability

Components:

Hydrocarbons, C10, aromatics, <1% naphthalene:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 49.56 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Ethion:

Biodegradability : Result: not rapidly degradable

Nonylphenol, ethoxylated:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

Calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.
Remarks: Based on data from similar materials

Oxirane, 2-methyl-, polymer with oxirane, mono(nonylphenyl) ether:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

deltamethrin (ISO):

Stability in water : Hydrolysis: 0 % (30 d)

2-Ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 79 - 99.9 %
Exposure time: 14 d
Method: OECD Test Guideline 301C
Remarks: The test was conducted equivalent or similar to guideline

12.3 Bioaccumulative potential

Components:

Ethion:

Partition coefficient: n-octanol/water : log Pow: 5.07

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Nonylphenol, ethoxylated:

Partition coefficient: n-octanol/water : log Pow: 4.48

Calcium dodecylbenzenesulphonate:

Bioaccumulation : Bioconcentration factor (BCF): < 500
Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 4.77
Remarks: Calculation

Oxirane, 2-methyl-, polymer with oxirane, mono(nonylphenyl) ether:

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

deltamethrin (ISO):

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)
Bioconcentration factor (BCF): 1,800

Partition coefficient: n-octanol/water : log Pow: 4.6

2-Ethylhexan-1-ol:

Partition coefficient: n-octanol/water : log Pow: 2.9
Method: OECD Test Guideline 117
Remarks: The test was conducted according to guideline

12.4 Mobility in soil

Components:

deltamethrin (ISO):

Distribution among environmental compartments : log Koc: 7.2

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture contains components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

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Components:

Nonylphenol, ethoxylated:

Endocrine disrupting potential : The substance is considered to have endocrine disrupting properties according to UK REACH Article 57(f) for environment

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.
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.

SECTION 14: Transport information

14.1 UN number

ADN	: UN 2810
ADR	: UN 2810
RID	: UN 2810
IMDG	: UN 2810
IATA	: UN 2810

14.2 UN proper shipping name

ADN	: TOXIC LIQUID, ORGANIC, N.O.S. (Ethion, deltamethrin (ISO))
ADR	: TOXIC LIQUID, ORGANIC, N.O.S. (Ethion, deltamethrin (ISO))
RID	: TOXIC LIQUID, ORGANIC, N.O.S. (Ethion, deltamethrin (ISO))
IMDG	: TOXIC LIQUID, ORGANIC, N.O.S. (Ethion, deltamethrin (ISO))
IATA	: Toxic liquid, organic, n.o.s. (Ethion, deltamethrin (ISO))

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 6.1	

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ADR	:	6.1
RID	:	6.1
IMDG	:	6.1
IATA	:	6.1

14.4 Packing group

ADN
Packing group : III
Classification Code : T1
Hazard Identification Number : 60
Labels : 6.1

ADR
Packing group : III
Classification Code : T1
Hazard Identification Number : 60
Labels : 6.1
Tunnel restriction code : (E)

RID
Packing group : III
Classification Code : T1
Hazard Identification Number : 60
Labels : 6.1

IMDG
Packing group : III
Labels : 6.1
EmS Code : F-A, S-A

IATA (Cargo)
Packing instruction (cargo aircraft) : 663
Packing instruction (LQ) : Y642
Packing group : III
Labels : Toxic

IATA (Passenger)
Packing instruction (passenger aircraft) : 655
Packing instruction (LQ) : Y642
Packing group : III
Labels : Toxic

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

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IMDG

Marine pollutant : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	: Conditions of restriction for the following entries should be considered: Number on list 3 Number on list 46a: Nonylphenol, ethoxylated Number on list 46: Nonylphenol, ethoxylated Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	: Nonylphenol, ethoxylated
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	: Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	: Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	: Nonylphenol, ethoxylated
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	: Ethion Nonylphenol, ethoxylated

Control of Major Accident Hazards Regulations 2015 (COMAH)

Quantity 1

Quantity 2

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H3	STOT SPECIFIC TARGET	50 t	200 t
E1	ORGAN TOXICITY – SINGLE EXPOSURE ENVIRONMENTAL HAZARDS	100 t	200 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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

AICS	: not determined
CA. DSL	: not determined
IECSC	: not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information	: Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.
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Full text of H-Statements

H300	: Fatal if swallowed.
H301	: Toxic if swallowed.
H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.

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H310	: Fatal in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H330	: Fatal if inhaled.
H331	: Toxic if inhaled.
H332	: Harmful if inhaled.
H335	: May cause respiratory irritation.
H336	: May cause drowsiness or dizziness.
H361fd	: Suspected of damaging fertility. Suspected of damaging the unborn child.
H370	: Causes damage to organs.
H372	: Causes damage to organs through prolonged or repeated exposure.
H372	: Causes damage to organs through prolonged or repeated exposure if inhaled.
H372	: Causes damage to organs through prolonged or repeated exposure if swallowed.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
ED ENV	: Endocrine disruptor for environment
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Repr.	: Reproductive toxicity
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2017/164/EU	: Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
2017/164/EU / TWA	: Limit Value - eight hours
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air

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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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; 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

Further information

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Acute Tox. 3	H301
Acute Tox. 4	H332
Acute Tox. 3	H311
Eye Dam. 1	H318
Skin Sens. 1	H317
STOT SE 1	H370
STOT SE 3	H336
STOT RE 1	H372
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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

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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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