



SAFETY DATA SHEET PERMEX 22 E

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

1.1. Product identifier

Product name	PERMEX 22 E
Chemical name	Permethrin 11.37% w/w (117.1g/L) + Tetramethrin 1.64% w/w (16.9g/L) + Piperonyl Butoxide (PBO) 6.40% w/w (65.9 g/L)
Product number	PTTEPBO194MEA.
UFI	UFI: Q5K8-Y0AK-600S-8F6P

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

Identified uses Biocidal products (e.g. disinfectants, pest control).

1.3. Details of the supplier of the safety data sheet

Supplier Hockley International Ltd
Hockley House
3 Longstone Road
Ashbrook Office Park
Manchester
M22 5LB
TEL: +44 (0) 161 209 7400
FAX: +44 (0) 161 209 7401
sds@hockley.co.uk

1.4. Emergency telephone number

Emergency telephone +44 (0)800 246 1274 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (SI 2019 No. 720)

Physical hazards	Not Classified
Health hazards	Eye Dam. 1 - H318 Skin Sens. 1 - H317 Carc. 2 - H351
Environmental hazards	Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements

Hazard pictograms



Signal word

Danger

Hazard statements

H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.



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Precautionary statements	<p>P101 If medical advice is needed, have product container or label at hand.</p> <p>P102 Keep out of reach of children.</p> <p>P280 Wear waterproof gloves resistant to chemicals (EN374)/protective clothing (protective lab coats)/protect eyes using shielded safety glasses (EN166)/face protection/ protect the airways adequately (mask with type-A filter).</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER/ doctor.</p> <p>P501 Dispose of contents/container to a hazardous or special waste collection point</p>
Supplemental label information	EUH401 To avoid risks to human health and the environment, comply with the instructions for use.
Contains	PERMETHRIN (25:75) TECHNICAL, Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium, ISO-BUTANOL, TETRAMETHRIN
Supplementary precautionary statements	<p>P273 Avoid release to the environment.</p> <p>P261 Avoid breathing vapour/ spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/ attention.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P391 Collect spillage.</p>

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ETHOXYLATED POLYARYLPHENOL	10-30%
CAS number: 99734-09-5	EC number: 619-457-8
Classification Aquatic Chronic 3 - H412	Classification (67/548/EEC or 1999/45/EC) R52/53.
PERMETHRIN (25:75) TECHNICAL	11.37% min.
CAS number: 52645-53-1	EC number: 258-067-9
M factor (Acute) = 1000	M factor (Chronic) = 1000
Classification Acute Tox. 4 - H302 Acute Tox. 4 - H332 Skin Sens. 1 - H317 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) Xn; R20/22. N; R50/53. R43



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PIPERONYL BUTOXIDE		6.4% min.
CAS number: 51-03-6	EC number: 200-076-7	
M factor (Acute) = 1	M factor (Chronic) = 1	
Classification Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) N;R50/53.	
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium		5-10%
CAS number: 1335202-81-7	EC number: 932-231-6	
Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 3 - H412		
ISO-BUTANOL		1-5%
CAS number: 78-83-1	EC number: 201-148-0	
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335, H336	Classification (67/548/EEC or 1999/45/EC) R10 Xi;R37/38,R41 R67	
TETRAMETHRIN		1.64%
CAS number: 7696-12-0	EC number: 231-711-6	
M factor (Acute) = 100	M factor (Chronic) = 100	
Classification Acute Tox. 4 - H302 Carc. 2 - H351 STOT SE 2 - H371 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) N; R50/53	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination. CAUTION! First aid personnel must be aware of own risk during rescue! Place unconscious person on the side in the recovery position and ensure breathing can take place.
Inhalation	Move affected person to fresh air at once. Get medical attention. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. If breathing stops, provide artificial respiration.



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Ingestion	Do not induce vomiting. Rinse mouth thoroughly with water. Get medical attention immediately. If breathing stops, provide artificial respiration.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

4.2. Most important symptoms and effects, both acute and delayed

General information	Contains a substance/a group of substances which may cause cancer.
Inhalation	May cause respiratory system irritation. Headache. Dizziness.
Ingestion	Diarrhoea. Nausea, vomiting. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis. Abdominal cramps. Shortness of breath.
Skin contact	Redness. Burning sensation. The product contains a sensitising substance.
Eye contact	Causes serious eye damage. Redness. Pain.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically. Atropine for muscarinic manifestations (e.g. salivation, diarrhea). Treat seizures with benzodiazepines.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Use fire-extinguishing media suitable for the surrounding fire.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Contain and collect extinguishing water. Avoid releasing into the environment. Do not discharge into drains or watercourses or onto the ground.
Hazardous combustion products	Heating may generate the following products: Toxic and corrosive gases or vapours. Hydrogen chloride (HCl). Oxides of: Carbon. Nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting	In case of fire and/or explosion do not breathe fumes
Special protective equipment for firefighters	Wear full protective clothing (EN 469). Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Warn everybody of potential hazards and evacuate if necessary.
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6.2. Environmental precautions

Environmental precautions	Do not discharge into drains or watercourses or onto the ground. Stop leak if possible without risk.
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6.3. Methods and material for containment and cleaning up



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Methods for cleaning up Absorb spillage with sand or other inert absorbent. Dike far ahead of larger spills for later disposal. Collect and place in suitable waste disposal containers and seal securely. Label the containers containing waste and contaminated materials and remove from the area as soon as possible. This material and its container must be disposed of as hazardous waste.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Handle and open container with care. Wear protective clothing as described in Section 8 of this safety data sheet. Do not release into the environment. Avoid the spillage or runoff entering drains, sewers or watercourses. Do not eat, drink or smoke when using the product. Wash hands after handling. Remove contaminated clothing. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store away from incompatible materials listed in section 10 of this safety data sheet. Keep out of the reach of children. Store at temperatures between 5°C and 30°C.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

ISO-BUTANOL

Long-term exposure limit (8-hour TWA): WEL 50 ppm 154 mg/m³

Short-term exposure limit (15-minute): WEL 75 ppm 231 mg/m³

WEL = Workplace Exposure Limit.

PERMETHRIN (25:75) TECHNICAL (CAS: 52645-53-1)

PNEC - water; 0.00047 µg/l
 - STP; 0.00495 mg/l
 - Soil; > 0.0876 mg/kg
 - Sediment (Freshwater); 0.001 mg/kg
 - ;

PIPERONYL BUTOXIDE (CAS: 51-03-6)

DNEL Industry - Dermal; Short term systemic effects: 55.556 mg/kg/day
 Industry - Inhalation; Short term systemic effects: 7.75 mg/m³
 Industry - Dermal; Short term local effects: 444 µg/cm²
 Industry - Inhalation; Short term local effects: 3.875 mg/m³
 Industry - Dermal; Long term systemic effects: 27.778 mg/kg/day
 Industry - Inhalation; Long term systemic effects: 3.875 mg/m³
 Industry - Dermal; Long term local effects: 444 µg/cm²
 Industry - Inhalation; Long term local effects: 0.222 mg/m³



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PNEC	<ul style="list-style-type: none"> - Fresh water; 0.003 mg/l - marine water; 0.0003 mg/l - Intermittent release; 0.0003 mg/l - STP; 10 mg/l - Sediment (Freshwater); 0.0194 mg/kg - Sediment (Marinewater); 0.00194 mg/kg - Soil; 0.136 mg/kg - Oral; 12.53 mg/kg food
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ISO-BUTANOL (CAS: 78-83-1)

DNEL	Industry - Inhalation; Long term local effects: 310 mg/m ³
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TETRAMETHRIN (CAS: 7696-12-0)

Ingredient comments	No exposure limits known for ingredient(s).
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8.2. Exposure controls

Appropriate engineering controls	Provide adequate ventilation.
Eye/face protection	Avoid contact with eyes. Wear approved safety goggles (EN 166).
Hand protection	Wear protective gloves (EN 374).
Other skin and body protection	Wear appropriate clothing to prevent any possibility of skin contact.
Hygiene measures	No specific hygiene procedures recommended but good personal hygiene practices should always be observed when working with chemical products.
Respiratory protection	It is recommended to use respiratory equipment with combination filter, type A2/P2. If ventilation is inadequate, suitable respiratory protection must be worn. (EN 140/143)
Thermal hazards	No data available.
Environmental exposure controls	Do not release into the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Amber.
Odour	Characteristic.
Odour threshold	Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	> 100°C ISO 3679
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.



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Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Partition coefficient	Not relevant.
Auto-ignition temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.
9.2. Other information	
Other information	Not available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No data available.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None known. Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid exposure to high temperatures or direct sunlight.

10.5. Incompatible materials

Materials to avoid Strong oxidising agents. Strong acids. Strong alkalis.

10.6. Hazardous decomposition products

Hazardous decomposition products Does not decompose when used and stored as recommended.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects Classification according to Regulation (EC) No 1272/2008.

Acute toxicity - oral

Notes (oral LD₅₀) Calculation method. Based on available data the classification criteria are not met.

ATE oral (mg/kg) 3,843.2

Acute toxicity - dermal

Notes (dermal LD₅₀) Calculation method. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Species Rat

Notes (inhalation LC₅₀) Calculation method. Based on available data the classification criteria are not met.



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ATE inhalation (dusts/mists mg/l) 13.19

Skin corrosion/irritation

Animal data Calculation method. Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation Calculation method. Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No specific test data are available.

Skin sensitisation

Skin sensitisation Calculation method. May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vivo Calculation method. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Calculation method. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - development Calculation method. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Calculation method. Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Calculation method. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Calculation method. Based on available data the classification criteria are not met.

Toxicological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Acute toxicity - oral

Notes (oral LD₅₀) Harmful if swallowed. LD₅₀ 554 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD₅₀) Based on available data the classification criteria are not met. LD₅₀ > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 1.5

Species Rat

Notes (inhalation LC₅₀) Harmonised classification. Harmful if inhaled. LC₅₀, 4 hr > 4.638 mg/l, Inhalation, Rat

ATE inhalation (dusts/mists mg/l) 1.5

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.



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Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation No specific test data are available.

Skin sensitisation

Skin sensitisation May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vivo : Non-genotoxic. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity No indication of human carcinogenicity. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility No reproductive or developmental effects occurred at non-parentally toxic doses. Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Based on available data the classification criteria are not met.

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Acute toxicity - oral

Notes (oral LD₅₀) REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.0

Species Rabbit

Notes (dermal LD₅₀) REACH dossier information. Based on available data the classification criteria are not met.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) REACH dossier information. Based on available data the classification criteria are not met.

ATE inhalation (dusts/mists mg/l) 5.9

Skin corrosion/irritation

Animal data Erythema/eschar score: No erythema (0). Oedema score: No oedema (0). REACH dossier information. Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. REACH dossier information. Based on available data the classification criteria are not met.



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Skin sensitisation	
Skin sensitisation	Buehler test: - Guinea pig: REACH dossier information. Not sensitising. Based on available data the classification criteria are not met.
Germ cell mutagenicity	
Genotoxicity - in vitro	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.
Carcinogenicity	
Carcinogenicity	NOAEL 30 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.
IARC carcinogenicity	IARC Group 3 Not classifiable as to its carcinogenicity to humans.
Reproductive toxicity	
Reproductive toxicity - fertility	Two-generation study - NOAEL 1000 ppm, Oral, Rat P REACH dossier information. Based on available data the classification criteria are not met.
Reproductive toxicity - development	Maternal toxicity: - NOAEL: 200 mg/kg/day, Oral, Rat REACH dossier information. No reproductive or developmental effects occurred at non-parentally toxic doses. Based on available data the classification criteria are not met.
Specific target organ toxicity - single exposure	
STOT - single exposure	Data lacking.
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	NOAEL 15.5 mg/kg, Oral, REACH dossier information. Based on available data the classification criteria are not met.
Aspiration hazard	
Aspiration hazard	Not applicable.

TETRAMETHRIN

Acute toxicity - oral	
Notes (oral LD ₅₀)	Harmful if swallowed.
ATE oral (mg/kg)	500.0
Acute toxicity - dermal	
Acute toxicity dermal (LD ₅₀ mg/kg)	2,000.0
Species	Rat
Notes (dermal LD ₅₀)	Based on available data the classification criteria are not met.
Acute toxicity - inhalation	
Acute toxicity inhalation (LC ₅₀ dust/mist mg/l)	5.63
Species	Rat



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Notes (inhalation LC ₅₀)	Based on available data the classification criteria are not met.
ATE inhalation (dusts/mists mg/l)	5.63
Skin corrosion/irritation	
Animal data	Based on available data the classification criteria are not met.
Serious eye damage/irritation	
Serious eye damage/irritation	Based on available data the classification criteria are not met.
Skin sensitisation	
Skin sensitisation	Buehler test: - : Not sensitising. Based on available data the classification criteria are not met.
Germ cell mutagenicity	
Genotoxicity - in vitro	Ames test: Negative. Based on available data the classification criteria are not met.
Genotoxicity - in vivo	Chromosome aberration: Negative. Based on available data the classification criteria are not met.
Carcinogenicity	
Carcinogenicity	Suspected of causing cancer.
Reproductive toxicity	
Reproductive toxicity - development	Teratogenicity: - NOAEL: > 1000 mg/kg, Oral, No reproductive or developmental effects occurred at non-parentally toxic doses.
Specific target organ toxicity - single exposure	
STOT - single exposure	May cause damage to organs .
Specific target organ toxicity - repeated exposure	
STOT - repeated exposure	NOAEL 200 mg/kg, Oral, Based on available data the classification criteria are not met.
Aspiration hazard	
Aspiration hazard	Not applicable.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity Classification according to Regulation (EC) No 1272/2008. Very toxic to aquatic life with long lasting effects.

Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Toxicity	Very toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	
LE(C) ₅₀	0.0001 < L(E)C ₅₀ ≤ 0.001
M factor (Acute)	1000
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.62 µg/l, <i>Salmo gairdneri</i> (Rainbow trout)



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Acute toxicity - aquatic invertebrates	EC ₅₀ , 96 hours: 0.62 µg/l, Daphnia magna
Acute toxicity - aquatic plants	ErC ₅₀ , 96 hours: 92 µg/l, Skeletonema costatum
Chronic aquatic toxicity	
M factor (Chronic)	1000

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Acute aquatic toxicity	
LE(C) ₅₀	0.1 < L(E)C ₅₀ ≤ 1
M factor (Acute)	1
Acute toxicity - fish	LC ₅₀ , 96 hours: 3.94 mg/l, REACH dossier information.
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.51 mg/l, Daphnia magna REACH dossier information.
Acute toxicity - aquatic plants	ErC ₅₀ , 72 hours: 3.89 mg/l, Selenastrum capricornutum REACH dossier information.
Chronic aquatic toxicity	
M factor (Chronic)	1
Chronic toxicity - fish early life stage	NOEC, 35 days: 0.18 mg/l, Pimephales promelas (Fat-head Minnow) REACH dossier information.
Chronic toxicity - aquatic invertebrates	NOEC, 21 days: 0.03 mg/l, REACH dossier information.

TETRAMETHRIN

Toxicity	Very toxic to aquatic life with long lasting effects.
Acute aquatic toxicity	
LE(C) ₅₀	0.001 < L(E)C ₅₀ ≤ 0.01
M factor (Acute)	100
Acute toxicity - fish	LC ₅₀ , 96 hours: 0.033 mg/l, Brachydanio rerio (Zebra Fish)
Acute toxicity - aquatic invertebrates	EC ₅₀ , 48 hours: 0.47 mg/l, Daphnia magna
Acute toxicity - aquatic plants	IC ₅₀ , 72 hours: 1.36 mg/l, Scenedesmus subspicatus
Chronic aquatic toxicity	
M factor (Chronic)	100

12.2. Persistence and degradability

Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Persistence and degradability This product is not expected to be readily biodegradable.



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Biodegradation Water - DT₅₀ : < 28 days

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Persistence and degradability The product is not readily biodegradable.

Phototransformation Water - Degradation (%) 50: = 3.6 hours
REACH dossier information.
Water - DT₅₀ : = 8.4 hours
REACH dossier information.

Stability (hydrolysis) pH7 - Half-life >: 500 days @ 25°C @ °C
REACH dossier information.

TETRAMETHRIN

Persistence and degradability The product is moderately biodegradable.

12.3. Bioaccumulative potential

Partition coefficient Not relevant.

Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Bioaccumulative potential BCF: < 750,

Partition coefficient log Kow: 4.67

PIPERONYL BUTOXIDE

Bioaccumulative potential BCF: = 380, Lepomis macrochirus (Bluegill) REACH dossier information.

Partition coefficient log Pow: = 4.8 REACH dossier information.

TETRAMETHRIN

Bioaccumulative potential BCF: 634,

Partition coefficient log Kow: >4.09

12.4. Mobility in soil

Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Mobility Not considered mobile.

Adsorption/desorption coefficient Water - Koc: > 5000 @ °C

PIPERONYL BUTOXIDE

Mobility Semi-mobile.

Adsorption/desorption coefficient Water - Koc: = 830 @ °C REACH dossier information.



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TETRAMETHRIN

Mobility	Not considered mobile.
Adsorption/desorption coefficient	Water - Koc: 1423 @ °C

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
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Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current UK criteria.
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PIPERONYL BUTOXIDE

Results of PBT and vPvB assessment	This substance is not classified as PBT or vPvB according to current UK criteria.
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TETRAMETHRIN

Results of PBT and vPvB assessment	On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0.1%
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12.6. Other adverse effects

Other adverse effects	Not available.
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Ecological information on ingredients.

PERMETHRIN (25:75) TECHNICAL

Other adverse effects	Not known.
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PIPERONYL BUTOXIDE

Other adverse effects	Not available.
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TETRAMETHRIN

Other adverse effects	Not available.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Disposal methods	Dispose of waste via a licensed waste disposal contractor. Waste is suitable for incineration. Do NOT reuse empty containers. Empty containers can be sent for disposal or recycling.

SECTION 14: Transport information



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General

Environmentally Hazardous Substance Mark NOT required for single packagings and combination packagings containing inner packagings $\leq 5L$ for liquids, or $\leq 5kg$ for solids. (ADR special provision 375, IMDG code 2.10.2.7, IATA special provision A197)

Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of the Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class all provisions of this Code relevant to any additional hazards continue to apply.

14.1. UN number

UN No. (ADR/RID)	3082
UN No. (IMDG)	3082
UN No. (ICAO)	3082
UN No. (ADN)	3082

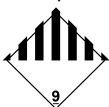
14.2. UN proper shipping name

Proper shipping name (ADR/RID)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Permethrin and Tetramethrin).
Proper shipping name (IMDG)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Permethrin and Tetramethrin).
Proper shipping name (ICAO)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Permethrin and Tetramethrin).
Proper shipping name (ADN)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains Permethrin and Tetramethrin).

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M6
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III



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14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

Not available.

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

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not relevant.

Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

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

National regulations The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).

Health and environmental listings None of the ingredients are listed. The following ingredients are listed: Permethrin

Authorisations (SI 2020 No. 1577 Annex XIV) No specific authorisations are known for this product.

Restrictions (SI 2020 No. 1577 Annex XVII) No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet PBT - Persistent, bioaccumulative and toxic.
vPvB - Very persistent and very bioaccumulative
EN - European standard adopted by the European Committee for Standardisation.

Key literature references and sources for data International Chemical Safety Card. The International Union of Pure and Applied Chemistry (IUPAC) pesticide properties database - <http://sitem.herts.ac.uk/aeru/iupac/index.htm> United Kingdom National Poison Information Service monograph. International Programme on Chemical Safety (IPCS) Environmental Health Criteria. World Health Organisation (WHO)/Food and Agriculture Organisation of the United Nations (FAO) Joint Meeting on Pesticide Residues monographs and evaluations. World Health Organisation (WHO)/Food and Agriculture Organisation of the United Nations (FAO) Pesticide Data Sheet. Available from www.inchem.org. Disseminated REACH registration dossier - <http://apps.echa.europa.eu/registered/registered-sub.aspx> Supplier safety data sheet (SDS). Disseminated REACH registration dossier - <http://apps.echa.europa.eu/registered/registered-sub.aspx> Source: European Chemicals Agency, <http://echa.europa.eu/>

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Risk phrases in full

R10 Flammable.
R20/22 Harmful by inhalation and if swallowed.
R37/38 Irritating to respiratory system and skin.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R67 Vapours may cause drowsiness and dizziness.

Hazard statements in full

H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H371 May cause damage to organs .
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.