

CHEMICAL	Permost Uni Fly Spray
SITE	Regen Waste, Warrenpoint Harbour Depot
RISK ASSESSMENT CREATED BY	Wesley Jameson
DATE FOR NEXT REVIEW	November 2025



COSHH Risk Assessment: Product Name - Permost Uni Fly Spray

1. Product Information

- **Substance:** Permethrin, Piperonyl Butoxide, Distillates (Petroleum), Tetramethrin
- **Form:** Liquid (Colorless)
- **Primary Use:** Biocidal product for pest control

2. Hazard Identification

- **Health Hazards:**
 - May be fatal if swallowed and enters airways (H304).
 - May cause an allergic skin reaction (EUH208).
- **Environmental Hazards:**
 - Very toxic to aquatic life, with long-lasting effects (H410).

3. Exposure Controls

- **Engineering Controls:**
 - Ensure adequate ventilation, especially in confined spaces.
 - Avoid the formation of aerosols.
- **PPE Requirements:**
 - **Eye Protection:** Safety goggles (EN 166).
 - **Hand Protection:** Nitrile gloves.
 - **Respiratory Protection:** Combination filter - ABEK1 & P3P combination
 - **Body Protection:** Type 5/6 white overalls.

4. Handling and Storage

- **Handling Precautions:**
 - Handle with care, avoid skin and eye contact.
 - Avoid breathing in vapors or mists.
 - Do not eat, drink, or smoke while handling the product.
- **Storage Requirements:**
 - Store in a cool, dry, well-ventilated area.
 - Keep containers tightly closed and away from incompatible materials (e.g., oxidizing agents).

5. Emergency and First Aid Measures

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Hazard	People at Risk	Risk Severity	Likelihood	Total Risk Score	Control Measures	Residual Risk Score
Aspiration Hazard	Trained Regen Waste staff	High (May be fatal if swallowed)	Medium	High	Only trained Regen Waste staff handle the chemical. Stored in a controlled COSHH store on site. Avoid ingestion, use warning signage, and provide first aid kits.	Medium
Skin Sensitization	Trained Regen Waste staff	Medium (May cause allergic reaction)	Medium	Medium	Use of nitrile gloves and protective clothing. Restricted to trained staff in a COSHH facility with hygiene protocols post-use.	Low
Aquatic Toxicity	Environment	High (Very toxic to aquatic life)	Medium	High	Stored in locked COSHH store to prevent leaks. Spill kits and containment measures available to prevent environmental contamination.	Low
Carcinogenicity	Trained Regen Waste staff	Medium (Contains suspected carcinogens)	Low	Medium	Handling limited to trained personnel. PPE includes gloves, masks, and full protective clothing to limit exposure.	Low
Eye and Skin Irritation	Trained Regen Waste staff	Medium (Irritating to eyes and skin)	Medium	Medium	Safety goggles and gloves required during handling. Stored securely in COSHH area; emergency eyewash stations provided on site.	Low



SAFETY DATA SHEET

Permost Uni Fly spray

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

1.1. Product identifier

Product name Permost Uni Fly spray

Product number PBPTTE0007XXA.

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 (EC 1272/2008)

Physical hazards Not Classified

Health hazards Asp. Tox. 1 - H304

Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

2.2. Label elements

Hazard pictograms



Signal word Danger

Hazard statements EUH208 Contains PERMETHRIN (25:75) TECHNICAL. May produce an allergic reaction.
H304 May be fatal if swallowed and enters airways.
H410 Very toxic to aquatic life with long lasting effects.

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Precautionary statements	P273 Avoid release to the environment. P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P331 Do NOT induce vomiting. P391 Collect spillage. P405 Store locked up. P501 Dispose of contents/ container in accordance with national regulations.
Contains	DISTILLATES (PETROLEUM), HYDROTREATED LIGHT
Supplementary precautionary statements	P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P363 Wash contaminated clothing before reuse.

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

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT		60-100%
CAS number: 64742-47-8	EC number: 265-149-8	REACH registration number: 01-2119484819-18-XXXX
Classification Asp. Tox. 1 - H304	Classification (67/548/EEC or 1999/45/EC) Xn;R65. R66.	
PIPERONYL BUTOXIDE		<1%
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.	
PERMETHRIN (25:75) TECHNICAL		2.5 g/l 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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TETRAMETHRIN			<1%
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	

2,6-DI-TERT-BUTYL-P-CRESOL			<1%
CAS number: 128-37-0	EC number: 204-881-4	REACH registration number: 01-2119480433-40-XXXX	
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.	

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.
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

Inhalation	Coughing. Difficulty in breathing.
Ingestion	Burning sensation. Diarrhoea. Nausea, vomiting.
Skin contact	Burning sensation. Redness.
Eye contact	Redness. Pain.

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

Notes for the doctor	If ingested, material may be aspirated into the lungs and cause chemical pneumonitis. Treat symptomatically.
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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.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground. Stop leak if possible without risk.

6.3. Methods and material for containment and cleaning up

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.

7.3. Specific end use(s)

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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

2,6-DI-TERT-BUTYL-P-CRESOL

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³

WEL = Workplace Exposure Limit

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT (CAS: 64742-47-8)

DNEL Consumer - Oral; Long term : 19 mg/kg/day

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

PNEC - 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

TETRAMETHRIN (CAS: 7696-12-0)

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

2,6-DI-TERT-BUTYL-P-CRESOL (CAS: 128-37-0)

DNEL Industry - Inhalation; Short term systemic effects: 2 mg/m³
 Consumer - Oral; Long term systemic effects: 0.3 mg/kg/day
 Industry - Inhalation; Long term systemic effects: 3.5

PNEC - Fresh water; 0.0041 mg/l
 - marine water; 0.0041 mg/l
 - Sediment (Freshwater); 0.731 mg/kg
 - Sediment (Marinewater); 0.731 mg/kg
 - Soil; 0.35 mg/kg

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).

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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	Respiratory protection may be required if excessive airborne contamination occurs. If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Particulate filter, type P1. (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	Colourless.
Odour	Mild.
Odour threshold	Not available. Not available.
pH	pH (concentrated solution): 5 - 7
Melting point	Not available.
Initial boiling point and range	Not available.
Flash point	> 60°C ISO 3679
Evaporation rate	Not available.
Upper/lower flammability or explosive limits	Not available.
Vapour pressure	Not available.
Vapour density	Not available.
Relative density	0.795 - 0.815 @ °C
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.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	No data available.
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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.

Acute toxicity - dermal

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

Acute toxicity - inhalation

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

Skin corrosion/irritation

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

Serious eye damage/irritation

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

Respiratory sensitisation

Respiratory sensitisation No specific test data are available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met. Contains permethrin. May produce an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro Calculation method.

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 - fertility Calculation method.

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

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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. May be fatal if swallowed and enters airways.

Toxicological information on ingredients.

DISTILLATES (PETROLEUM), HYDROTREATED LIGHT

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,001.0

Species Rat

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

ATE oral (mg/kg) 5,001.0

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,001.0

Species Rabbit

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

ATE dermal (mg/kg) 2,001.0

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 5.28

Species Rat

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

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.

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 Gene mutation:: Negative. REACH dossier information. Based on available data the classification criteria are not met.

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Genotoxicity - in vivo Chromosome aberration: Negative. REACH dossier information. Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity REACH dossier information. Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility - NOAEL 750 mg/kg/day, Oral, Rat P REACH dossier information. This substance has no evidence of toxicity to reproduction. Based on available data the classification criteria are not met.

Reproductive toxicity - development Developmental toxicity: - NOAEL: > 364 ppm, Inhalation, REACH dossier information. 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 750 mg/kg/day, Oral, Rat REACH dossier information. Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard Kinematic viscosity $\leq 20.5 \text{ mm}^2/\text{s}$. REACH dossier information. May be fatal if swallowed and enters airways.

PIPERONYL BUTOXIDE

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.

Skin sensitisation

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Skin sensitisation	Buehler test: - Guinea pig: REACH dossier information. Not sensitising. Based on available data the classification criteria are not met.
<u>Germ cell mutagenicity</u>	
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.
<u>Carcinogenicity</u>	
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.
<u>Reproductive toxicity</u>	
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.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Data lacking.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 15.5 mg/kg, Oral, REACH dossier information. Based on available data the classification criteria are not met.
<u>Aspiration hazard</u>	
Aspiration hazard	Not applicable.

PERMETHRIN (25:75) TECHNICAL

<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	Harmful if swallowed. LD ₅₀ 554 mg/kg, Oral, Rat
ATE oral (mg/kg)	500.0
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	Based on available data the classification criteria are not met. LD ₅₀ > 2000 mg/kg, Dermal, Rat
<u>Acute toxicity - inhalation</u>	
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
<u>Skin corrosion/irritation</u>	

Permost Uni Fly spray

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.

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.

TETRAMETHRIN

Acute toxicity - oral

Notes (oral LD₅₀) Harmful if swallowed.

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

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

Species Rat

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

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ dust/mist mg/l) 5.63

Species Rat

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

ATE inhalation (dusts/mists mg/l) 5.63

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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.

PIPERONYL BUTOXIDE

Acute aquatic toxicity

LE(C)₅₀ 0.1 < L(E)C₅₀ ≤ 1

M factor (Acute) 1

Acute toxicity - fish LC₅₀, 96 hours: 3.94 mg/l,
REACH dossier information.

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.51 mg/l, Daphnia magna
REACH dossier information.

Acute toxicity - aquatic plants ErC₅₀, 72 hours: 3.89 mg/l, Selenastrum capricornutum
REACH dossier information.

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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.

PERMETHRIN (25:75) TECHNICAL

Toxicity Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

LE(C)₅₀ 0.0001 < L(E)C₅₀ ≤ 0.001

M factor (Acute) 1000

Acute toxicity - fish LC₅₀, 96 hours: 0.62 µg/l, Salmo gairdneri (Rainbow trout)

Acute toxicity - aquatic invertebrates EC₅₀, 96 hours: 0.62 µg/l, Daphnia magna

Acute toxicity - aquatic plants ErC₅₀, 96 hours: 92 µg/l, Skeletonema costatum

Chronic aquatic toxicity

M factor (Chronic) 1000

TETRAMETHRIN

Toxicity Very toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

LE(C)₅₀ 0.001 < L(E)C₅₀ ≤ 0.01

M factor (Acute) 100

Acute toxicity - fish LC₅₀, 96 hours: 0.033 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.47 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 1.36 mg/l, Scenedesmus subspicatus

Chronic aquatic toxicity

M factor (Chronic) 100

12.2. Persistence and degradability

Ecological information on ingredients.

PIPERONYL BUTOXIDE

Persistence and degradability The product is not readily biodegradable.

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Phototransformation	Water - Degradation (%) 50: = 3.6 hours REACH dossier information. Water - DT ₅₀ : = 8.4 hours REACH dossier information.
Stability (hydrolysis)	pH7 - Half-life >: 500 days @ 25°C @ °C REACH dossier information.

PERMETHRIN (25:75) TECHNICAL

Persistence and degradability	This product is not expected to be readily biodegradable.
Biodegradation	Water - DT ₅₀ : < 28 days

TETRAMETHRIN

Persistence and degradability	The product is moderately biodegradable.
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12.3. Bioaccumulative potential

Partition coefficient	Not relevant.
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Ecological information on ingredients.

PIPERONYL BUTOXIDE

Bioaccumulative potential	BCF: = 380, Lepomis macrochirus (Bluegill) REACH dossier information.
Partition coefficient	log Pow: = 4.8 REACH dossier information.

PERMETHRIN (25:75) TECHNICAL

Bioaccumulative potential	BCF: < 750,
Partition coefficient	log Kow: 4.67

TETRAMETHRIN

Bioaccumulative potential	BCF: 634,
Partition coefficient	log Kow: >4.09

12.4. Mobility in soil

Ecological information on ingredients.

PIPERONYL BUTOXIDE

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

PERMETHRIN (25:75) TECHNICAL

Mobility	Not considered mobile.
Adsorption/desorption coefficient	Water - Koc: > 5000 @ °C

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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.

Ecological information on ingredients.

PIPERONYL BUTOXIDE

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

PERMETHRIN (25:75) TECHNICAL

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

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%

12.6. Other adverse effects

Other adverse effects Not available.

Ecological information on ingredients.

PIPERONYL BUTOXIDE

Other adverse effects Not available.

PERMETHRIN (25:75) TECHNICAL

Other adverse effects Not known.

TETRAMETHRIN

Other adverse effects Not available.

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 $\leq 5\text{L}$ for liquids, or $\leq 5\text{kg}$ 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
ICAO packing group	III
ADN 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.

SECTION 15: Regulatory information

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

National regulations	HSE approval no. 6399. PCS approval no. 96763. This safety data sheet does not form part of the label approved under the Control of Pesticide Regulations 1986. Following the instructions on the pesticide product label for the specified uses should ensure that the product is used safely and efficaciously for those uses.
EU legislation	Dangerous Substances Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
Health and environmental listings	Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer. As amended. None of the ingredients are listed. Regulation (EC) 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals (as amended). The following ingredients are listed: Permethrin
Authorisations (Annex XIV Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Annex XVII Regulation 1907/2006)	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.
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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). European Chemicals Agency, http://echa.europa.eu/
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	16/03/2020
Revision	7.2
Supersedes date	20/10/2017
SDS number	20885
Risk phrases in full	R20/22 Harmful by inhalation and if swallowed. R43 May cause sensitisation by skin contact. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R65 Harmful: may cause lung damage if swallowed.
Hazard statements in full	H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H317 May cause an allergic skin reaction. H332 Harmful if inhaled. 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. EUH208 Contains PERMETHRIN (25:75) TECHNICAL. May produce an allergic reaction.

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.