



SAFETY DATA SHEET PERMEX 22E

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

1.1. Product identifier

Product name PERMEX 22E
Product number PTTEPB0194MEA

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) 161 209 7400 9am - 5pm GMT

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Classification (67/548/EEC or 1999/45/EC) Xi; R41, R38. N; R50/53. R43

2.2. Label elements

Pictogram



Signal word

Danger

PERMEX 22E

| | |
|---|--|
| Hazard statements | H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H410 Very toxic to aquatic life with long lasting effects. |
| Precautionary statements | P261 Avoid breathing vapour/ spray. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P501 Dispose of contents/ container in accordance with national regulations. |
| Contains | PERMETHRIN (25:75) TECHNICAL, CALCIUM DODECYLBENZENE SULPHONATE, ISO-BUTANOL |
| Supplementary precautionary statements | P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P264 Wash contaminated skin thoroughly after handling. P272 Contaminated work clothing should not be allowed out of the workplace. P302+P352 IF ON SKIN: Wash with plenty of water. P310 Immediately call a POISON CENTER/ doctor. P321 Specific treatment (see medical advice on this label). P332+P313 If skin irritation occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P391 Collect spillage. |

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

| | |
|--|--|
| 2,2-DICHLORO-1-(3-METHYL-2,3-DIHYDRO-1,4-BENZOXAZIN-4-YL)ETHANONE | 10-30% |
| CAS number: 99734-09-5 | EC number: 619-457-8 |
| Classification | Classification (67/548/EEC or 1999/45/EC) |
| Aquatic Chronic 3 - H412 | 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 | Classification (67/548/EEC or 1999/45/EC) |
| Acute Tox. 4 - H302 | Xn; R20/22. N; R50/53. R43 |
| Acute Tox. 4 - H332 | |
| Skin Sens. 1 - H317 | |
| Aquatic Acute 1 - H400 | |
| Aquatic Chronic 1 - H410 | |

PERMEX 22E

| | | |
|---|---|-------------------|
| 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. | |
| CALCIUM DODECYLBENZENE SULPHONATE | | 5-10% |
| CAS number: 26264-06-2 | EC number: 247-557-8 | |
| Classification Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Aquatic Chronic 4 - H413 | Classification (67/548/EEC or 1999/45/EC) Xi;R38,R41. | |
| 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% min. |
| CAS number: 7696-12-0 | EC number: 231-711-6 | |
| M factor (Acute) = 100 | M factor (Chronic) = 100 | |
| 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. |

PERMEX 22E

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 Diarrhoea. Burning sensation. Nausea, vomiting.

Skin contact Redness. Burning sensation. This product is strongly irritating. 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.

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

PERMEX 22E

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

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

PERMEX 22E**ISO-BUTANOL (CAS: 78-83-1)**

DNEL Industry - Inhalation; Long term local effects: 310 mg/m³

TETRAMETHRIN (CAS: 7696-12-0)

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

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. |
| Vapour density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | Not available. |
| Partition coefficient | Not relevant. |
| Auto-ignition temperature | Not available. |

PERMEX 22E

| | |
|----------------------------------|----------------|
| 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) | 4,397.54 |
|-------------------------|----------|

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. |
|---|--|

| | |
|--|-------|
| 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

PERMEX 22E

| | |
|--|--|
| Respiratory sensitisation | No specific test data are available. |
| <u>Skin sensitisation</u> | |
| Skin sensitisation | Calculation method. May cause an allergic skin reaction. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vivo | Calculation method. Based on available data the classification criteria are not met. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | Calculation method. Based on available data the classification criteria are not met. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - development | Calculation method. Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - single exposure</u> | |
| STOT - single exposure | Calculation method. Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | Calculation method. Based on available data the classification criteria are not met. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Calculation method. Based on available data the classification criteria are not met. |

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.

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

PERMEX 22E

| | |
|--|---|
| Skin sensitisation | May cause an allergic skin reaction. |
| <u>Germ cell mutagenicity</u> | |
| Genotoxicity - in vivo | : Non-genotoxic. Based on available data the classification criteria are not met. |
| <u>Carcinogenicity</u> | |
| Carcinogenicity | No indication of human carcinogenicity. Based on available data the classification criteria are not met. |
| <u>Reproductive toxicity</u> | |
| Reproductive toxicity - fertility | 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 | Based on available data the classification criteria are not met. |
| <u>Specific target organ toxicity - repeated exposure</u> | |
| STOT - repeated exposure | Based on available data the classification criteria are not met. |
| <u>Aspiration hazard</u> | |
| Aspiration hazard | Based on available data the classification criteria are not met. |

PIPERONYL BUTOXIDE

| | |
|--|--|
| <u>Acute toxicity - oral</u> | |
| Notes (oral LD₅₀) | REACH dossier information. Based on available data the classification criteria are not met. |
| <u>Acute toxicity - dermal</u> | |
| 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. |
| <u>Acute toxicity - inhalation</u> | |
| Notes (inhalation LC₅₀) | REACH dossier information. Based on available data the classification criteria are not met. |
| ATE inhalation (dusts/mists mg/l) | 5.9 |
| <u>Skin corrosion/irritation</u> | |
| 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. |
| <u>Serious eye damage/irritation</u> | |
| Serious eye damage/irritation | Not irritating. REACH dossier information. Based on available data the classification criteria are not met. |
| <u>Skin sensitisation</u> | |
| 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> | |

PERMEX 22E

| | |
|--|---|
| 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. |

Aspiration hazard

Aspiration hazard Not applicable.

TETRAMETHRIN

Acute toxicity - oral

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

Species Rat

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

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

PERMEX 22E

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 Based on available data the classification criteria are not met. There is no evidence that the product can cause 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 Data lacking.

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.

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*

PERMEX 22E

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

Chronic aquatic toxicity

M factor (Chronic) 1000

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.

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)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**PERMETHRIN (25:75) TECHNICAL**

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

Biodegradation Water - DT₅₀ : < 28 days

PERMEX 22E**PIPERONYL BUTOXIDE**

| | |
|--------------------------------------|---|
| Persistence and degradability | The product is not readily biodegradable. |
| 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. |

TETRAMETHRIN

| | |
|--------------------------------------|--|
| Persistence and degradability | The product is moderately biodegradable. |
|--------------------------------------|--|

12.3. Bioaccumulative potential

| | |
|------------------------------|---------------|
| Partition coefficient | Not relevant. |
|------------------------------|---------------|

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: 4.6 |

12.4. Mobility in soil**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. |

TETRAMETHRIN

| | |
|-----------------|------------------------|
| Mobility | Not considered mobile. |
|-----------------|------------------------|

PERMEX 22E

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.

PERMETHRIN (25:75) TECHNICAL

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

PIPERONYL BUTOXIDE

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 This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not available.

PERMETHRIN (25:75) TECHNICAL

Other adverse effects Not known.

PIPERONYL BUTOXIDE

Other adverse effects Not available.

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

PERMEX 22E

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 |

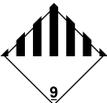
14.2. UN proper shipping name

| | |
|--------------------------------|---|
| 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 |

PERMEX 22E

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 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). |
| 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 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer (as amended). None of the ingredients are listed. Regulation (EC) 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals (as amended). The following ingredients are listed: Permethrin |
| Authorisations (Title VII Regulation 1907/2006) | No specific authorisations are known for this product. |
| Restrictions (Title VIII 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. |
|---|--|

PERMEX 22E

| | |
|---|---|
| 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/ |
| Revision comments | This is first issue. |
| Revision date | 02/05/2017 |
| Revision | 0 |
| SDS number | 20710 |
| 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. 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. H413 May cause long lasting harmful effects to aquatic life. |

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.