

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

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

1.1 Product identifier

Trade name : Permethrin (5%) Liquid Formulation (BR)

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

Use of the Sub-
stance/Mixture : Veterinary product

Recommended restrictions
on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD
Drynam Road
K67 P263 Dublin, Ireland

Telephone : +1-908-740-4000

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

1.4 Emergency telephone number

+1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin sensitisation, Category 1

H317: May cause an allergic skin reaction.

Aspiration hazard, Category 1

H304: May be fatal if swallowed and enters air-ways.

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



SAFETY DATA SHEET

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| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

Signal word : Danger

Hazard statements : H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:

Distillates (petroleum), solvent-dewaxed heavy paraffinic
Permethrin (ISO)

2.3 Other hazards

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

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

| Chemical name | CAS-No. EC-No. Index-No. Registration number | Classification | Concentration (% w/w) |
|---|---|--------------------|--------------------------|
| Distillates (petroleum), solvent-dewaxed heavy paraffinic | 64742-65-0 265-169-7 649-474-00-6 | Asp. Tox. 1; H304 | >= 90 - <= 100 |
| Permethrin (ISO) | 52645-53-1 | Acute Tox. 4; H302 | >= 2.5 - < 10 |

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

| | | | |
|--|---------------------------|--|--|
| | 258-067-9 613-058-00-2 | Acute Tox. 4; H332 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000 Acute toxicity esti- mate Acute oral toxicity: 500 mg/kg Acute inhalation tox- icity (dust/mist): 2.3 mg/l | |
|--|---------------------------|--|--|

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- | | |
|----------------------------|---|
| General advice | : In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8). |
| If inhaled | : If inhaled, remove to fresh air. Get medical attention if symptoms occur. |
| In case of skin contact | : In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse. |
| In case of eye contact | : Flush eyes with water as a precaution. Get medical attention if irritation develops and persists. |
| If swallowed | : If swallowed, DO NOT induce vomiting. |

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| | | | |
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| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

If vomiting occurs have person lean forward.
Call a physician or poison control centre immediately.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Risks : This product contains a pyrethroid.
Pyrethroid poisoning should not be confused with carbamate
or organophosphate poisoning.

May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

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

Hazardous combustion products : Carbon oxides
Chlorine compounds

5.3 Advice for firefighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.

SAFETY DATA SHEET

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

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

SECTION 7: Handling and storage

7.1 Precautions for safe handling

| | | |
|-------------------------|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | Use only with adequate ventilation. |
| Advice on safe handling | : | Do not get on skin or clothing. Avoid breathing mist or vapours. Do not swallow. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Keep container tightly closed. Take care to prevent spills, waste and minimize release to the environment. |
| Hygiene measures | : | If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use. |

SAFETY DATA SHEET

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

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Store in accordance with the particular national regulations.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Gases

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

| Components | CAS-No. | Value type (Form of exposure) | Control parameters | Basis |
|---|------------|---|------------------------------|----------|
| Distillates (petroleum), solvent-dewaxed heavy paraffinic | 64742-65-0 | OELV - 8 hrs (TWA) (inhalable fraction) | 5 mg/m ³ | IE OEL |
| Permethrin (ISO) | 52645-53-1 | TWA | 80 µg/m ³ (OEB 3) | Internal |
| | | Wipe limit | 800 µg/100 cm ² | Internal |

8.2 Exposure controls

Engineering measures

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).

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

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

Personal protective equipment

Eye/face protection : Wear safety glasses with side shields or goggles.
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or

SAFETY DATA SHEET

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Commission Regulation (EU) 2020/878



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| Hand protection | aerosols. |
| Material | : Chemical-resistant gloves |
| Remarks | : Consider double gloving. |
| Skin and body protection | : Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing. |
| Respiratory protection | : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Filter should conform to I.S. EN 14387 |
| Filter type | : Combined particulates and organic vapour type (A-P) |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|--|-------------------------------|
| Physical state | : liquid |
| Colour | : clear amber |
| Odour | : odourless |
| Odour Threshold | : No data available |
| Melting point/freezing point | : No data available |
| Initial boiling point and boiling range | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Flammability (liquids) | : Ignitable (see flash point) |
| Upper explosion limit / Upper flammability limit | : No data available |
| Lower explosion limit / Lower flammability limit | : No data available |
| Flash point | : 151.7 °C |
| Auto-ignition temperature | : No data available |

SAFETY DATA SHEET

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| | | |
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| Decomposition temperature | : | No data available |
| pH | : | No data available |
| Viscosity | | |
| Viscosity, kinematic | : | 39 mm ² /s |
| Solubility(ies) | | |
| Water solubility | : | immiscible |
| Solubility in other solvents | : | Solvent: Kerosine completely miscible |
| | | Solvent: Xylene completely miscible |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Vapour pressure | : | < 2 mmHg (25 °C) |
| Relative density | : | 0.876 (20 °C) |
| Density | : | No data available |
| Relative vapour density | : | No data available |
| Particle characteristics | | |
| Particle size | : | Not applicable |

9.2 Other information

| | | |
|----------------------|---|--|
| Explosives | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Evaporation rate | : | No data available |
| Molecular weight | : | No data available |

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

| | | |
|---------------------|---|---|
| Hazardous reactions | : | Can react with strong oxidizing agents. |
|---------------------|---|---|

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10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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

Acute toxicity

|| Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | |
|---------------------------|--|
| Acute oral toxicity | : LD50 (Rat): > 5,000 mg/kg Method: OECD Test Guideline 401 Remarks: Based on data from similar materials |
| Acute inhalation toxicity | : LC50 (Rat): > 5.53 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Based on data from similar materials |
| Acute dermal toxicity | : LD50 (Rabbit): > 5,000 mg/kg Method: OECD Test Guideline 402 Remarks: Based on data from similar materials |

Permethrin (ISO):

|| Acute oral toxicity : LD50 (Rat): 480 - 554 mg/kg

SAFETY DATA SHEET

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| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

Acute inhalation toxicity : LC50 (Rat): 2.3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

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

Permethrin (ISO):

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation
Remarks : Based on data from similar materials

Permethrin (ISO):

Species : Rabbit
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406

SAFETY DATA SHEET

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Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

| | |
|---------|--|
| Result | : negative |
| Remarks | : Based on data from similar materials |

Permethrin (ISO):

| | |
|-----------------|----------------|
| Test Type | : Buehler Test |
| Exposure routes | : Skin contact |
| Species | : Guinea pig |
| Result | : positive |

| | |
|------------|---|
| Assessment | : Probability or evidence of skin sensitisation in humans |
|------------|---|

Germ cell mutagenicity

Not classified based on available information.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials |
| Genotoxicity in vivo | : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative Remarks: Based on data from similar materials |

Permethrin (ISO):

| | |
|-----------------------|--|
| Genotoxicity in vitro | : Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative Test Type: Chromosome aberration test in vitro Result: negative Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative Test Type: Chromosome aberration test in vitro Result: positive |
| Genotoxicity in vivo | : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Result: negative |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

| | |
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| | Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Result: negative |
| | Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Mouse Result: negative |
| | Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: Intraperitoneal injection Result: negative |
| | Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Mouse Application Route: Ingestion Result: positive |
| Germ cell mutagenicity- Assessment | : Weight of evidence does not support classification as a germ cell mutagen. |

Carcinogenicity

Not classified based on available information.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | |
|-------------------|---------------------------|
| Species | : Mouse |
| Application Route | : Skin contact |
| Exposure time | : 78 weeks |
| Method | : OECD Test Guideline 451 |
| Result | : negative |

| | |
|------------------------------|---|
| Carcinogenicity - Assessment | : Classified based on DMSO extract content < 3% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note L) |
|------------------------------|---|

Permethrin (ISO):

| | |
|---------|------------|
| Species | : Rat |
| Result | : negative |

| | |
|---------|------------|
| Species | : Mouse |
| Result | : negative |

Reproductive toxicity

Not classified based on available information.

SAFETY DATA SHEET

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Commission Regulation (EU) 2020/878



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| | | | |
|---------|----------------|----------------|---------------------------------|
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| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | | |
|-------------------------------|---|---|
| Effects on fertility | : | Test Type: Reproduction/Developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials |
| Effects on foetal development | : | Test Type: Embryo-foetal development Species: Rat Application Route: Skin contact Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials |

Permethrin (ISO):

| | | |
|-------------------------------|---|--|
| Effects on fertility | : | Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative |
| Effects on foetal development | : | Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test Species: Rat Application Route: Ingestion Result: negative |

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | | |
|-------------------|---|--------------------------------------|
| Species | : | Rabbit |
| NOAEL | : | 1,000 mg/kg |
| Application Route | : | Skin contact |
| Exposure time | : | 4 Weeks |
| Method | : | OECD Test Guideline 410 |
| Remarks | : | Based on data from similar materials |
| Species | : | Rat |
| NOAEL | : | > 980 mg/m ³ |
| Application Route | : | inhalation (dust/mist/fume) |
| Exposure time | : | 4 Weeks |
| Remarks | : | Based on data from similar materials |

SAFETY DATA SHEET

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Permethrin (ISO):

| | |
|-------------------|---------------|
| Species | : Rat |
| NOAEL | : 0.2201 mg/l |
| Application Route | : Inhalation |
| Exposure time | : 90 Days |

| | |
|-------------------|-------------|
| Species | : Rat |
| NOAEL | : 175 mg/kg |
| Application Route | : Ingestion |
| Exposure time | : 90 Days |

Aspiration toxicity

|| May be fatal if swallowed and enters airways.

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

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

11.2 Information on other hazards

Endocrine disrupting properties

|| Not classified based on available information.

Product:

| | |
|------------|---|
| Assessment | : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
|------------|---|

SECTION 12: Ecological information

12.1 Toxicity

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | |
|---|--|
| Toxicity to fish | : LC50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials |

SAFETY DATA SHEET

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| | |
|--|---|
| Toxicity to algae/aquatic plants | : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : NOEC : > 1.93 mg/l Exposure time: 10 min Method: DIN 38 412 Part 8 Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC: 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials |

Permethrin (ISO):

| | |
|--|---|
| Toxicity to fish | : LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.00079 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 0.0001 mg/l Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 1.13 mg/l Exposure time: 72 h EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0023 mg/l Exposure time: 72 h |
| M-Factor (Acute aquatic toxicity) | : 10,000 |
| Toxicity to microorganisms | : EC50 : > 1,000 mg/l Exposure time: 3 h |
| Toxicity to fish (Chronic toxicity) | : NOEC: 0.00041 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210 |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : NOEC: 0.0047 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 |
| M-Factor (Chronic aquatic toxicity) | : 10,000 |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

12.2 Persistence and degradability

Components:

Distillates (petroleum), solvent-dewaxed heavy paraffinic:

| | | |
|------------------|---|--|
| Biodegradability | : | Result: Not readily biodegradable. Biodegradation: 2 - 8 % Exposure time: 28 d Method: OECD Test Guideline 301B |
|------------------|---|--|

Permethrin (ISO):

| | | |
|------------------|---|--|
| Biodegradability | : | Result: Not readily biodegradable. Method: OECD Test Guideline 301F |
|------------------|---|--|

12.3 Bioaccumulative potential

Components:

Permethrin (ISO):

| | | |
|--|---|---|
| Bioaccumulation | : | Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 570 |
| Partition coefficient: n-octanol/water | : | log Pow: 4.67 |

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

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

12.6 Endocrine disrupting properties

Product:

| | | |
|------------|---|---|
| Assessment | : | The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
|------------|---|---|

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

| | |
|------------------------|--|
| Product | : Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer. |
| Contaminated packaging | : Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product. |

SECTION 14: Transport information

14.1 UN number or ID number

| | |
|------|-----------|
| ADN | : UN 3082 |
| ADR | : UN 3082 |
| RID | : UN 3082 |
| IMDG | : UN 3082 |
| IATA | : UN 3082 |

14.2 UN proper shipping name

| | |
|------|---|
| ADN | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Permethrin (ISO)) |
| ADR | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Permethrin (ISO)) |
| RID | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Permethrin (ISO)) |
| IMDG | : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Permethrin (ISO)) |
| IATA | : Environmentally hazardous substance, liquid, n.o.s. (Permethrin (ISO)) |

14.3 Transport hazard class(es)

| | Class | Subsidiary risks |
|------|-------|------------------|
| ADN | : 9 | |
| ADR | : 9 | |
| RID | : 9 | |
| IMDG | : 9 | |
| IATA | : 9 | |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

14.4 Packing group

ADN

| | |
|------------------------------|-------|
| Packing group | : III |
| Classification Code | : M6 |
| Hazard Identification Number | : 90 |
| Labels | : 9 |

ADR

| | |
|------------------------------|-------|
| Packing group | : III |
| Classification Code | : M6 |
| Hazard Identification Number | : 90 |
| Labels | : 9 |
| Tunnel restriction code | : (-) |

RID

| | |
|------------------------------|-------|
| Packing group | : III |
| Classification Code | : M6 |
| Hazard Identification Number | : 90 |
| Labels | : 9 |

IMDG

| | |
|---------------|------------|
| Packing group | : III |
| Labels | : 9 |
| EmS Code | : F-A, S-F |

IATA (Cargo)

| | |
|--------------------------------------|-----------------|
| Packing instruction (cargo aircraft) | : 964 |
| Packing instruction (LQ) | : Y964 |
| Packing group | : III |
| Labels | : Miscellaneous |

IATA (Passenger)

| | |
|--|-----------------|
| Packing instruction (passenger aircraft) | : 964 |
| Packing instruction (LQ) | : Y964 |
| Packing group | : III |
| Labels | : Miscellaneous |

14.5 Environmental hazards

ADN

| | |
|---------------------------|-------|
| Environmentally hazardous | : yes |
|---------------------------|-------|

ADR

| | |
|---------------------------|-------|
| Environmentally hazardous | : yes |
|---------------------------|-------|

RID

| | |
|---------------------------|-------|
| Environmentally hazardous | : yes |
|---------------------------|-------|

IMDG

| | |
|------------------|-------|
| Marine pollutant | : yes |
|------------------|-------|

IATA (Passenger)

| | |
|---------------------------|-------|
| Environmentally hazardous | : yes |
|---------------------------|-------|

IATA (Cargo)

| | |
|---------------------------|-------|
| Environmentally hazardous | : yes |
|---------------------------|-------|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

| | |
|--|--------------------|
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). | : Not applicable |
| Regulation (EU) No 2024/590 on substances that deplete the ozone layer | : Not applicable |
| Regulation (EU) 2019/1021 on persistent organic pollutants (recast) | : Not applicable |
| Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals | : Permethrin (ISO) |
| REACH - List of substances subject to authorisation (Annex XIV) | : Not applicable |

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

| | | | |
|----|-----------------------|---------------------|---------------------|
| E1 | ENVIRONMENTAL HAZARDS | Quantity 1 100 t | Quantity 2 200 t |
|----|-----------------------|---------------------|---------------------|

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

regulations, where applicable.

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

| | | |
|-------|---|----------------|
| AICS | : | not determined |
| DSL | : | not determined |
| IECSC | : | not determined |

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Full text of H-Statements

| | | |
|------|---|---|
| H302 | : | Harmful if swallowed. |
| H304 | : | May be fatal if swallowed and enters airways. |
| H317 | : | May cause an allergic skin reaction. |
| H332 | : | Harmful if inhaled. |
| H400 | : | Very toxic to aquatic life. |
| H410 | : | Very toxic to aquatic life with long lasting effects. |

Full text of other abbreviations

| | | |
|-----------------------------|---|---|
| Acute Tox. | : | Acute toxicity |
| Aquatic Acute | : | Short-term (acute) aquatic hazard |
| Aquatic Chronic | : | Long-term (chronic) aquatic hazard |
| Asp. Tox. | : | Aspiration hazard |
| Skin Sens. | : | Skin sensitisation |
| IE OEL | : | Ireland. List of Chemical Agents and Carcinogens with Occupational Exposure Limit Values - Code of Practice, Schedule 1 and 2 |
| IE OEL / OELV - 8 hrs (TWA) | : | Occupational exposure limit value (8-hour reference period) |

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Permethrin (5%) Liquid Formulation (BR)

| | | | |
|---------|----------------|----------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 28.09.2024 |
| 4.0 | 14.04.2025 | 10843987-00008 | Date of first issue: 31.08.2022 |

- Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECL - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

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

Classification of the mixture:

| | |
|-------------------|------|
| Skin Sens. 1 | H317 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Classification procedure:

| |
|--------------------|
| Calculation method |
| Calculation method |
| Calculation method |
| Calculation method |

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