SAFETY DATA SHEET  
according to Regulation (EC) No. 1907/2006

Permethrin Formulation

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

1.1 Product identifier

Trade name : Permethrin Formulation

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

Use of the Substance/Mixture : Veterinary product

1.3 Details of the supplier of the safety data sheet

Company : MSD

Kilshealan
Clonmel Tipperary, IE

Telephone : 353-51-601000

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)

Flammable liquids, Category 3
Skin irritation, Category 2
Eye irritation, Category 2
Skin sensitisation, Category 1
Germ cell mutagenicity, Category 1B
Carcinogenicity, Category 1B
Reproductive toxicity, Category 2
Specific target organ toxicity - single exposure, Category 3
Specific target organ toxicity - repeated exposure, Category 2
Aspiration hazard, Category 1
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

H226: Flammable liquid and vapour.
H315: Causes skin irritation.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H340: May cause genetic defects.
H350: May cause cancer.
H361: Suspected of damaging fertility or the unborn child.
H336: May cause drowsiness or dizziness.
H373: May cause damage to organs through prolonged or repeated exposure.
H304: May be fatal if swallowed and enters airways.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)
Permethrin Formulation

Hazard pictograms: 

- Flammable liquid (H226)
- Skin irritation (H315)
- May be fatal if swallowed and enters airways (H304)
- May cause an allergic skin reaction (H317)
- May cause serious eye irritation (H319)
- May cause damage to organs through prolonged or repeated exposure (H336)
- Suspected of damaging fertility or the unborn child (H361)
- Very toxic to aquatic life with long lasting effects (H410)

Signal word: Danger

Hazard statements:
- Flammable liquid and vapour (H226)
- May be fatal if swallowed and enters airways (H304)
- Causes skin irritation (H315)
- May cause an allergic skin reaction (H317)
- Causes serious eye irritation (H319)
- May cause drowsiness or dizziness (H336)
- May cause genetic defects (H340)
- May cause cancer (H350)
- Suspected of damaging fertility or the unborn child (H361)
- May cause damage to organs through prolonged or repeated exposure (H336)
- Very toxic to aquatic life with long lasting effects (H410)

Precautionary statements:
- Prevention:
  - Obtain special instructions before use (P201)
  - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking (P210)
  - Avoid release to the environment (P273)
  - Wear protective gloves/ protective clothing/ eye protection/ face protection (P280)

- Response:
  - IF SWALLOWED: Immediately call a POISON CENTER/ doctor (P301 + P310)
  - Collect spillage (P391)

Hazardous components which must be listed on the label:
- Solvent naphtha (petroleum), light aromatic
- Xylene
- Permethrin (ISO)
- 4-Nonylphenol, branched, ethoxylated

Additional Labelling:
- Restricted to professional users.

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: This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.
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.

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

| Components | CAS-No.  
| EC-No.  
| Index-No.  
| Registration number | Classification | Concentration (% w/w) |
|---|---|---|---|---|---|---|
| Solvent naphtha (petroleum), light aromatic | 64742-95-6 265-199-0 649-356-00-4 | Flam. Liq. 3; H226  Skin Irrit. 2; H315  Muta. 1B; H340  Carc. 1B; H350  STOT SE 3; H336  Asp. Tox. 1; H304  Aquatic Chronic 2; H411 | 60 - 70 |
| Xylene | 1330-20-7 215-535-7 601-022-00-9 | Flam. Liq. 3; H226  Acute Tox. 4; H332  Acute Tox. 4; H312  Skin Irrit. 2; H315  Eye Irrit. 2; H319  STOT SE 3; H335  STOT RE 2; H373 (Auditory system)  Asp. Tox. 1; H304  Aquatic Chronic 3; H412 | 6 - 16 |
| Permethrin (ISO) | 52645-53-1 258-067-9 613-058-00-2 | Acute Tox. 4; H302  Acute Tox. 4; H332  Skin Sens. 1; H317  Aquatic Acute 1; H400  Aquatic Chronic 1; H410 | 11.76 |

Acute toxicity estimate

Acute inhalation toxicity (vapour): 11 mg/l

Acute dermal toxicity: 1,100 mg/kg

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

In case of skin contact: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention.

If swallowed

If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control centre immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Risks

May be fatal if swallowed and enters airways.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to organs through prolonged or repeated exposure.

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

High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting

Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products

Chlorine compounds
Carbon oxides
Sulphur oxides
Metal oxides

5.3 Advice for firefighters

Special protective equipment

In the event of fire, wear self-contained breathing apparatus.
for firefighters

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:
- Remove all sources of ignition.
- Use personal protective equipment.
- 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:
- Non-sparking tools should be used.
- Soak up with inert absorbent material.
- Suppress (knock down) gases/vapours/mists with a water spray jet.
- For large spills, provide dyeing or other appropriate containment to keep material from spreading. If dyed 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
Local/Total ventilation: If sufficient ventilation is unavailable, use with local exhaust ventilation. Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling: Do not get on skin or clothing. Do not breathe mist or vapours. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment. Non-sparking tools should be used. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers: Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage: Do not store with the following product types: Strong oxidizing agents Organic peroxides Flammable solids Pyrophoric liquids Pyrophoric solids Self-heating substances and mixtures Substances and mixtures, which in contact with water, emit flammable gases Explosives Gases

7.3 Specific end use(s)

Specific use(s): No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Permethrin Formulation

Version 3.6  Revision Date: 27.08.2021  SDS Number: 835387-00012  Date of last issue: 17.03.2021  Date of first issue: 02.08.2016

Components

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>OELV - 8 hrs (TWA)</td>
<td>50 ppm 221 mg/m³</td>
<td>IE OEL</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OELV - 15 min (STEL)</td>
<td>100 ppm 442 mg/m³</td>
<td>IE OEL</td>
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<tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>50 ppm 221 mg/m³</td>
<td>2000/39/EC</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Further information: Identifies the possibility of significant uptake through the skin, Indicative</td>
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<tr>
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<td>STEL</td>
<td>100 ppm 442 mg/m³</td>
<td>2000/39/EC</td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Further information: Identifies the possibility of significant uptake through the skin, Indicative</td>
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<tr>
<td>Permethrin (ISO)</td>
<td>52645-53-1</td>
<td>TWA</td>
<td>80 µg/m³ (OEB 3)</td>
<td>Internal</td>
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<td>Wipe limit</td>
<td>800 µg/100 cm²</td>
<td>Internal</td>
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Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
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<tbody>
<tr>
<td>Xylene</td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>442 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>221 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>442 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>212 mg/kg bw/day</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term systemic effects</td>
<td>65.3 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>Acute systemic effects</td>
<td>260 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>Long-term local effects</td>
<td>65.3 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inhalation</td>
<td>Acute local effects</td>
<td>260 mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>Long-term systemic effects</td>
<td>125 mg/kg bw/day</td>
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<tr>
<td>Consumers</td>
<td>Ingestion</td>
<td>Long-term systemic effects</td>
<td>12.5 mg/kg bw/day</td>
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Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

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<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
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<tbody>
<tr>
<td>Xylene</td>
<td>Fresh water</td>
<td>0.327 mg/l</td>
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<td></td>
<td>Intermittent use/release</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.327 mg/l</td>
</tr>
<tr>
<td></td>
<td>Sewage treatment plant</td>
<td>6.58 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>12.46 mg/kg dry</td>
</tr>
</tbody>
</table>
8.2 Exposure controls

Engineering measures
Minimize workplace exposure concentrations. 
If sufficient ventilation is unavailable, use with local exhaust ventilation. 
Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment
Eye protection: Wear the following personal protective equipment: 
Safety goggles 
Equipment should conform to I.S. EN 166

Hand protection
Material: Chemical-resistant gloves
Remarks: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Take note that the product is flammable, which may impact the selection of hand protection. Wash hands before breaks and at the end of workday.

Skin and body protection: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. 
Wear the following personal protective equipment: 
If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. 
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Respiratory protection: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. 
Equipment 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
Odour: aromatic
Odour Threshold: No data available
Melting point/freezing point: No data available
## Safety Data Sheet

**Permethrin Formulation**

<table>
<thead>
<tr>
<th>Version</th>
<th>Revision Date:</th>
<th>SDS Number:</th>
<th>Date of last issue:</th>
<th>Date of first issue:</th>
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<td>3.6</td>
<td>27.08.2021</td>
<td>835387-00012</td>
<td>17.03.2021</td>
<td>02.08.2016</td>
</tr>
</tbody>
</table>

- **Initial boiling point and boiling range**: No data available
- **Flammability (solid, gas)**: Not applicable
- **Flammability (liquids)**: No data available
- **Upper explosion limit / Upper flammability limit**: No data available
- **Lower explosion limit / Lower flammability limit**: No data available
- **Flash point**: 51.1 °C
- **Auto-ignition temperature**: No data available
- ** Decomposition temperature**: No data available
- **pH**: 6.69
- **Viscosity**
  - **Viscosity, dynamic**: No data available
  - **Viscosity, kinematic**: No data available
- **Solubility(ies)**
  - Water solubility: emulsifiable
- **Partition coefficient: n-octanol/water**: Not applicable
- **Vapour pressure**: 15 mmHg (25 °C)
- **Relative density**: 0.870 - 0.880 (25 °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:
Flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.

10.4 Conditions to avoid
Conditions to avoid:
Heat, flames and sparks.

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: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

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

Components:
Solvent naphtha (petroleum), light aromatic:
Acute oral toxicity: LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity: LC50 (Rat): > 5.61 mg/l
### Exposure Information

- **Exposure time**: 4 h  
- **Test atmosphere**: vapour

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

### Xylene:
- **Acute oral toxicity**
  - **LD50 (Rat)**: 3,523 mg/kg  

- **Acute inhalation toxicity**
  - **Acute toxicity estimate**: 11 mg/l  
  - **Exposure time**: 4 h  
  - **Test atmosphere**: vapour  
  - **Method**: Expert judgement  
  - **Remarks**: Based on harmonised classification in EU regulation 1272/2008, Annex VI

- **Acute dermal toxicity**
  - **Acute toxicity estimate**: 1,100 mg/kg  
  - **Method**: Expert judgement  
  - **Remarks**: Based on harmonised classification in EU regulation 1272/2008, Annex VI

### Permethrin (ISO):
- **Acute oral toxicity**
  - **LD50 (Rat)**: 480 - 554 mg/kg  
  - **Acute toxicity estimate**: 480 mg/kg  
  - **Method**: Calculation method

- **Acute inhalation toxicity**
  - **LC50 (Rat)**: 2.3 mg/l  
  - **Exposure time**: 4 h  
  - **Test atmosphere**: dust/mist  
  - **Acute toxicity estimate**: 2.3 mg/l  
  - **Test atmosphere**: dust/mist  
  - **Method**: Calculation method

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

### 4-Nonylphenol, branched, ethoxylated:
- **Acute oral toxicity**
  - **LD50 (Rat)**: > 2,000 mg/kg

### Calcium bis(dodecylbenzenesulphonate), branched:
- **Acute oral toxicity**
  - **LD50 (Rat)**: 404 - 1,980 mg/kg  
  - **Remarks**: Based on data from similar materials  
  - **Acute toxicity estimate**: 404 mg/kg  
  - **Method**: Calculation method

- **Acute dermal toxicity**
  - **LD50 (Rat)**: > 2,000 mg/kg  
  - **Remarks**: Based on data from similar materials
Permethrin Formulation

Skin corrosion/irritation
Causes skin irritation.

Components:

Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Xylene:
Species: Rabbit
Result: Skin irritation

Permethrin (ISO):
Species: Rabbit
Result: No skin irritation

4-Nonylphenol, branched, ethoxylated:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Calcium bis(dodecylbenzenesulphonate), branched:
Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation
Remarks: Based on data from similar materials

Serious eye damage/eye irritation
Causes serious eye irritation.

Components:

Solvent naphtha (petroleum), light aromatic:
Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Xylene:
Species: Rabbit
Result: Irritation to eyes, reversing within 21 days

Permethrin (ISO):
Species: Rabbit
Result: No eye irritation

4-Nonylphenol, branched, ethoxylated:
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Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
Remarks: Based on data from similar materials

Calcium bis(dodecylbenzenesulphonate), branched:
Species: Rat
Method: OECD Test Guideline 405
Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

Respiratory or skin sensitisation
Skin sensitisation
May cause an allergic skin reaction.
Respiratory sensitisation
Not classified based on available information.

Components:
Solvent naphtha (petroleum), light aromatic:
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Xylene:
Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

Permethrin (ISO):
Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: positive
Assessment: Probability or evidence of skin sensitisation in humans

4-Nonylphenol, branched, ethoxylated:
Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Calcium bis(dodecylbenzenesulphonate), branched:
Test Type: Maximisation Test
Permethrin Formulation

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

Germ cell mutagenicity
May cause genetic defects.

Components:

Solvent naphtha (petroleum), light aromatic:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Result: positive

Genotoxicity in vivo:
Test Type: Sister chromatid exchange analysis in spermatogonia
Species: Mouse
Application Route: Intraperitoneal injection
Result: positive

Germ cell mutagenicity - Assessment:
Positive result(s) from in vivo heritable germ cell mutagenicity tests in mammals

Xylene:
Genotoxicity in vitro:
Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: Chromosome aberration test in vitro
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Result: negative
Test Type: In vitro sister chromatid exchange assay in mammalian cells
Result: negative

Genotoxicity in vivo:
Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: Skin contact
Result: negative

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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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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

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.

4-Nonylphenol, branched, ethoxylated:

Genotoxicity in vitro:

Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

**Calcium bis(dodecylbenzenesulphonate), branched:**
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

**Carcinogenicity**
May cause cancer.

**Components:**

**Solvent naphtha (petroleum), light aromatic:**
Species: Mouse  
Application Route: Skin contact  
Exposure time: 2 Years  
Result: positive

Carcinogenicity - Assessment: Sufficient evidence of carcinogenicity in animal experiments

**Xylene:**
Species: Rat  
Application Route: Ingestion  
Exposure time: 103 weeks  
Result: negative

**Permethrin (ISO):**
Species: Rat  
Result: negative

Species: Mouse  
Result: negative

**Reproductive toxicity**
Suspected of damaging fertility or the unborn child.
Components:

Solvent naphtha (petroleum), light aromatic:
Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Xylene:
Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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

4-Nonylphenol, branched, ethoxylated:
Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

Calcium bis(dodecylbenzenesulphonate), branched:
Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

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

STOT - single exposure
May cause drowsiness or dizziness.

Components:
Solvent naphtha (petroleum), light aromatic:
Assessment: May cause drowsiness or dizziness.

Xylene:
Assessment: May cause respiratory irritation.

STOT - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Components:
Xylene:
Exposure routes: inhalation (vapour)
Target Organs: Auditory system
Assessment: Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Repeated dose toxicity

Components:
Solvent naphtha (petroleum), light aromatic:
Species: Rat
LOAEL: 500 mg/kg
Application Route: Ingestion
Exposure time: 28 Days

Xylene:
Species: Rat
LOAEL: > 0.2 - 1 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 Weeks
Remarks: Based on data from similar materials

Species: Rat
LOAEL: 150 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Permethrin (ISO):
Species: Rat
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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

4-Nonylphenol, branched, ethoxylated:
Species : Rat
LOAEL : 150 mg/kg
Application Route : Ingestion
Exposure time : 90 Days
Method : OPPTS 870.3100
Remarks : Based on data from similar materials

Aspiration toxicity
May be fatal if swallowed and enters airways.

Components:
Solvent naphtha (petroleum), light aromatic:
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.

Xylene:
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
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:
Solvent naphtha (petroleum), light aromatic:
Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 8.2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Toxicity to daphnia and other aquatic invertebrates:

- **EL50** (Daphnia magna (Water flea)): 4.5 mg/l
  - Exposure time: 48 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants:

- **EL50** (Pseudokirchneriella subcapitata (microalgae)): 3.1 mg/l
  - Exposure time: 96 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201

  - NOELR (Pseudokirchneriella subcapitata (microalgae)): 0.5 mg/l
  - Exposure time: 96 h
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 201

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

- **NOELR**: 2.6 mg/l
  - Exposure time: 21 d
  - Species: Daphnia magna (Water flea)
  - Test substance: Water Accommodated Fraction
  - Method: OECD Test Guideline 211

**Xylene:**

Toxicity to fish:

- **LC50** (Onchorhynchus mykiss (rainbow trout)): 13.5 mg/l
  - Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates:

- **EC50** (Daphnia magna (Water flea)): > 1 - 10 mg/l
  - Exposure time: 24 h
  - Method: OECD Test Guideline 202
  - Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants:

- **EC50** (Skeletonema costatum (marine diatom)): 10 mg/l
  - Exposure time: 72 h

Toxicity to microorganisms:

- **NOEC** : > 100 mg/l
  - Exposure time: 3 h
  - Method: OECD Test Guideline 209
  - Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity):

- **NOEC**: > 0.1 - < 1 mg/l
  - Exposure time: 35 d
  - Species: Danio rerio (zebra fish)
  - Method: OECD Test Guideline 210
  - Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):

- **EL10**: > 1 - 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):**
<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Test Parameter</th>
<th>Specific Parameter</th>
<th>Species/Metho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50</td>
<td>(Lepomis macrochirus (Bluegill sunfish))</td>
<td>0.00079 mg/l</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>EC50</td>
<td>(Daphnia magna (Water flea))</td>
<td>0.0001 mg/l</td>
</tr>
<tr>
<td>aquatic invertebrates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae/aquatic</td>
<td>ErC50</td>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 1.13 mg/l</td>
</tr>
<tr>
<td>plants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EC10</td>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>0.0023 mg/l</td>
</tr>
<tr>
<td>M-Factor (Acute aquatic toxicity)</td>
<td></td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Toxicity to microorganisms</td>
<td>EC50</td>
<td>&gt; 1,000 mg/l</td>
<td>Exposition time: 3 h</td>
</tr>
<tr>
<td>Toxicity to fish (Chronic toxicity)</td>
<td>NOEC</td>
<td>0.00041 mg/l</td>
<td>Exposition time: 35 d</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>NOEC</td>
<td>0.0047 µg/l</td>
<td>Exposition time: 21 d</td>
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<tr>
<td>aquatic invertebrates (Chronic-</td>
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<td></td>
<td>Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211</td>
</tr>
<tr>
<td>ic toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M-Factor (Chronic aquatic</td>
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<td></td>
<td>10,000</td>
</tr>
<tr>
<td>toxicity)</td>
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</tr>
</tbody>
</table>

**4-Nonylphenol, branched, ethoxylated:**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Test Parameter</th>
<th>Specific Parameter</th>
<th>Species/Metho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50</td>
<td>(Oryzias latipes (Orange-red killifish))</td>
<td>8.2 mg/l</td>
</tr>
</tbody>
</table>

**Calcium bis(dodecylbenzenesulphonate), branched:**

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>Test Parameter</th>
<th>Specific Parameter</th>
<th>Species/Metho</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish</td>
<td>LC50</td>
<td>&gt; 1 - 10 mg/l</td>
<td>Exposition time: 96 h Remarks: Based on data from similar materials</td>
</tr>
<tr>
<td>Toxicity to daphnia and other</td>
<td>EC50</td>
<td>(Daphnia magna (Water flea))</td>
<td>62 mg/l</td>
</tr>
<tr>
<td>aquatic invertebrates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae/aquatic</td>
<td>ErC50</td>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>&gt; 10 - 100 mg/l</td>
</tr>
<tr>
<td>plants</td>
<td></td>
<td></td>
<td>NOEC (Pseudokirchneriella subcapitata (green algae))</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Solvent naphtha (petroleum), light aromatic:
Biodegradability: Result: Inherently biodegradable.
Biodegradation: 94 %
Exposure time: 25 d

Xylene:
Biodegradability: Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Permethrin (ISO):
Biodegradability: Result: Not readily biodegradable.
Method: OECD Test Guideline 301F

4-Nonylphenol, branched, ethoxylated:
Biodegradability: Result: Not readily biodegradable.

Calcium bis(dodecylbenzenesulphonate), branched:
Biodegradability: Result: Readily biodegradable.
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Xylene:
Partition coefficient: n-octanol/water: log Pow: 3.16
Remarks: Calculation

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

4-Nonylphenol, branched, ethoxylated:
Bioaccumulation: Species: Fish
Bioconcentration factor (BCF): < 100
Remarks: Based on data from similar materials
Calcium bis(dodecylbenzenesulphonate), branched:
Partition coefficient: n-octanol/water : Remarks: Not applicable

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 : This substance/mixture contains components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

Components:
4-Nonylphenol, branched, ethoxylated:
Assessment : The substance is considered to have endocrine disrupting properties according to REACH Article 57(f) for the environment.

12.7 Other adverse effects
No data available

SECTION 13: Disposal considerations

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

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.
SECTION 14: Transport information

14.1 UN number or ID number

ADN : UN 1993
ADR : UN 1993
RID : UN 1993
IMDG : UN 1993
IATA : UN 1993

14.2 UN proper shipping name

ADN : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, Xylene)
ADR : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, Xylene)
RID : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, Xylene)
IMDG : FLAMMABLE LIQUID, N.O.S.  
(Solvent naphtha (petroleum), light aromatic, Xylene, Permethrin (ISO))
IATA : Flammable liquid, n.o.s.  
(Solvent naphtha (petroleum), light aromatic, Xylene)

14.3 Transport hazard class(es)

ADN : 3
ADR : 3
RID : 3
IMDG : 3
IATA : 3

14.4 Packing group

ADN
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

ADR
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3
Tunnel restriction code : (D/E)

RID
Packing group : III
Classification Code : F1
Hazard Identification Number : 30
Labels : 3

IMDG
Packing group : III
Labels : 3
EmS Code : F-E, S-E

IATA (Cargo)
Packing instruction (cargo aircraft) : 366
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

IATA (Passenger)
Packing instruction (passenger aircraft) : 355
Packing instruction (LQ) : Y344
Packing group : III
Labels : Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

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

14.7 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, preparations and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3
4-Nonylphenol, branched, ethoxylated (Number on list 46b, 46a.)
Solvent naphtha (petroleum), light aromatic (Number on list 29, 28)
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### REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
4-Nonylphenol, branched, ethoxylated

### Regulation (EC) No 1005/2009 on substances that deplete the ozone layer
Not applicable

### Regulation (EU) 2019/1021 on persistent organic pollutants (recast)
Not applicable

### Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals
Permethrin (ISO)
4-Nonylphenol, branched, ethoxylated

### REACH - List of substances subject to authorisation (Annex XIV)
4-Nonylphenol, branched, ethoxylated


<table>
<thead>
<tr>
<th>P5c</th>
<th>ENVIRONMENTAL LIQUIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity 1</td>
<td>5,000 t</td>
</tr>
<tr>
<td>Quantity 2</td>
<td>50,000 t</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>E1</th>
<th>Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>100 t</td>
<td>200 t</td>
</tr>
</tbody>
</table>

| 34 | 2,500 t | 25,000 t |

#### Other regulations:
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national 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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

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Date of first issue: 02.08.2016

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
H226 : Flammable liquid and vapour.
H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H312 : Harmful in contact with skin.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H322 : Harmful if inhaled.
H332 : May cause respiratory irritation.
H335 : May cause drowsiness or dizziness.
H340 : May cause genetic defects.
H350 : May cause cancer.
H361 : Suspected of damaging fertility or the unborn child.
H373 : May cause damage to organs through prolonged or repeated exposure.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.
H411 : Toxic to aquatic life with long lasting effects.
H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
Aquatic Acute : Short-term (acute) aquatic hazard
Aquatic Chronic : Long-term (chronic) aquatic hazard
Asp. Tox. : Aspiration hazard
Carc. : Carcinogenicity
Eye Dam. : Serious eye damage
Eye Irrit. : Eye irritation
Flam. Liq. : Flammable liquids
Muta. : Germ cell mutagenicity
Repr. : Reproductive toxicity
Skin Irrit. : Skin irritation
Skin Sens. : Skin sensitisation
STOT RE : Specific target organ toxicity - repeated exposure
STOT SE : Specific target organ toxicity - single exposure
IE OEL : Ireland. List of Chemical Agents and Occupational Exposure Limit Values - Schedule 1
2000/39/EC / TWA : Limit Value - eight hours
2000/39/EC / STEL : Short term exposure limit
IE OEL / OELV - 8 hrs (TWA) : Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min (STEL) : Occupational exposure limit value (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous
Further information


Classification of the mixture:

<table>
<thead>
<tr>
<th>Property</th>
<th>Classification</th>
<th>Calculation procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flam. Liq. 3</td>
<td>H226</td>
<td>Based on product data or assessment</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>H315</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Irrit. 2</td>
<td>H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Skin Sens. 1</td>
<td>H317</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Muta. 1B</td>
<td>H340</td>
<td>Calculation method</td>
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<td>Carc. 1B</td>
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<td>Repr. 2</td>
<td>H361</td>
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<td>STOT SE 3</td>
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<tr>
<td>STOT RE 2</td>
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<tr>
<td>Asp. Tox. 1</td>
<td>H304</td>
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</tr>
<tr>
<td>Aquatic Acute 1</td>
<td>H400</td>
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<tr>
<td>Aquatic Chronic 1</td>
<td>H410</td>
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</tbody>
</table>
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Date of first issue: 02.08.2016

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

IE / EN