SECTION 1. IDENTIFICATION

Product name: Dichlofenthion Formulation
Other means of identification: No data available

Manufacturer or supplier's details
Company name of supplier: Merck & Co., Inc
Address: 126 E. Lincoln Avenue, Rahway, New Jersey U.S.A. 07065
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@merck.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product
Restrictions on use: Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations
Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
Skin corrosion: Category 1B
Serious eye damage: Category 1
Skin sensitization: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity (Oral): Category 1A
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 1 (Nervous system)
Specific target organ toxicity - single exposure: Category 3
Specific target organ toxicity - repeated exposure: Category 1 (Nervous system)
Specific target organ toxicity - repeated exposure: Category 2 (Central nervous system, Kidney, Liver, Skin, Respiratory Tract, Auditory system)
Aspiration hazard: Category 1

GHS label elements
Hazard pictograms : 

Signal Word : Danger 

Hazard Statements : 
H226 Flammable liquid and vapor. 
H302 Harmful if swallowed. 
H304 May be fatal if swallowed and enters airways. 
H314 Causes severe skin burns and eye damage. 
H317 May cause an allergic skin reaction. 
H335 May cause respiratory irritation. 
H341 Suspected of causing genetic defects. 
H350 May cause cancer if swallowed. 
H361d Suspected of damaging the unborn child. 
H370 Causes damage to organs (Nervous system). 
H372 Causes damage to organs (Nervous system) through prolonged or repeated exposure. 
H373 May cause damage to organs (Central nervous system, Kidney, Liver, Skin, Respiratory Tract, Auditory system) through prolonged or repeated exposure. 

Precautionary Statements : 
**Prevention:** 
P201 Obtain special instructions before use. 
P202 Do not handle until all safety precautions have been read and understood. 
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 
P260 Do not breathe vapors. 
P264 Wash skin thoroughly after handling. 
P270 Do not eat, drink or smoke when using this product. 
P271 Use only outdoors or in a well-ventilated area. 
P272 Contaminated work clothing should not be allowed out of the workplace. 
P280 Wear protective gloves, protective clothing, eye protection and face protection. 

**Response:** 
P301 + P330 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER. 
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER. 
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER. 
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER. 
P308 + P311 IF exposed or concerned: Call a doctor. 
P333 + P313 If skin irritation or rash occurs: Get medical attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage:  
P405 Store locked up.

Disposal:  
P501 Dispose of contents and container to an approved waste disposal plant.

Other hazards  
Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
<th>Chemical name</th>
<th>Common Name/Synonym</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tar, wood</td>
<td>No data available</td>
<td>91722-33-7</td>
<td>&gt;= 10 - &lt; 30 *</td>
<td></td>
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<tr>
<td></td>
<td>Rosin</td>
<td>No data available</td>
<td>8050-09-7</td>
<td>&gt;= 10 - &lt; 30 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tar, coal</td>
<td>No data available</td>
<td>8007-45-2</td>
<td>&gt;= 10 - &lt; 30 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ethylbenzene</td>
<td>Benzene, ethyl-</td>
<td>100-41-4</td>
<td>&gt;= 5 - &lt; 10 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Xylene</td>
<td>Benzene, dimethyl-</td>
<td>1330-20-7</td>
<td>&gt;= 5 - &lt; 10 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dichlofenthion (ISO)</td>
<td>No data available</td>
<td>97-17-6</td>
<td>&gt;= 1 - &lt; 5 *</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sodium hydroxide</td>
<td>Caustic soda</td>
<td>1310-73-2</td>
<td>&gt;= 2 - &lt; 5 *</td>
<td></td>
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<tr>
<td></td>
<td>Phenol</td>
<td>Monohydroxybenzene</td>
<td>108-95-2</td>
<td>&gt;= 1 - &lt; 3 *</td>
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<tr>
<td></td>
<td>m-Cresol</td>
<td>Phenol, 3-methyl-</td>
<td>108-39-4</td>
<td>&gt;= 1 - &lt; 5 *</td>
<td></td>
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<tr>
<td></td>
<td>p-Cresol</td>
<td>Phenol, 4-methyl-</td>
<td>106-44-5</td>
<td>&gt;= 1 - &lt; 5 *</td>
<td></td>
</tr>
</tbody>
</table>

* Actual concentration or concentration range is withheld as a trade secret

SECTION 4. 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.

If inhaled  
If inhaled, remove to fresh air.  
If not breathing, give artificial respiration.  
If breathing is difficult, give oxygen.  
Get medical attention immediately.

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 immediately. 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 immediately.

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

Most important symptoms and effects, both acute and delayed: Causes digestive tract burns. Harmful if swallowed. May be fatal if swallowed and enters airways. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing genetic defects. May cause cancer if swallowed. Suspected of damaging the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure. Causes severe burns.

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).

Notes to physician: Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media: High volume water jet

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

Hazardous combustion products: Carbon oxides Metal oxides Nitrogen oxides (NOx)

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.
**SAFETY DATA SHEET**

**Dichlofenthion 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>
</tr>
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<tbody>
<tr>
<td>8.0</td>
<td>04/04/2023</td>
<td>1552609-00014</td>
<td>10/01/2022</td>
<td>04/14/2017</td>
</tr>
</tbody>
</table>

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

**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.

**Methods and materials for containment and cleaning up**

- Non-sparking tools should be used.
- Soak up with inert absorbent material.
- Suppress (knock down) gases/vapors/mists with a water spray jet.
- For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
- Clean up remaining materials from spill with suitable absorbent.

**SECTION 7. HANDLING AND STORAGE**

**Technical measures**

See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**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 vapors.
- 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.
- Already sensitized individuals, and those susceptible
to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitizers.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.

**Conditions for safe storage**:
Keep in properly labeled 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.

**Materials to avoid**:
Do not store with the following product types:
- Strong oxidizing agents
- Self-reactive substances and mixtures
- 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
- Very acutely toxic substances and mixtures

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>TWA (Inhalable particulate matter)</td>
<td>0.001 mg/m³ (total Resin acids)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Tar, coal</td>
<td>8007-45-2</td>
<td>TWA</td>
<td>0.15 mg/m³</td>
<td>CA ON OEL</td>
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<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>STEL</td>
<td>125 ppm 543 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 434 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>20 ppm</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>20 ppm</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 434 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>TWA</td>
<td>100 ppm 434 mg/m³</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</td>
<td>150 ppm 651 mg/m³</td>
<td>CA AB OEL</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm 434 mg/m³</td>
<td>CA QC OEL</td>
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</table>
SAFETY DATA SHEET

Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>Phenol</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>250 mg/g Creatinine</td>
<td>ACGIH BEI</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>Methylhippu</td>
<td>Urine</td>
<td>End of day</td>
<td>1.5 g/g</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Further information: Skin Wipe limit 200 µg/100 cm² Internal

Sodium hydroxide 1310-73-2
- TWA: 2 mg/m³ 2 mg/m³ CA AB OEL
- TWA: 2 mg/m³ CA BC OEL
- STEL: 2 mg/m³ CA BC OEL
- TWA: 2 mg/m³ ACGIH

Further information: Inhalation

Phenol 108-95-2
- TWA: 5 ppm 19 mg/m³ CA AB OEL
- TWA: 5 ppm CA BC OEL
- TWA: 5 ppm CA QC OEL
- TWAEV: 19 mg/m³ CA QC OEL
- TWAEV: 5 ppm ACGIH

m-Cresol 108-39-4
- TWA: 5 ppm 22 mg/m³ CA AB OEL
- TWAEV: 20 mg/m³ CA QC OEL
- TWA: 10 mg/m³ CA BC OEL
- TWA: 20 mg/m³ ACGIH

p-Cresol 106-44-5
- TWA: 5 ppm 22 mg/m³ CA AB OEL
- TWAEV: 20 mg/m³ CA QC OEL
- TWA: 10 mg/m³ CA BC OEL
- TWA: 20 mg/m³ ACGIH

Biological occupational exposure limits
SAFETY DATA SHEET

Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS Number</th>
<th>Analysis</th>
<th>Concentration Unit</th>
<th>BEI</th>
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</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Sum of mandelic acid and phenyl glyoxylic acid</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
</tr>
</tbody>
</table>

**Engineering measures**

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless 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.

Use explosion-proof electrical, ventilating and lighting equipment.

**Personal protective equipment**

**Respiratory protection**

If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type: Combined particulates and organic vapor type

**Hand protection**

Material: Chemical-resistant gloves

Remarks: Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

**Eye 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 aerosols.

**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.

**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. 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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**: viscous liquid

**Color**: dark, brown

**Odor**: strong

**Odor Threshold**: No data available

**pH**: Not applicable

**Melting point/freezing point**: No data available

**Initial boiling point and boiling range**: No data available

**Flash point**: 30 °C

**Evaporation rate**: No data available

**Flammability (solid, gas)**: Not applicable

**Flammability (liquids)**: Not applicable

**Upper explosion limit / Upper flammability limit**: No data available

**Lower explosion limit / Lower flammability limit**: No data available

**Vapor pressure**: No data available

**Relative vapor density**: No data available

**Relative density**: No data available

**Density**: 1,009 - 1,051 g/cm³ (20 °C)

**Solubility(ies)**

**Water solubility**: No data available

**Partition coefficient: n-octanol/water**: Not applicable
**SAFETY DATA SHEET**

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</tr>
</tbody>
</table>

- **Autoignition temperature**: No data available
- ** Decomposition temperature**: No data available
- **Viscosity**: No data available
  - **Viscosity, kinematic**: No data available
- **Explosive properties**: Not explosive
- **Oxidizing properties**: The substance or mixture is not classified as oxidizing.
- **Particle size**: Not applicable

**SECTION 10. STABILITY AND REACTIVITY**

- **Reactivity**: Not classified as a reactivity hazard.
- **Chemical stability**: Stable under normal conditions.
- **Possibility of hazardous reactions**: Flammable liquid and vapor. Vapors may form explosive mixture with air. Can react with strong oxidizing agents.
- **Conditions to avoid**: Heat, flames and sparks.
- **Incompatible materials**: Oxidizing agents
- **Hazardous decomposition products**: No hazardous decomposition products are known.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

- **Inhalation**
- **Skin contact**
- **Ingestion**
- **Eye contact**

**Acute toxicity**

Harmful if swallowed.

**Product**

- **Acute oral toxicity**: Acute toxicity estimate: 1,450 mg/kg
  - Method: Calculation method
- **Acute inhalation toxicity**: Acute toxicity estimate: > 20 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapor
  - Method: Calculation method
- **Acute dermal toxicity**: Acute toxicity estimate: > 2,000 mg/kg
  - Method: Calculation method

**Components**

**Tar, wood**

- **Acute oral toxicity**: LD50 (Rat): > 2,000 mg/kg
SAFETY DATA SHEET

Dichlofenthion Formulation

Method: OECD Test Guideline 423
Assessment: The substance or mixture has no acute oral toxicity

Rosin:
- Acute oral toxicity: LD50 (Rat): 2,800 mg/kg
- Acute dermal toxicity: LD50 (Rat): > 2,000 mg/kg
  Method: OECD Test Guideline 402
  Assessment: The substance or mixture has no acute dermal toxicity

Tar, coal:
- Acute oral toxicity: LD50 (Rat): 1,700 mg/kg
- Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

Ethylbenzene:
- Acute oral toxicity: LD50 (Rat): 3,500 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 17.8 mg/l
  Exposure time: 4 h
  Test atmosphere: vapor
- Acute dermal toxicity: LD50 (Rabbit): > 5,000 mg/kg

Xylene:
- Acute oral toxicity: LD50 (Rat): 3,523 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 27.571 mg/l
  Exposure time: 4 h
  Test atmosphere: vapor
- Acute dermal toxicity: LD50 (Rabbit): > 4,200 mg/kg

Dichlofenthion (ISO):
- Acute oral toxicity: LD50 (Rat): 172 mg/kg
  LD50 (Rat): 270 mg/kg
- Acute inhalation toxicity: LC50 (Rat): 1.75 mg/l
- Acute dermal toxicity: LD50 (Rat): 355 mg/kg
  LD50 (Rabbit): 6,000 mg/kg

Sodium hydroxide:
- Acute inhalation toxicity: Assessment: Corrosive to the respiratory tract.
Phenol:
  Acute oral toxicity: LD50 (Rat): 650 mg/kg
      Method: OECD Test Guideline 401
  Acute toxicity estimate (Humans): 140 - 290 mg/kg
      Method: Expert judgment
  Acute inhalation toxicity: LO (Rat): 0.9 mg/l
      Exposure time: 8 h
      Test atmosphere: dust/mist
      Assessment: Corrosive to the respiratory tract.
  Acute toxicity estimate (Humans): > 0.9 mg/l
      Exposure time: 4 h
      Test atmosphere: dust/mist
      Method: Expert judgment
  Acute dermal toxicity: LD50 (Rabbit): 660 mg/kg
      Method: OECD Test Guideline 402
  Acute toxicity estimate (Humans): 300 mg/kg
      Method: Expert judgment

m-Cresol:
  Acute oral toxicity: LD50 (Rat): 121 mg/kg
      Remarks: Based on data from similar materials
  Acute inhalation toxicity: Assessment: Corrosive to the respiratory tract.
  Acute dermal toxicity: LD50 (Rabbit): 301 mg/kg
      Remarks: Based on data from similar materials

p-Cresol:
  Acute oral toxicity: LD50 (Rat): 172 - 250 mg/kg
  Acute inhalation toxicity: Assessment: Corrosive to the respiratory tract.
  Acute dermal toxicity: LD50 (Rabbit): 213 - 426 mg/kg

Skin corrosion/irritation
Causes severe burns.

Components:

Tar, wood:
  Species: reconstructed human epidermis (RhE)
  Method: OECD Test Guideline 439
  Species: reconstructed human epidermis (RhE)
  Method: OECD Test Guideline 431
  Result: Skin irritation
Rosin:
| Species   | Rabbit       |
| Method    | OECD Test Guideline 404 |
| Result    | No skin irritation |

Tar, coal:
| Species   | Rabbit       |
| Result    | Mild skin irritation |

Xylene:
| Species   | Rabbit       |
| Result    | Skin irritation |

Dichlofenthion (ISO):
| Result    | Mild skin irritation |
| Remarks   | Based on data from similar materials |

Sodium hydroxide:
| Result    | Corrosive after 3 minutes or less of exposure |

Phenol:
| Species   | Rabbit       |
| Result    | Corrosive after 3 minutes to 1 hour of exposure |

m-Cresol:
| Species   | Rabbit       |
| Result    | Corrosive after 3 minutes to 1 hour of exposure |

p-Cresol:
| Species   | Rabbit       |
| Result    | Corrosive after 3 minutes to 1 hour of exposure |

Serious eye damage/eye irritation
Causes serious eye damage.

Components:

Tar, wood:
| Result    | Irritation to eyes, reversing within 7 days |

Rosin:
| Species   | Rabbit       |
| Result    | No eye irritation |
| Method    | OECD Test Guideline 405 |

Tar, coal:
| Species   | Human       |
| Result    | Irreversible effects on the eye |
**Xylene:**
- **Species:** Rabbit
- **Result:** Irritation to eyes, reversing within 21 days

**Sodium hydroxide:**
- **Result:** Irreversible effects on the eye
- **Remarks:** Based on skin corrosivity.

**Phenol:**
- **Species:** Rabbit
- **Result:** Irreversible effects on the eye
- **Method:** OECD Test Guideline 405

**m-Cresol:**
- **Species:** Rabbit
- **Result:** Irreversible effects on the eye

**p-Cresol:**
- **Species:** Rabbit
- **Result:** Irreversible effects on the eye

**Respiratory or skin sensitization**

**Skin sensitization**
May cause an allergic skin reaction.

**Respiratory sensitization**
Not classified based on available information.

**Components:**

**Tar, wood:**
- **Test Type:** Local lymph node assay (LLNA)
- **Routes of exposure:** Skin contact
- **Species:** Mouse
- **Method:** OECD Test Guideline 429
- **Result:** positive
- **Assessment:** Probability or evidence of low to moderate skin sensitization rate in humans

**Rosin:**
- **Test Type:** Local lymph node assay (LLNA)
- **Routes of exposure:** Skin contact
- **Species:** Mouse
- **Method:** OECD Test Guideline 429
- **Result:** negative
### Tar, coal:
- **Test Type**: Local lymph node assay (LLNA)
- **Routes of exposure**: Skin contact
- **Species**: Mouse
- **Method**: OECD Test Guideline 429
- **Result**: positive
- **Remarks**: Based on data from similar materials

**Assessment**: Probability or evidence of skin sensitization in humans

### Xylene:
- **Test Type**: Local lymph node assay (LLNA)
- **Routes of exposure**: Skin contact
- **Species**: Mouse
- **Result**: negative

### Dichlofenthion (ISO):
- **Routes of exposure**: Dermal
- **Assessment**: Does not cause skin sensitization.
- **Result**: Weak sensitizer
- **Remarks**: Based on data from similar materials

### Sodium hydroxide:
- **Test Type**: Human repeat insult patch test (HRIPT)
- **Routes of exposure**: Skin contact
- **Result**: negative

### Phenol:
- **Test Type**: Buehler Test
- **Routes of exposure**: Skin contact
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative

### p-Cresol:
- **Test Type**: Draize Test
- **Routes of exposure**: Skin contact
- **Species**: Guinea pig
- **Result**: negative

### Germ cell mutagenicity
Suspected of causing genetic defects.

### Components:

#### Tar, wood:
- **Genotoxicity in vitro**: Test Type: Bacterial reverse mutation assay (AMES)
  - Method: OECD Test Guideline 471
  - Result: negative
Rosin:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Method: OECD Test Guideline 471
  Result: negative

  Test Type: In vitro mammalian cell gene mutation test
  Method: OECD Test Guideline 476
  Result: negative

  Test Type: Chromosome aberration test in vitro
  Method: OECD Test Guideline 473
  Result: negative

Tar, coal:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Method: OECD Test Guideline 471
  Result: positive

  Remarks: Based on data from similar materials

Germ cell mutagenicity - Assessment:
- Positive result(s) from in vivo non-mammalian somatic cell mutagenicity tests, supported by positive results from in vitro mutagenicity assays.
  Remarks: Based on national or regional regulation.

Ethylbenzene:

Genotoxicity in vitro:
- Test Type: Bacterial reverse mutation assay (AMES)
  Result: negative

  Test Type: In vitro mammalian cell gene mutation test
  Method: OECD Test Guideline 476
  Result: negative

  Test Type: Chromosome aberration test in vitro
  Result: negative

Genotoxicity in vivo:
- Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
  Species: Mouse
  Application Route: Inhalation
  Method: OECD Test Guideline 486
  Result: negative

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 mamm-
### Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Genotoxicity in vivo</th>
<th>Test Type: Rodent dominant lethal test (germ cell) (in vivo)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Species: Mouse</td>
</tr>
<tr>
<td></td>
<td>Application Route: Skin contact</td>
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<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Chromosome aberration test in vitro</th>
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<tr>
<td></td>
<td>Method: OECD Test Guideline 473</td>
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<table>
<thead>
<tr>
<th>Genotoxicity in vivo</th>
<th>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
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<tbody>
<tr>
<td></td>
<td>Species: Mouse</td>
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<tr>
<td></td>
<td>Application Route: Intraperitoneal injection</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 474</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Annex VI From 1272/2008</td>
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</table>

| Germ cell mutagenicity - Assessment | Positive result(s) from in vivo mammalian somatic cell mutagenicity tests. |

### Phenol:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Chromosome aberration test in vitro</th>
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<tbody>
<tr>
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<td></td>
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</table>

<table>
<thead>
<tr>
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<th>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Species: Mouse</td>
</tr>
<tr>
<td></td>
<td>Application Route: Intraperitoneal injection</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 474</td>
</tr>
<tr>
<td></td>
<td>Result: positive</td>
</tr>
<tr>
<td></td>
<td>Remarks: Annex VI From 1272/2008</td>
</tr>
</tbody>
</table>

### m-Cresol:

<table>
<thead>
<tr>
<th>Genotoxicity in vitro</th>
<th>Test Type: Chromosome aberration test in vitro</th>
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<tbody>
<tr>
<td></td>
<td>Method: OECD Test Guideline 473</td>
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<td></td>
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<table>
<thead>
<tr>
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<th>Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</th>
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<tr>
<td></td>
<td>Species: Mouse</td>
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<tr>
<td></td>
<td>Application Route: Intraperitoneal injection</td>
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<tr>
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<td>Method: OECD Test Guideline 474</td>
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### p-Cresol:

<table>
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<tr>
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<td>Method: OECD Test Guideline 473</td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>Genotoxicity in vivo</th>
<th>Test Type: In vitro mammalian cell gene mutation test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Method: OECD Test Guideline 476</td>
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<tr>
<td></td>
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<table>
<thead>
<tr>
<th>Genotoxicity in vivo</th>
<th>Test Type: Rodent dominant lethal test (germ cell) (in vivo)</th>
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<tbody>
<tr>
<td></td>
<td>Species: Mouse</td>
</tr>
<tr>
<td></td>
<td>Application Route: Ingestion</td>
</tr>
<tr>
<td></td>
<td>Method: OECD Test Guideline 478</td>
</tr>
</tbody>
</table>
Carcinogenicity
May cause cancer if swallowed.

Components:

**Tar, coal:**
- **Species**: Mouse
- **Application Route**: Ingestion
- **Exposure time**: 2 Years
- **Result**: positive

**Carcinogenicity - Assessment**: Positive evidence from human epidemiological studies (oral)
**Remarks**: Based on national or regional regulation.

**Ethylbenzene:**
- **Species**: Rat
- **Application Route**: inhalation (vapor)
- **Exposure time**: 104 weeks
- **Result**: positive
- **Remarks**: The mechanism or mode of action may not be relevant in humans.

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

**Phenol:**
- **Species**: Mouse
- **Application Route**: Ingestion
- **Exposure time**: 103 weeks
- **Method**: OECD Test Guideline 451
- **Result**: negative

**m-Cresol:**
- **Species**: Mouse, males
- **Application Route**: Ingestion
- **Exposure time**: 105 weeks
- **Result**: equivocal
- **Remarks**: Based on data from similar materials

**Species**: Mouse, female
- **Application Route**: Ingestion
- **Exposure time**: 106 - 107 weeks
- **Result**: positive
- **Remarks**: Based on data from similar materials

**Carcinogenicity - Assessment**: Weight of evidence does not support classification as a carcinogen
**Reproductive toxicity**

Suspected of damaging the unborn child.

**Components:**

**Rosin:**

<table>
<thead>
<tr>
<th>Effects on fertility</th>
<th>Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>Application Route</td>
<td>Ingestion</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
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</table>

**Ethylbenzene:**

<table>
<thead>
<tr>
<th>Effects on fertility</th>
<th>Test Type: Two-generation reproduction toxicity study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapor)</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 416</td>
</tr>
<tr>
<td>Result</td>
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</table>

**Xylene:**

<table>
<thead>
<tr>
<th>Effects on fertility</th>
<th>Test Type: One-generation reproduction toxicity study</th>
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</thead>
<tbody>
<tr>
<td>Species</td>
<td>Rat</td>
</tr>
<tr>
<td>Application Route</td>
<td>inhalation (vapor)</td>
</tr>
<tr>
<td>Result</td>
<td>negative</td>
</tr>
</tbody>
</table>

**Dichlofenthion (ISO):**
Effects on fetal development : Test Type: Development  
Species: Mouse  
Application Route: Intraperitoneal  
Developmental Toxicity: LOAEL: 80 mg/kg body weight  
Result: Reduced fetal weight., Embryotoxic effects.  
Remarks: Based on data from similar materials

Test Type: Development  
Species: Rat  
Application Route: Intraperitoneal  
Developmental Toxicity: LOAEL: 10 mg/kg body weight  
Result: Reduced fetal weight., Embryotoxic effects., No teratogenic effects.  
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Suspected of damaging the unborn child.

Phenol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 416  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

m-Cresol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Prenatal development toxicity study (teratogenicity)  
Species: Rat  
Application Route: Ingestion  
Result: negative

p-Cresol:
Effects on fertility : Test Type: Two-generation reproduction toxicity study  
Species: Rat  
Application Route: Ingestion  
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative
STOT-single exposure
May cause respiratory irritation.
Causes damage to organs (Nervous system).

Components:

Tar, coal:
- Routes of exposure: Ingestion
- Target Organs: Nervous system
- Assessment: Shown to produce significant health effects in animals at concentrations of 300 mg/kg bw or less.

Xylene:
- Assessment: May cause respiratory irritation.

STOT-repeated exposure
Causes damage to organs (Nervous system) through prolonged or repeated exposure.
May cause damage to organs (Central nervous system, Kidney, Liver, Skin, Respiratory Tract, Auditory system) through prolonged or repeated exposure.

Components:

Tar, coal:
- Target Organs: Respiratory Tract
- Assessment: Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

- Routes of exposure: inhalation (dust/mist/fume)
- Target Organs: Respiratory Tract
- Assessment: Shown to produce significant health effects in animals at concentrations of >0.02 to 0.2 mg/l/6h/d.

Ethylbenzene:
- Routes of exposure: inhalation (vapor)
- Target Organs: Auditory system
- Assessment: Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Xylene:
- Routes of exposure: inhalation (vapor)
- Target Organs: Auditory system
- Assessment: Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.

Dichlofenthion (ISO):
- Target Organs: Nervous system
- Assessment: Causes damage to organs through prolonged or repeated exposure.
- Remarks: Based on human experience.
Phenol:
- Target Organs: Central nervous system, Kidney, Liver, Skin
- Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Rosin:
- Species: Rat, male
- NOAEL: 335 mg/kg
- Application Route: Ingestion
- Exposure time: 90 Days
- Method: OECD Test Guideline 408

Ethylbenzene:
- Species: Rat
- LOAEL: 0.868 mg/l
- Application Route: Inhalation (vapor)
- Exposure time: 13 Weeks

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

Dichlofenthion (ISO):
- Species: Rat
- NOAEL: 0.75 mg/kg
- Application Route: Oral
- Exposure time: 90 d
Phenol:
- **Species**: Rat
- **LOAEL**: 300 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 90 Days
- **Method**: OECD Test Guideline 408

Species:
- **Species**: Rat
- **NOAEL**: >= 0.1 mg/l
- **Application Route**: inhalation (vapor)
- **Exposure time**: 74 Days

Species:
- **Species**: Rabbit
- **LOAEL**: 260 mg/kg
- **Application Route**: Skin contact
- **Exposure time**: 18 Days

m-Cresol:
- **Species**: Rat
- **NOAEL**: 150 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 13 Weeks
- **Method**: OECD Test Guideline 408

p-Cresol:
- **Species**: Rat
- **NOAEL**: 50 mg/kg
- **LOAEL**: 175 mg/kg
- **Application Route**: Ingestion
- **Exposure time**: 90 Days
- **Method**: OECD Test Guideline 408

**Aspiration toxicity**
May be fatal if swallowed and enters airways.

**Product:**
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.

**Components:**

**Ethylbenzene:**
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.
Experience with human exposure

Components:

Dichlofenthion (ISO):

Skin contact: Symptoms: irritating, central nervous system effects, sweating
Remarks: Can be absorbed through skin.
        May cause sensitization by skin contact.
Eye contact: Symptoms: constriction of pupils, central nervous system effects
Ingestion: Symptoms: Nausea, Diarrhea, Vomiting, sweating, Lachrymation, constriction of pupils, Central nervous system depression, Gastrointestinal disturbance, bronchospasm, central nervous system effects, Edema

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Tar, wood:

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 28 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus (green algae)): 17 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Rosin:

Toxicity to fish: LL50 (Danio rerio (zebra fish)): > 1 - 10 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 911 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants: EL50 (Raphidocelis subcapitata (freshwater green alga)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Raphidocelis subcapitata (freshwater green alga)): 1,000 mg/l
### Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time:</td>
<td>72 h</td>
</tr>
<tr>
<td>Test substance:</td>
<td>Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
</tr>
<tr>
<td><strong>Toxicity to microorganisms</strong></td>
<td>EC50 (activated sludge): &gt; 10,000 mg/l</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>3 h</td>
</tr>
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<td>Method:</td>
<td>OECD Test Guideline 209</td>
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<tr>
<td><strong>Tar, coal:</strong></td>
<td>LL50 (Danio rerio (zebra fish)): &gt; 250 mg/l</td>
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<tr>
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<td>Water Accommodated Fraction</td>
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<td>OECD Test Guideline 203</td>
</tr>
<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
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<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
<td>EL50 (Daphnia magna (Water flea)): 2.8 mg/l</td>
</tr>
<tr>
<td>Test substance:</td>
<td>Water Accommodated Fraction</td>
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<td>OECD Test Guideline 202</td>
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<tr>
<td><strong>Toxicity to algae/aquatic plants</strong></td>
<td>EL50 (Desmodesmus subspicatus (green algae)): 36 mg/l</td>
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<tr>
<td><strong>Ethylbenzene:</strong></td>
<td>NOELR (Desmodesmus subspicatus (green algae)): 5 mg/l</td>
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<thead>
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<tr>
<td>Method:</td>
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</tr>
<tr>
<td><strong>Toxicity to fish</strong></td>
<td>LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 203</td>
</tr>
<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates</strong></td>
<td>EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l</td>
</tr>
<tr>
<td>Test substance:</td>
<td>Water Accommodated Fraction</td>
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<tr>
<td>Method:</td>
<td>OECD Test Guideline 202</td>
</tr>
<tr>
<td><strong>Toxicity to algae/aquatic plants</strong></td>
<td>EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6 mg/l</td>
</tr>
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<td>Exposure time:</td>
<td>96 h</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
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<tr>
<td><strong>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</strong></td>
<td>NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>7 d</td>
</tr>
<tr>
<td>Method:</td>
<td>OECD Test Guideline 201</td>
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<tr>
<td>Remarks:</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td><strong>Toxicity to microorganisms</strong></td>
<td>EC50 (Nitrosomonas sp.): 96 mg/l</td>
</tr>
<tr>
<td>Exposure time:</td>
<td>24 h</td>
</tr>
</tbody>
</table>
Xylene:

| Toxicity to fish | LC50 (Oncorhynchus 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 fish (Chronic toxicity) | NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l Exposure time: 35 d Method: OECD Test Guideline 210 Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | EL10 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 21 d Method: OECD Test Guideline 211 Remarks: Based on data from similar materials |
| Toxicity to microorganisms | NOEC: > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials |

Dichlofenthion (ISO):

| Toxicity to fish | LC50 (No species specified): 0.64 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.23 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| Toxicity to algae/aquatic plants | EC50 (Daphnia magna (Water flea)): 0.0011 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |

Phenol:

<p>| Toxicity to fish | LC50 (Pimephales promelas (fathead minnow)): 24.9 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 (Ceriodaphnia dubia (water flea)): 3.1 mg/l Exposure time: 48 h |
| Toxicity to algae/aquatic plants | EC50 (Selenastrum capricornutum (green algae)): 61.1 mg/l Exposure time: 96 h |
| Toxicity to fish (Chronic toxicity) | NOEC: 0.077 mg/l Exposure time: 60 d |</p>
<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)</th>
<th>NOEC (Daphnia magna (Water flea)): 10 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to microorganisms</td>
<td>IC50 (Nitrosonomas sp.): 21 mg/l</td>
</tr>
</tbody>
</table>

**m-Cresol:**

| Toxicity to fish | LC50 (Onchorhynchus mykiss (rainbow trout)): 8.6 mg/l |
| Toxicity to daphnia and other aquatic invertebrates | EC50 (Daphnia pulex (Water flea)): > 99.5 mg/l |
| Toxicity to fish (Chronic toxicity) | NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Daphnia magna (Water flea)): 1 mg/l |

**p-Cresol:**

| Toxicity to fish | LC50 (Onchorhynchus mykiss (rainbow trout)): 7.4 mg/l |
| Toxicity to daphnia and other aquatic invertebrates | EC50 (Daphnia magna (Water flea)): 7.7 mg/l |
| Toxicity to algae/aquatic plants | EC50 (Desmodesmus subspicatus (green algae)): 7.8 mg/l |
| Toxicity to algae/aquatic plants | EC10 (Desmodesmus subspicatus (green algae)): 2.3 mg/l |
| Toxicity to fish (Chronic toxicity) | NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Daphnia magna (Water flea)): 1 mg/l |
| Toxicity to microorganisms | IC50 (Nitrosonomas sp.): 260 mg/l |

**Persistence and degradability**

**Components:**

**Tar, wood:**

| Biodegradability | Result: Not readily biodegradable. |
| Biodegradation | 47 % |
| Exposure time | 28 d |
| Method | OECD Test Guideline 301B |
Rosin:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 71 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Ethylbenzene:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 70 - 80 %
Exposure time: 28 d

Xylene:

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

Phenol:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 62 %
Exposure time: 10 d
Method: OECD Test Guideline 301C

m-Cresol:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

p-Cresol:

Biodegradability: Result: Readily biodegradable.
Biodegradation: 100 %
Exposure time: 8 d

Bioaccumulative potential

Components:

Tar, wood:

Partition coefficient: n-octanol/water: log Pow: 0.2 - 2.02

Rosin:

Partition coefficient: n-octanol/water: log Pow: > 3 - 6.2
Method: OECD Test Guideline 117

Tar, coal:

Partition coefficient: n-octanol/water: Remarks: No data available
Ethylbenzene:
Partition coefficient: n-octanol/water : log Pow: 3.6

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

Dichlofenthion (ISO):
Partition coefficient: n-octanol/water : log Pow: 5.14

Phenol:
Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 17.5
Method: OECD Test Guideline 305
Partition coefficient: n-octanol/water : log Pow: 1.47

m-Cresol:
Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 17 - 20
Partition coefficient: n-octanol/water : log Pow: 1.96
Remarks: Based on data from similar materials

p-Cresol:
Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 17 - 20
Partition coefficient: n-octanol/water : log Pow: 1.94

Mobility in soil
No data available

Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
Do not dispose of waste into sewer.

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

**International Regulations**

<table>
<thead>
<tr>
<th>UN/IDG</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Subsidiary risk</th>
<th>Packing group</th>
<th>Labels</th>
<th>Packing instruction (cargo aircraft)</th>
<th>Packing instruction (passenger aircraft)</th>
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</thead>
<tbody>
<tr>
<td><strong>UNRTDG</strong></td>
<td></td>
<td>CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)</td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>8 (3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IATA-DGR</strong></td>
<td></td>
<td>CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)</td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>Corrosive, Flammable Liquids</td>
<td>855</td>
<td></td>
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<tr>
<td><strong>IMDG-Code</strong></td>
<td></td>
<td>CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene, Dichlofenthion (ISO))</td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>8 (3)</td>
<td>F-E, S-C</td>
<td>851</td>
</tr>
</tbody>
</table>

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**Domestic regulation**

<table>
<thead>
<tr>
<th>TDG</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Subsidiary risk</th>
<th>Packing group</th>
<th>Labels</th>
<th>ERG Code</th>
<th>Marine pollutant</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UNRTDG</strong></td>
<td></td>
<td>CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)</td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>8 (3)</td>
<td>132</td>
<td>yes (Dichlofenthion (ISO))</td>
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<tr>
<td><strong>IATA-DGR</strong></td>
<td></td>
<td></td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>Corrosive, Flammable Liquids</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IMDG-Code</strong></td>
<td></td>
<td></td>
<td>8</td>
<td>3</td>
<td>II</td>
<td>8 (3)</td>
<td>F-E, S-C</td>
<td>851</td>
</tr>
</tbody>
</table>
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.

SECTION 15. REGULATORY INFORMATION

The ingredients of this product are reported in the following inventories:
AICS : not determined
DSL : not determined
IECSC : not determined

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
CA BC OEL : Canada. British Columbia OEL
CA ON OEL : Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.
CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / C : Ceiling limit
CA AB OEL / TWA : 8-hour Occupational exposure limit
CA AB OEL / STEL : 15-minute occupational exposure limit
CA AB OEL / (c) : ceiling occupational exposure limit
CA BC OEL / TWA : 8-hour time weighted average
CA BC OEL / STEL : short-term exposure limit
CA BC OEL / C : ceiling limit
CA ON OEL / TWA : Time-Weighted Average Limit (TWA)
CA QC OEL / TWAEV : Time-weighted average exposure value
CA QC OEL / STEV : Short-term exposure value
CA QC OEL / C : Ceiling

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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 Chemi-
Dichlofenthion Formulation

Sources of key data used to compile the Material Safety Data Sheet:
- Date of last issue: 10/01/2022
- Date of first issue: 04/14/2017
- Revision Date: 04/04/2023
- Date format: mm/dd/yyyy

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

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.

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