1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Dichlofenthion Formulation

Manufacturer or supplier's details
Company: MSD
Address: No. 485 Jing Tai Road
Pu Tuo District - Shanghai - China 200331
Telephone: +1-908-740-4000
Emergency telephone number: 86-571-87268110
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

2. HAZARDS IDENTIFICATION

Emergency Overview
Appearance: viscous liquid
Colour: dark, brown
Odour: strong
Flammable liquid and vapour. Harmful if swallowed. May be fatal if swallowed and enters airways. May be harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause respiratory irritation. Suspected of causing genetic defects. May cause cancer if swallowed. Suspected of causing cancer. Suspected of damaging the unborn child. Causes damage to organs. May cause damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

GHS Classification
Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
Acute toxicity (Dermal): Category 5
Skin corrosion/irritation: Category 1B
Serious eye damage/eye irritation: Category 1
Skin sensitisation: Category 1
Germ cell mutagenicity: Category 2
Carcinogenicity (Oral): Category 1A
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Carcinogenicity: Category 2
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 1
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

GHS label elements
Hazard pictograms:

- Flammable liquid and vapour
- Harmful if swallowed
- May be fatal if swallowed and enters airways
- May be harmful in contact with skin
- Causes severe skin burns and eye damage
- May cause an allergic skin reaction
- May cause respiratory irritation
- Suspected of causing genetic defects
- May cause cancer if swallowed
- Suspected of causing cancer
- Suspected of damaging the unborn child
- Causes damage to organs
- May cause damage to organs through prolonged or repeated exposure
- Very toxic to aquatic life with long lasting effects

Signal word: Danger

Hazard statements:

- H226 Flammable liquid and vapour.
- H302 Harmful if swallowed.
- H304 May be fatal if swallowed and enters airways.
- H313 May be harmful in contact with skin.
- 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.
- H351 Suspected of causing cancer.
- H361d Suspected of damaging the unborn child.
- H370 Causes damage to organs.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H410 Very toxic to aquatic life with long lasting effects.

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/ sparks/ open flames/ hot surfaces.
- No smoking.
- P233 Keep container tightly closed.
- P241 Use explosion-proof electrical/ ventilating/ lighting equip-
Physical and chemical hazards
Flammable liquid and vapour.

Health hazards
Harmful if swallowed. May be harmful in contact with skin. Causes severe skin burns and eye damage. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. May cause cancer if swallowed. Suspected of causing cancer. Suspected of damaging the unborn child. Causes damage to organs. May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. May be fatal if swallowed and enters airways.
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Environmental hazards
Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Other hazards which do not result in classification
Vapours may form explosive mixture with air.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>Substance / Mixture</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tar, wood</td>
<td>Mixture</td>
<td>91722-33-7</td>
<td>&gt;= 10 – &lt; 20</td>
</tr>
<tr>
<td>Rosin</td>
<td></td>
<td>8050-09-7</td>
<td>&gt;= 10 – &lt; 20</td>
</tr>
<tr>
<td>Tar, coal</td>
<td></td>
<td>8007-45-2</td>
<td>&gt;= 10 – &lt; 20</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td></td>
<td>100-41-4</td>
<td>&gt;= 2.5 – &lt; 10</td>
</tr>
<tr>
<td>Xylene</td>
<td></td>
<td>1330-20-7</td>
<td>&gt;= 2.5 – &lt; 10</td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td></td>
<td>97-17-6</td>
<td>&gt;= 3 – &lt; 10</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td></td>
<td>1310-73-2</td>
<td>&gt;= 2 – &lt; 3</td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td>108-95-2</td>
<td>&gt;= 1 – &lt; 2.5</td>
</tr>
<tr>
<td>m-Cresol</td>
<td></td>
<td>108-39-4</td>
<td>&gt;= 1 – &lt; 2.5</td>
</tr>
<tr>
<td>p-Cresol</td>
<td></td>
<td>106-44-5</td>
<td>&gt;= 1 – &lt; 2.5</td>
</tr>
</tbody>
</table>

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 centre immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

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

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media:  
High volume water jet

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:  
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.

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

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

### 7. HANDLING AND STORAGE

**Handling**

**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 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. Already sensitised individuals should consult their physician regarding working with respiratory irritants or sensitisers. 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.

**Avoidance of contact:** Oxidizing agents

**Storage**

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Keep tightly closed.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

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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:
  - Self-reactive substances and mixtures
  - Organic peroxides
  - Oxidizing agents
  - Flammable gases
  - Pyrophoric liquids
  - Pyrophoric solids
  - Self-heating substances and mixtures
  - Poisonous gases
  - Explosives

Packaging material:
Unsuitable material: None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components 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>Tar, coal</td>
<td>8007-45-2</td>
<td>PC-TWA</td>
<td>0.1 mg/m³ (soluble in benzene)</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>PC-TWA</td>
<td>100 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PC-STE L</td>
<td>150 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STE L</td>
<td>150 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>PC-TWA</td>
<td>50 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PC-STE L</td>
<td>100 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STE L</td>
<td>150 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td>97-17-6</td>
<td>TWA</td>
<td>20 µg/m³ (OEB 3)</td>
<td>Internal</td>
</tr>
<tr>
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</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>MAC</td>
<td>2 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>PC-TWA</td>
<td>10 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>m-Cresol</td>
<td>108-39-4</td>
<td>PC-TWA</td>
<td>10 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>p-Cresol</td>
<td>106-44-5</td>
<td>PC-TWA</td>
<td>10 mg/m³</td>
<td>CN OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Inhalable fraction and vapor)</td>
<td>20 mg/m³</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>
### Biological occupational exposure limits

<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>
</tr>
</thead>
<tbody>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>total phenol</td>
<td>Urine</td>
<td>End of last shift of the week</td>
<td>150 Millimoles per mole</td>
<td>CN BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Creatinine</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>total phenol</td>
<td>Urine</td>
<td>End of last shift of the week</td>
<td>125 mg/g Creatinine</td>
<td>CN BEI</td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td></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>methylhippuric acids</td>
<td>Urine</td>
<td>End of shift</td>
<td>0.3 g/g creatinine</td>
<td>CN BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>methylhippuric acids</td>
<td>Urine</td>
<td>End of shift</td>
<td>0.4 g/l</td>
<td>CN BEI</td>
</tr>
<tr>
<td>Methylhippuric acids</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>1.5 g/g creatinine</td>
<td>ACGIH BEI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Mandelic acid and phenylglyoxylic acid (MA and PGA)</td>
<td>Urine</td>
<td>End of shift</td>
<td>0.8 g/g creatinine</td>
<td>CN BEI</td>
</tr>
<tr>
<td></td>
<td></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>
<td>0.15 g/g creatinine</td>
<td>ACGIH BEI</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 vapour type

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

**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.

**Hygiene measures**

- **Appearance**: Viscous liquid
- **Colour**: Dark, brown
- **Odour**: Strong
- **Odour Threshold**: No data available

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9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**: Viscous liquid
- **Colour**: Dark, brown
- **Odour**: Strong
- **Odour Threshold**: No data available
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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

Vapour pressure : No data available

Relative vapour 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

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
  Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Particle size : Not applicable

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.
11. TOXICOLOGICAL INFORMATION

Exposure routes:
- Inhalation
- Skin contact
- Ingestion
- Eye contact

Acute toxicity:
Harmful if swallowed.
May be harmful in contact with skin.

Product:
- Acute oral toxicity: Acute toxicity estimate: 1,450 mg/kg
  Method: Calculation method
- Acute inhalation toxicity: Acute toxicity estimate: > 40 mg/l
  Exposure time: 4 h
  Test atmosphere: vapour
  Method: Calculation method
- Acute dermal toxicity: Acute toxicity estimate: 3,724 mg/kg
  Method: Calculation method

Components:

Tar, wood:
- Acute oral toxicity: LD50 (Rat): > 2,000 mg/kg
  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
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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: vapour
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: vapour
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 judgement
Acute inhalation toxicity : LC0 (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 judgement
Acute dermal toxicity : LD50 (Rabbit): 660 mg/kg
Method: OECD Test Guideline 402
Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgement

**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
- **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):**
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>
</thead>
<tbody>
<tr>
<td>3.7</td>
<td>2021/08/27</td>
<td>1552606-00010</td>
<td>2021/04/09</td>
<td>2017/04/14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild skin irritation</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Sodium hydroxide:**

<table>
<thead>
<tr>
<th>Result</th>
<th>Corrosive after 3 minutes or less of exposure</th>
</tr>
</thead>
</table>

**Phenol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Corrosive after 3 minutes to 1 hour of exposure</td>
</tr>
</tbody>
</table>

**m-Cresol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Corrosive after 3 minutes to 1 hour of exposure</td>
</tr>
</tbody>
</table>

**p-Cresol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Corrosive after 3 minutes to 1 hour of exposure</td>
</tr>
</tbody>
</table>

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Tar, wood:**

<table>
<thead>
<tr>
<th>Result</th>
<th>Irritation to eyes, reversing within 7 days</th>
</tr>
</thead>
</table>

**Rosin:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>No eye irritation</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>

**Tar, coal:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Human</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irreversible effects on the eye</td>
</tr>
</tbody>
</table>

**Xylene:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irritation to eyes, reversing within 21 days</td>
</tr>
</tbody>
</table>

**Sodium hydroxide:**

| Result   | Irreversible effects on the eye           |
| Remarks  | Based on skin corrosivity.                |

**Phenol:**

<table>
<thead>
<tr>
<th>Species</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Result</td>
<td>Irreversible effects on the eye</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 405</td>
</tr>
</tbody>
</table>
Dichlofenthion Formulation

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

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

Respiratory or skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Components:

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

Rosin:
Assessment : Probability or evidence of skin sensitisation in humans
Remarks : Based on harmonised classification in EU regulation 1272/2008, Annex VI

Tar, coal:
Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : positive
Remarks : Based on data from similar materials
Assessment : Probability or evidence of skin sensitisation in humans

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

Dichlofenthion (ISO):
- Exposure routes: Dermal
- Assessment: Does not cause skin sensitisation.
- Result: Weak sensitizer
- Remarks: Based on data from similar materials

Sodium hydroxide:
- Test Type: Human repeat insult patch test (HRIPT)
- Exposure routes: Skin contact
- Result: negative

Phenol:
- Test Type: Buehler Test
- Exposure routes: Skin contact
- Species: Guinea pig
- Method: OECD Test Guideline 406
- Result: negative

p-Cresol:
- Test Type: Draize Test
- Exposure routes: 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

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 harmonised classification in EU regulation 1272/2008, Annex VI
**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 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

**Phenol:**
Genotoxicity in vitro: Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: positive
Remarks: Annex VI From 1272/2008

Germ cell mutagenicity -: Positive result(s) from in vivo mammalian somatic cell muta-
# Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Version</th>
<th>SDS Number</th>
<th>Date of last issue</th>
<th>Date of first issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.7</td>
<td>1552606-00010</td>
<td>2021/04/09</td>
<td>2017/04/14</td>
</tr>
</tbody>
</table>

## Assessment

### m-Cresol:

**Genotoxicity in vitro**: Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

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

### Genotoxicity in vivo:

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 475  
Result: negative

### p-Cresol:

**Genotoxicity in vitro**: Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

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

### Genotoxicity in vivo:

Test Type: Rodent dominant lethal test (germ cell) (in vivo)  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 478  
Result: negative

## Carcinogenicity

**May cause cancer if swallowed.**  
Suspected of causing cancer.

### Components:

#### Tar, coal:

<table>
<thead>
<tr>
<th>Species</th>
<th>Application Route</th>
<th>Exposure time</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Ingestion</td>
<td>2 Years</td>
<td>positive</td>
</tr>
</tbody>
</table>

**Carcinogenicity - Assessment**: Positive evidence from human epidemiological studies (oral)  
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

#### Ethylbenzene:

<table>
<thead>
<tr>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rat</td>
</tr>
</tbody>
</table>
### Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Application Route</th>
<th>Inhalation (vapour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>104 weeks</td>
</tr>
<tr>
<td>Result</td>
<td>Positive</td>
</tr>
<tr>
<td>Remarks</td>
<td>The mechanism or mode of action may not be relevant in humans.</td>
</tr>
<tr>
<td>Carcinogenicity - Assessment</td>
<td>Limited evidence of carcinogenicity in animal studies</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on the Catalogue of Hazardous Chemicals of China</td>
</tr>
</tbody>
</table>

#### 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

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

### Reproductive toxicity
Suspected of damaging the unborn child.
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Dichlofenthion Formulation

Components:

Rosin:
Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative

Effects on foetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 421
Result: negative

Ethylbenzene:
Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Inhalation (vapour)
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Inhalation
Method: OECD Test Guideline 414
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

Dichlofenthion (ISO):
Effects on foetal development : Test Type: Development
Species: Mouse
Application Route: Intraperitoneal
Developmental Toxicity: LOAEL: 80 mg/kg body weight
Result: Reduced foetal 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 foetal 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 foetal development: Test Type: Embryo-foetal 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 foetal 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 foetal development: Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

**STOT - single exposure**
May cause respiratory irritation.
Causes damage to organs.

**Components:**

**Tar, coal:**
Exposure routes: Ingestion
Target Organs: Nervous system
Dichlofenthion Formulation

According to GB/T 16483 and GB/T 17519

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
May cause damage to organs 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.

Exposure routes: 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:
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.

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.

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:

Ethylbenzene:
Species: Rat
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Dichlofenthion Formulation

Version 3.7
Revision Date: 2021/08/27
SDS Number: 1552606-00010
Date of last issue: 2021/04/09
Date of first issue: 2017/04/14

LOAEL : 0.868 mg/l
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

Species : Rat
NOAEL : 75 mg/kg
LOAEL : 250 mg/kg
Application Route : Ingestion
Method : OECD Test Guideline 408

Remarks : Based on data from similar materials

Xylene:
Species : Rat
LOAEL : > 0.2 - 1 mg/l
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

Dichlofenthion (ISO):
Species : Rat
NOAEL : 0.75 mg/kg
Application Route : Oral
Exposure time : 90 d

Species : Dog
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 : Rat
NOAEL : >= 0.1 mg/l
Application Route : inhalation (vapour)
Exposure time : 74 Days

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

m-Cresol:
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Dichlofenthion Formulation

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

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):

<table>
<thead>
<tr>
<th>Exposure Route</th>
<th>Symptoms</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin contact</td>
<td>Symptoms: irritating, central nervous system effects, sweating</td>
<td>Can be absorbed through skin. May cause sensitisation by skin contact.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>Symptoms: constriction of pupils, central nervous system effects</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>Symptoms: Nausea, Diarrhoea, Vomiting, sweating, Lachrymation, constriction of pupils, Central nervous system depression, Gastrointestinal disturbance, bronchospasm, central nervous system effects, Oedema</td>
<td></td>
</tr>
</tbody>
</table>
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
  EC10 (Desmodesmus subspicatus (green algae)): 14 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
- **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:** NOELR (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
  Exposure time: 72 h
  Test substance: Water Accommodated Fraction
  Method: OECD Test Guideline 201
- **Toxicity to microorganisms:** EC50: > 10,000 mg/l
  Exposure time: 3 h
  Method: OECD Test Guideline 209

**Tar, coal:**
- **Toxicity to fish:** LL50 (Danio rerio (zebra fish)): > 250 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)): 2.8 mg/l
  Exposure time: 48 h
  Test substance: Water Accommodated Fraction
  Method: OECD Test Guideline 202
  Remarks: Based on data from similar materials
### Dichlofenthion Formulation

| Toxicity to algae/aquatic plants | EC50 (Desmodesmus subspicatus (green algae)): 36 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials |
|---|---|
| NOELR (Desmodesmus subspicatus (green algae)): 5 mg/l  
Exposure time: 72 h  
Method: OECD Test Guideline 201  
Remarks: Based on data from similar materials |

**Ethylbenzene:**

| Toxicity to fish | LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203 |
|---|---|
| Toxicity to daphnia and other aquatic invertebrates | EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l  
Exposure time: 48 h |
| Toxicity to algae/aquatic plants | EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6 mg/l  
Exposure time: 96 h  
NOEC (Pseudokirchneriella subcapitata (green algae)): 3.4 mg/l  
Exposure time: 96 h |

| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l  
Exposure time: 7 d |
|---|---|
| Toxicity to microorganisms | EC50 (Nitrosomonas sp.): 96 mg/l  
Exposure time: 24 h |

**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 |
### Dichlofenthion Formulation

**Remarks**: Based on data from similar materials

**Toxicity to microorganisms**
- NOEC: > 100 mg/l
- Exposure time: 3 h
- Method: OECD Test Guideline 209

**Dichlofenthion (ISO):**

**Toxicity to fish**
- LC50 (No species specified): 0.64 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

- LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.23 mg/l
  - Exposure time: 96 h
  - Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia magna (Water flea)): 0.0011 mg/l
  - Exposure time: 48 h
  - Method: OECD Test Guideline 202

**M-Factor (Acute aquatic toxicity)**
- 100

**M-Factor (Chronic aquatic toxicity)**
- 100

**Phenol:**

**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

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)**
- NOEC (Daphnia magna (Water flea)): 10 mg/l
  - Exposure time: 16 d

**Toxicity to microorganisms**
- IC50 (Nitrosomonas sp.): 21 mg/l
  - Exposure time: 24 h

**m-Cresol:**

**Toxicity to fish**
- LC50 (Oncorhynchus mykiss (rainbow trout)): 8.6 mg/l
  - Exposure time: 96 h

**Toxicity to daphnia and other aquatic invertebrates**
- EC50 (Daphnia pulex (Water flea)): > 99.5 mg/l
  - Exposure time: 48 h

**Toxicity to fish (Chronic toxicity)**
- NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l
  - Exposure time: 32 d
Dichlofenthion Formulation

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
- NOEC (Daphnia magna (Water flea)): 1 mg/l
  Exposure time: 21 d
  Remarks: Based on data from similar materials

p-Cresol:
- Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 7.4 mg/l
  Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 7.7 mg/l
  Exposure time: 48 h
  Method: DIN 38412
- Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus (green algae)): 7.8 mg/l
  Exposure time: 48 h
  EC10 (Desmodesmus subspicatus (green algae)): 2.3 mg/l
  Exposure time: 48 h
- Toxicity to fish (Chronic toxicity): NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l
  Exposure time: 32 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)
- Toxicity to microorganisms: IC50 (Nitrosomonas sp.): 260 mg/l
  Exposure time: 24 h

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

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

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

p-Cresol: 
Biodegradability : 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: 
Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout) 
Bioconcentration factor (BCF): < 100 
Partition coefficient: n-octanol/water : log Pow: 3 - 6.2 

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
Dichlofenthion Formulation

octanol/water

**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

**p-Cresol:**
Bioaccumulation: Species: Leuciscus idus (Golden orfe)  
Bioconcentration factor (BCF): 17 - 20  
Remarks: Based on data from similar materials
Partition coefficient: n-octanol/water: log Pow: 1.94

**Mobility in soil**
No data available

**Other adverse effects**
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.
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.

14. TRANSPORT INFORMATION

International Regulations

**UNRTDG**
UN number: UN 2920  
Proper shipping name: CORROSIVE LIQUID, FLAMMABLE, N.O.S.  
(Sodium hydroxide, Ethylbenzene)
Class: 8  
Subsidiary risk: 3  
Packing group: II
Dichlofenthion Formulation

Version: 3.7
Revision Date: 2021/08/27
SDS Number: 1552606-00010
Date of last issue: 2021/04/09
Date of first issue: 2017/04/14

IATA-DGR
UN/ID No.: UN 2920
Proper shipping name: Corrosive liquid, flammable, n.o.s. (Sodium hydroxide, Ethylbenzene)
Class: 8
Subsidiary risk: 3
Packing group: II
Labels: Corrosive, Flammable Liquids
Packing instruction (cargo aircraft): 855
Packing instruction (passenger aircraft): 851

IMDG-Code
UN number: UN 2920
Proper shipping name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene, Dichlofenthion (ISO))
Class: 8
Subsidiary risk: 3
Packing group: II
Labels: 8 (3)
EmS Code: F-E, S-C
Marine pollutant: yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

GB 6944/12268
UN number: UN 2920
Proper shipping name: CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)
Class: 8
Subsidiary risk: 3
Packing group: II
Labels: 8 (3)

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.

15. REGULATORY INFORMATION

National regulatory information
Law on the Prevention and Control of Occupational Diseases
Regulations on Safety Management of Hazardous Chemicals
Catalogue of Hazardous Chemicals: Listed

Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)
No. / Code Chemical name / Category Threshold quantity
The components of this product are reported in the following inventories:

- **AICS**: not determined
- **DSL**: not determined
- **IECSC**: not determined

### 16. OTHER INFORMATION

**Further information**

Sources of key data used to compile the Safety Data Sheet:


Date format: yyyy/mm/dd

**Full text of other abbreviations**

- **ACGIH**: USA, ACGIH Threshold Limit Values (TLV)
- **ACGIH BEI**: ACGIH - Biological Exposure Indices (BEI)
- **CN BEI**: China. Biological Occupational Exposure Indices
- **CN OEL**: Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

**ACGIH / TWA**: 8-hour, time-weighted average

**ACGIH / STEL**: Short-term exposure limit

**ACGIH / C**: Ceiling limit

**CN OEL / PC-TWA**: Permissible concentration - time weighted average

**CN OEL / PC-STEL**: Permissible concentration - short term exposure limit

**CN OEL / MAC**: Maximum allowable concentration

**AICL** - Australian Inventory of Industrial Chemicals; **ANNT** - 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; **ICAO** - International Civil Aviation Organization; **IECSC** - Inventory of Existing Chemical Substances in China; **IC50** - Half maximal inhibitory concentration; **ICAO** - International Civil Aviation Organization; **IECSC** - Inventory of Existing Chemical Substances in China; **IMDG** - International Maritime Dangerous Goods; **IMO** - International Maritime Organization; **ISHL** - Industrial Safety and Health Law (Japan); **ISO** - International Organisation for Standardization; **KECI** - Korea Existing Chemicals Inventory; **LC50** - Lethal Concentration to 50% of a test population; **LD50** - Lethal Dose to 50% of a test population (Median Lethal Dose); **MARPOL** - International Convention for the Prevention of Pollution from Ships; **n.o.s.** - Not Otherwise Specified; **Nch** - Chilean Norm; **NO(A)EC** - No Observed (Adverse) Effect Concentration; **NO(A)EL** - No Observed (Adverse) Effect Level; **NOELR** - No Observable Effect Loading Rate; **NOM** - Official Mexican Norm; **NTP** - National Toxicology Program; **NZIoC** - New Zealand Inventory of Chemicals; **OECD** - Organization for Economic Co-operation and Develop-
SAFETY DATA SHEET
according to GB/T 16483 and GB/T 17519

Dichlofenthion Formulation

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Disclaimer
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.

CN / EN