SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Dichlofenthion Formulation

Manufacturer or supplier’s details
Company : MSD
Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil CEP 12730-340
Telephone : 908-740-4000
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEWARD@msd.com
Telefax : 908-735-1496

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification in accordance with ABNT NBR 14725 Standard
Flammable liquids : Category 3
Acute toxicity (Oral) : Category 4
Acute toxicity (Dermal) : Category 5
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 2 (Nervous system, Respiratory Tract)
SAFETY DATA SHEET

Dichlofenthion Formulation

Aspiration hazard : Category 1
Short-term (acute) aquatic hazard : Category 1
Long-term (chronic) aquatic hazard : Category 1

GHS label elements in accordance with ABNT NBR 14725 Standard

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.
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.
H361d Suspected of damaging the unborn child.
H370 Causes damage to organs (Nervous system).
H373 May cause damage to organs (Nervous system, Respiratory Tract) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :
Prevention:
P201 Obtain special instructions before use.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
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/ doctor.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P391 Collect spillage.

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
## Components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
</table>
| Tar, wood     | 91722-33-7  | Flammable liquids, Category 4  
Skin irritation, Category 2  
Eye irritation, Category 2B  
Skin sensitization, Sub-category 1B  
Short-term (acute) aquatic hazard, Category 3  
Long-term (chronic) aquatic hazard, Category 3 | >= 10 < 20            |
| Rosin         | 8050-09-7   | Acute toxicity (Oral), Category 5  
Skin sensitization, Category 1  
Short-term (acute) aquatic hazard, Category 2 | >= 10 < 20            |
| Tar, coal     | 8007-45-2   | Acute toxicity (Oral), Category 4  
Skin irritation, Category 3  
Serious eye damage, Category 1  
Skin sensitization, Category 1  
Germ cell mutagenicity, Category 2  
Carcinogenicity (Oral), Category 1A  
Specific target organ toxicity - single exposure (Nervous system), Category 1  
Specific target organ toxicity - single exposure, Category 3  
Specific target organ toxicity - repeated exposure (Respiratory Tract), Category 2  
Short-term (acute) aquatic hazard, Category 2  
Long-term (chronic) aquatic hazard, Category 2 | >= 10 < 20            |
<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS Number</th>
<th>Description</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Flammable liquids, Acute toxicity (Oral), Category 2</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - repeated exposure (Auditory system), Category 4</td>
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<tr>
<td></td>
<td></td>
<td>Aspiration hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>Flammable liquids, Acute toxicity (Oral), Category 3</td>
<td>&gt;= 5 - &lt; 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Dermal), Category 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin irritation, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Eye irritation, Category 2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - single exposure, Category 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Specific target organ toxicity - repeated exposure (Auditory system), Category 4</td>
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<tr>
<td></td>
<td></td>
<td>Aspiration hazard, Category 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Short-term (acute) aquatic hazard, Category 2</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Long-term (chronic) aquatic hazard, Category 3</td>
<td></td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td>97-17-6</td>
<td>Acute toxicity (Oral), Category 3</td>
<td>&gt;= 3 - &lt; 5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Inhalation), Category 4</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acute toxicity (Dermal), Category 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reproductive toxicity, Category 2</td>
<td></td>
</tr>
<tr>
<td>Chemical</td>
<td>CAS Number</td>
<td>Specific target organ toxicity - repeated exposure</td>
<td>Long-term (chronic) aquatic hazard, Category 2</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>Corrosive to Metals, Category 1</td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>Acute toxicity (Oral), Category 3</td>
<td>Acute toxicity (Inhalation), Category 3</td>
</tr>
<tr>
<td>m-Cresol</td>
<td>108-39-4</td>
<td>Flammable liquids, Category 4</td>
<td>Acute toxicity (Oral), Category 3</td>
</tr>
</tbody>
</table>
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 : Harmful if swallowed. May be fatal if swallowed and enters airways. May be harmful in contact with skin. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. Suspected of causing genetic defects.
SAFETY DATA SHEET

Dichlofenthion Formulation

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 firefighting: 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.

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

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 and personal protective equipment recommendations.

Environmental precautions: Discharge into the environment must be avoided.
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: Non-sparking tools should be used.
### SECTION 7. HANDLING AND STORAGE

<table>
<thead>
<tr>
<th>Technical measures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Local/Total ventilation</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If sufficient ventilation is unavailable, use with local exhaust ventilation.</td>
<td></td>
</tr>
<tr>
<td>If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advice on safe handling</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Do not get on skin or clothing.</td>
<td></td>
</tr>
<tr>
<td>Do not breathe vapors or spray mist.</td>
<td></td>
</tr>
<tr>
<td>Do not swallow.</td>
<td></td>
</tr>
<tr>
<td>Do not get in eyes.</td>
<td></td>
</tr>
<tr>
<td>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment</td>
<td></td>
</tr>
<tr>
<td>Non-sparking tools should be used.</td>
<td></td>
</tr>
<tr>
<td>Keep container tightly closed.</td>
<td></td>
</tr>
<tr>
<td>Already sensitized individuals should consult their physician regarding working with respiratory irritants or sensitizers.</td>
<td></td>
</tr>
<tr>
<td>Keep away from heat and sources of ignition.</td>
<td></td>
</tr>
<tr>
<td>Take precautionary measures against static discharges.</td>
<td></td>
</tr>
<tr>
<td>Take care to prevent spills, waste and minimize release to the environment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hygiene measures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.</td>
<td></td>
</tr>
<tr>
<td>When using do not eat, drink or smoke.</td>
<td></td>
</tr>
<tr>
<td>Wash contaminated clothing before re-use.</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Conditions for safe storage</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Keep in properly labeled containers.</td>
<td></td>
</tr>
<tr>
<td>Store locked up.</td>
<td></td>
</tr>
<tr>
<td>Keep tightly closed.</td>
<td></td>
</tr>
<tr>
<td>Keep in a cool, well-ventilated place.</td>
<td></td>
</tr>
</tbody>
</table>
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
  - 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

### 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>Ethylbenzene</td>
<td>100-41-4</td>
<td>LT</td>
<td>78 ppm</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>340 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Further information: Degree of harmfulness: medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>20 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>LT</td>
<td>78 ppm</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>340 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Further information: Degree of harmfulness: medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL</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>
<td></td>
<td></td>
<td></td>
<td>Further information: Skin</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Wipe limit</td>
<td>Internal</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>C</td>
<td>2 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>LT</td>
<td>4 ppm</td>
<td>BR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>15 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Further information: Absorption through the skin, Degree of harmfulness: maximum</td>
<td></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>TWA (Inhalable fraction and vapor)</td>
<td>20 mg/m³</td>
<td>ACGIH</td>
</tr>
<tr>
<td>p-Cresol</td>
<td>106-44-5</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></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Substance</td>
<td>CAS Number</td>
<td>Assay</td>
<td>Target Analyte</td>
<td>Reporting Time</td>
<td>TWA Limit</td>
<td>BEI</td>
</tr>
<tr>
<td>--------------------</td>
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<td>----------------</td>
<td>----------------</td>
<td>-----------</td>
<td>---------</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>phenol</td>
<td>Urine</td>
<td>End of last day of the working day (recommended to avoid the first day of the week), You can differentiate between pre- and post-shift</td>
<td>250 mg/g Creatinine</td>
<td>BR BEI</td>
</tr>
<tr>
<td>Phenol</td>
<td></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>methyl hippuric acid</td>
<td>Urine</td>
<td>End of last day of the working day (recommended to avoid the first day of the week)</td>
<td>1.5 g/g creatinine</td>
<td>BR BEI</td>
</tr>
<tr>
<td>Methylhippuric acids</td>
<td></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>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>mandelic acid</td>
<td>Urine</td>
<td>Final shift at the end of the week</td>
<td>1.5 g/g creatinine</td>
<td>BR BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urine</td>
<td>Sum of mandelic acid and phenyl glyoxylic acid</td>
<td>End of shift (As soon as possible after exposure)</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.

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.

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

Autoignition 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

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.
- 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: vapor
  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

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 (Rabbit): 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: 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 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:
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):
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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Test Type</th>
<th>Routes of exposure</th>
<th>Species</th>
<th>Method</th>
<th>Result</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar, wood</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td>OECD Test Guideline 429</td>
<td>positive</td>
<td>Probability or evidence of low to moderate skin sensitization rate in humans</td>
</tr>
<tr>
<td>Rosin</td>
<td>Probability or evidence of skin sensitization in humans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on harmonised classification in EU regulation 1272/2008, Annex VI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tar, coal</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td>OECD Test Guideline 429</td>
<td>positive</td>
<td>Probability or evidence of skin sensitization in humans</td>
</tr>
<tr>
<td>Remarks</td>
<td>Based on data from similar materials</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Xylene</td>
<td>Local lymph node assay (LLNA)</td>
<td>Skin contact</td>
<td>Mouse</td>
<td>negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td>Dermal</td>
<td></td>
<td></td>
<td>Does not cause skin sensitization.</td>
<td>Weak sensitizer</td>
<td>Based on data from similar materials</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>Human repeat insult patch test (HRIPT)</td>
<td>Skin contact</td>
<td></td>
<td>negative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phenol</td>
<td>Buehler Test</td>
<td>Skin contact</td>
<td>Guinea pig</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Dichlofenthion Formulation

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

**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
<table>
<thead>
<tr>
<th>Substance</th>
<th>Genotoxicity in vitro</th>
<th>Test Type</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xylene</td>
<td></td>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chromosome aberration test in vitro</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In vitro mammalian cell gene mutation test</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>In vitro sister chromatid exchange assay in mammalian cells</td>
<td>negative</td>
</tr>
<tr>
<td>Phenol</td>
<td></td>
<td>Chromosome aberration test in vitro</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species: Mouse</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application Route: Intraperitoneal injection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method: OECD Test Guideline 474</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Germ cell mutagenicity - Assessment</td>
<td>Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.</td>
<td></td>
</tr>
<tr>
<td>m-Cresol</td>
<td></td>
<td>Chromosome aberration test in vitro</td>
<td>positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bacterial reverse mutation assay (AMES)</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)</td>
<td>negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Species: Mouse</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Application Route: Ingestion</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method: OECD Test Guideline 475</td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

Dichlofenthion Formulation

Version: 5.0  Revision Date: 23.03.2020  SDS Number: 1552610-00007  Date of last issue: 13.09.2019  Date of first issue: 14.04.2017

**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.

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

**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
SAFETY DATA SHEET

Dichlofenthion Formulation

Version 5.0 Revision Date: 23.03.2020 SDS Number: 1552610-00007 Date of last issue: 13.09.2019 Date of first issue: 14.04.2017

**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
- **Application Route:** Ingestion
- **Exposure time:** 106 - 107 weeks
- **Result:** negative
- **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:**
- **Effects on fertility:** 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 (vapor)
  - Method: OECD Test Guideline 416
  - Result: negative

- **Effects on fetal development:** Test Type: Embryo-fetal development
  - Species: Rat
  - Application Route: Inhalation
Xylene:
Effects on fertility: Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapor)
Result: negative

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

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

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
May cause damage to organs (Nervous system, Respiratory Tract) 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.
Dichlofenthion Formulation

**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:**

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

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

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

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

**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 (vapor)  
Exposure time: 74 Days

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):

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Tar, wood:

<table>
<thead>
<tr>
<th>Toxicity to daphnia and other aquatic invertebrates</th>
<th>EC50 (Daphnia magna (Water flea)): 28 mg/l Exposure time: 48 h Method: OECD Test Guideline 202</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>EC50 (Desmodesmus subspicatus (green algae)): 17 mg/l Exposure time: 72 h Method: OECD Test Guideline 201</td>
</tr>
<tr>
<td></td>
<td>EC10 (Desmodesmus subspicatus (green algae)): 14 mg/l Exposure time: 72 h Method: OECD Test Guideline 201</td>
</tr>
</tbody>
</table>

Rosin:

<table>
<thead>
<tr>
<th>Toxicity to fish</th>
<th>LL50 (Danio rerio (zebra fish)): &gt; 1 - &lt; 10 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to daphnia and other aquatic invertebrates</td>
<td>EL50 (Daphnia magna (Water flea)): 911 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202</td>
</tr>
<tr>
<td>Toxicity to algae/aquatic plants</td>
<td>NOELR (Pseudokirchneriella subcapitata (green algae)): &gt; 1,000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201</td>
</tr>
</tbody>
</table>
### Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EC50: &gt; 10,000 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>3 h</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 209</td>
</tr>
</tbody>
</table>

### Tar, coal:

#### Toxicity to fish

**Test substance:** Water Accommodated Fraction  
**Method:** OECD Test Guideline 203  
**Remarks:** Based on data from similar materials

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>LL50 (Danio rerio (zebra fish)): &gt; 250 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
<tr>
<td>Test substance</td>
<td>Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 203</td>
</tr>
</tbody>
</table>

### Toxicity to Daphnia and Other Aquatic Invertebrates

**Test substance:** Water Accommodated Fraction  
**Method:** OECD Test Guideline 202  
**Remarks:** Based on data from similar materials

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EL50 (Daphnia magna (Water flea)): 2,8 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
<tr>
<td>Test substance</td>
<td>Water Accommodated Fraction</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 202</td>
</tr>
</tbody>
</table>

### Toxicity to Algae/Aquatic Plants

**Test substance:** Water Accommodated Fraction  
**Method:** OECD Test Guideline 201  
**Remarks:** Based on data from similar materials

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EL50 (Desmodesmus subspicatus (green algae)): 36 mg/l</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>
</tbody>
</table>

### Ethylbenzene:

#### Toxicity to Fish

**Test substance:** Oncorhynchus mykiss (rainbow trout)  
**Method:** OECD Test Guideline 203

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>LC50 (Onorhynchus mykiss (rainbow trout)): 4,2 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
</tbody>
</table>

#### Toxicity to Daphnia and Other Aquatic Invertebrates

**Test substance:** Daphnia magna (Water flea)  
**Method:** OECD Test Guideline 202  
**Remarks:** Based on data from similar materials

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EC50 (Daphnia magna (Water flea)): 1,8 - 2,4 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>48 h</td>
</tr>
</tbody>
</table>

#### Toxicity to Algae/Aquatic Plants

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae)): 3,6 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
</tbody>
</table>

**NOEC (Pseudokirchneriella subcapitata (green algae))**: 3,4 mg/l  
**Exposure time**: 96 h

#### Toxicity to Daphnia and Other Aquatic Invertebrates (Chronic Toxicity)

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>NOEC (Ceriodaphnia dubia (water flea)): 0,96 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>7 d</td>
</tr>
</tbody>
</table>

#### Toxicity to Microorganisms

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>EC50 (Nitrosomonas sp.): 96 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>24 h</td>
</tr>
</tbody>
</table>

### Xylene:

#### Toxicity to Fish

**Test substance:** Oncorhynchus mykiss (rainbow trout)  
**Method:** OECD Test Guideline 203

<table>
<thead>
<tr>
<th>Toxicity</th>
<th>LC50 (Onorhynchus mykiss (rainbow trout)): 13,5 mg/l</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exposure time</td>
<td>96 h</td>
</tr>
</tbody>
</table>
### 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

**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
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): NOEC (Daphnia magna (Water flea)): 1 mg/l
Exposure time: 21 d

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: 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:
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

**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

**SECTION 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.

### SECTION 14. TRANSPORT INFORMATION

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<td><strong>Marine pollutant</strong></td>
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**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable for product as supplied.

### Domestic regulation

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SAFETY DATA SHEET

Dichlofenthion Formulation

Version: 5.0  Revision Date: 23.03.2020  SDS Number: 1552610-00007  Date of last issue: 13.09.2019
Date of first issue: 14.04.2017

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

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

National List of Carcinogenic Agents for Humans - (LINACH)
Group 1: Carcinogenic to humans
- Tar, coal 8007-45-2
Group 2B: Possibly carcinogenic to humans
- Ethylbenzene 100-41-4

Brazil. List of chemicals controlled by the Federal Police:
- Sodium hydroxide
- Xylene

International Regulations

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

SECTION 16. OTHER INFORMATION

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

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

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)
BR BEI: Brazil. NR7. Parameters for Biological Control of Occupational Exposure to Some Chemical Agents
BR OEL: Brazil. NR 15 - Unhealthy activities and operations
ACGIH / TWA: 8-hour, time-weighted average
ACGIH / STEL: Short-term exposure limit
ACGIH / C: Ceiling limit
BR OEL / LT: Up to 48 hours /week
SAFETY DATA SHEET

Dichlofenthion Formulation

Version 5.0  Revision Date: 23.03.2020  SDS Number: 1552610-00007  Date of last issue: 13.09.2019  Date of first issue: 14.04.2017

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.

BR / Z8