SECTION 1. IDENTIFICATION

Product name : Dichlofenthion Formulation

Manufacturer or supplier’s details
Company : MSD
Address : Talcahuano 750, 6th floor, Ciudad Autonoma
Buenos Aires, Argentina C1013AAP
Telephone : 908-740-4000
Emergency telephone : 1-908-423-6000
E-mail address : EHSDATASTEWARD@msd.com

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

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids : Category 3
Acute toxicity (Oral) : Category 4
Acute toxicity (Dermal) : Category 5
Skin corrosion : Sub-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)
Aspiration hazard : Category 1
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Version 3.6
Revision Date: 27.08.2021
SDS Number: 1560330-00010
Date of last issue: 09.04.2021
Date of first issue: 14.04.2017

Short-term (acute) aquatic hazard: Category 1

Long-term (chronic) aquatic hazard: Category 1

GHS label elements
Hazard pictograms:

Signal Word: Danger

Hazard Statements:
H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 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.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P330 + P331 + P310 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P303 + P361 + P353 + P310 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER/ doctor.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a
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POISON CENTER/ doctor.
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.
P333 + P313 IF skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage:
P405 Store locked up.

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

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Components</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tar, wood</td>
<td>91722-33-7</td>
<td>&gt;= 10 &lt; 20</td>
</tr>
<tr>
<td>Rosin</td>
<td>8050-09-7</td>
<td>&gt;= 10 &lt; 20</td>
</tr>
<tr>
<td>Castor oil</td>
<td>8001-79-4</td>
<td>&gt;= 10 &lt; 20</td>
</tr>
<tr>
<td>Tar, coal</td>
<td>8007-45-2</td>
<td>&gt;= 10 &lt; 20</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>&gt;= 5 &lt; 10</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>&gt;= 5 &lt; 10</td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td>97-17-6</td>
<td>&gt;= 3 &lt; 5</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>&gt;= 2 &lt; 3</td>
</tr>
<tr>
<td>Phenol</td>
<td>108-95-2</td>
<td>&gt;= 1 &lt; 2.5</td>
</tr>
<tr>
<td>m-Cresol</td>
<td>108-39-4</td>
<td>&gt;= 1 &lt; 2.5</td>
</tr>
<tr>
<td>p-Cresol</td>
<td>106-44-5</td>
<td>&gt;= 1 &lt; 2.5</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.
May cause cancer if swallowed.
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.

SECTION 5. FIRE-FIGHTING MEASURES

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

Unsuitable extinguishing media:
High volume water jet

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

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

Specific extinguishing methods:
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
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 (see section 7) and personal protective equipment recommendations (see section 8).

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

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

SECTION 7. HANDLING AND STORAGE

Technical measures:
- See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation:
- If sufficient ventilation is unavailable, use with local exhaust ventilation.
- Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling:
- Do not get on skin or clothing.
- Do not breathe vapors.
- Do not swallow.
- Do not get in eyes.
- Wash skin thoroughly after handling.
- Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment.
- Non-sparking tools should be used.
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Keep container tightly closed.
Already sensitized individuals should consult their physician regarding working with respiratory irritants or sensitizers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

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

Materials to avoid:
Do not store with the following product types:
Strong oxidizing agents
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>Castor oil</td>
<td>8001-79-4</td>
<td>CMP (Mist)</td>
<td>10 mg/m³</td>
<td>AR OEL</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>CMP</td>
<td>100 ppm</td>
<td>AR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CMP - CPT</td>
<td>125 ppm</td>
<td>AR OEL</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>CMP</td>
<td>100 ppm</td>
<td>AR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>150 ppm</td>
<td>AR OEL</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>
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<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>CMP-C</td>
<td>2 mg/m³</td>
<td>AR 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>CMP</td>
<td>5 ppm</td>
<td>AR OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>5 ppm</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Further information:
A4 - Not classifiable as a human carcinogen
Skin
Wipe limit 200 µg/100 cm² Internal
A4 - Not classifiable as a human carcinogen
Skin
Wipe limit 200 µg/100 cm² Internal
A4 - Not classifiable as a human carcinogen
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 shift</td>
<td>250 mg/g Creatinine</td>
<td>AR BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Phenol</td>
<td>Urine</td>
<td>End of shift</td>
<td>250 mg/g Creatinine</td>
<td>ACGIH BEI</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>methyl hippuric acids</td>
<td>Urine</td>
<td>End of shift</td>
<td>1.5 g/g creatinine</td>
<td>AR BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Methylhippuric acids</td>
<td>Urine</td>
<td>End of shift</td>
<td>1.5 g/g creatinine</td>
<td>ACGIH BEI</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>mandelic acid</td>
<td>Urine</td>
<td>after the last shift of the last day of the work week</td>
<td>1.5 g/g creatinine</td>
<td>AR BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ethylbenzene</td>
<td>end-exhaled air</td>
<td>after the last shift of the last day of the work week</td>
<td>1.5 g/g creatinine</td>
<td>AR BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sum of mandelic acid and</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 vapor type

Hand protection:

Material: Chemical-resistant gloves

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

Eye protection:

Wear safety glasses with side shields or goggles.

If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.

Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection:

Work uniform or laboratory coat.

Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.

Use appropriate degowning techniques to remove potentially contaminated clothing.

Hygiene measures:

If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.

When using do not eat, drink or smoke.

Contaminated work clothing should not be allowed out of the workplace.

Wash contaminated clothing before re-use.

The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.
SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : viscous liquid
Color : dark, brown
Odor : strong
Odor Threshold : No data available
pH : Not applicable
Melting point/freezing point : No data available
Initial boiling point and boiling range : No data available
Flash point : 30 °C
Evaporation rate : No data available
Flammability (solid, gas) : Not applicable
Flammability (liquids) : Not applicable
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapor pressure : No data available
Relative vapor density : No data available
Relative density : No data available
Density : 1.009 - 1.051 g/cm³ (20 °C)
Solubility(ies)
   Water solubility : No data available
Partition coefficient: n-octanol/water : Not applicable
Autoignition temperature : No data available
Decomposition temperature : No data available
Viscosity
   Viscosity, kinematic : No data available
Explosive properties : Not explosive
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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
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<table>
<thead>
<tr>
<th>Material</th>
<th>Acute oral toxicity</th>
<th>Acute dermal toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castor oil:</td>
<td>LD50 (Rat): &gt; 4.763 mg/kg</td>
<td>LD50 (Rabbit): &gt; 5.000 mg/kg</td>
</tr>
<tr>
<td>Tar, coal:</td>
<td>LD50 (Rat): 1.700 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Ethylbenzene:</td>
<td>LD50 (Rat): 3.500 mg/kg</td>
<td>LD50 (Rabbit): &gt; 5.000 mg/kg</td>
</tr>
<tr>
<td>Xylene:</td>
<td>LD50 (Rat): 3.523 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Dichlofenthion (ISO):</td>
<td>LD50 (Rat): 172 mg/kg,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LD50 (Rat): 270 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Sodium hydroxide:</td>
<td>Assessment: Corrosive to the respiratory tract.</td>
<td></td>
</tr>
<tr>
<td>Phenol:</td>
<td>LD50 (Rat): 650 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

### Toxicity

- **Castor oil**: Acute oral toxicity: LD50 (Rat): > 4.763 mg/kg. Method: OECD Test Guideline 401. Assessment: The substance or mixture has no acute oral toxicity. Remarks: Based on data from similar materials.

- **Tar, coal**: Acute oral toxicity: LD50 (Rat): 1.700 mg/kg.

- **Ethylbenzene**: Acute oral toxicity: LD50 (Rat): 3.500 mg/kg.


- **Dichlofenthion (ISO)**: Acute oral toxicity: LD50 (Rat): 172 mg/kg, LD50 (Rat): 270 mg/kg.

- **Sodium hydroxide**: Acute inhalation toxicity: Assessment: Corrosive to the respiratory tract.

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:
Species: reconstructed human epidermis (RhE)
Method: OECD Test Guideline 439

Rosin:
Species: Rabbit
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Method: OECD Test Guideline 404
Result: No skin irritation

Castor oil:
Species: Rat
Result: No skin irritation
Remarks: Based on data from similar materials

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
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SDS Number: 1560330-00010
Date of last issue: 09.04.2021
Date of first issue: 14.04.2017

Castor oil:
Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Tar, coal:
Species: Human
Result: Irreversible effects on the eye

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

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

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

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

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

Respiratory or skin sensitization

Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:

Tar, wood:
Test Type: Local lymph node assay (LLNA)
Routes of exposure: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: positive
Assessment: Probability or evidence of low to moderate skin sensitization rate in humans
## Rosin:
**Assessment**: Probability or evidence of skin sensitization in humans
**Remarks**: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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

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

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

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

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

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

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

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

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

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

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

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

**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

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

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

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

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

**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

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

**Castor oil:**
- **Effects on fertility:** Test Type: Two-generation reproduction toxicity study
  - Species: Rat
  - Application Route: Ingestion
  - Result: negative
  - Remarks: Based on data from similar materials

- **Effects on fetal development:** Test Type: Two-generation study
  - Species: Rat
  - Application Route: Ingestion
Ethylbenzene:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapor)
Method: OECD Test Guideline 416
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development: Test Type: Embryo-fetal 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 (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

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

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

Phenol:
Effects on fertility: Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 416
Result: negative
Effects on fetal development: Test Type: Embryo-fetal development  
Species: Mouse  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative

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

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

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

Effects on fetal development: Test Type: Embryo-fetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative

STOT-single exposure
May cause respiratory irritation.  
Causes damage to organs (Nervous system).

Components:

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

Xylene:
Assessment: May cause respiratory irritation.

STOT-repeated exposure
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 con-
centrations of >0.02 to 0.2 mg/l/6h/d.

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

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

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

**Dichlofenthion (ISO)**:
**Target Organs**: Nervous system
**Assessment**: Causes damage to organs through prolonged or repeated exposure.
**Remarks**: Based on human experience.

**Phenol**:
**Target Organs**: Central nervous system, Kidney, Liver, Skin
**Assessment**: May cause damage to organs through prolonged or repeated exposure.

**Repeated dose toxicity**

**Components**:

**Castor oil**:
**Species**: Rat, male
**NOAEL**: 8.866 mg/kg
**Application Route**: Ingestion
**Exposure time**: 100 Days
**Method**: OECD Test Guideline 408

**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
SAFETY DATA SHEET

Dichlofenthion Formulation

NOAEL : 50 mg/kg
LOAEL : 175 mg/kg
Application Route : Ingestion
Exposure time : 90 Days
Method : OECD Test Guideline 408

Aspiration toxicity
May be fatal if swallowed and enters airways.

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

Components:

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

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

Experience with human exposure

Components:

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Tar, wood:
Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 28 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 17 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Rosin:
Toxicity to fish
: LL50 (Danio rerio (zebra fish)): > 1 - < 10 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

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

Castor oil:
Toxicity to fish
: LC50 (Danio rerio (zebra fish)): > 1.000 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates
: EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants
: NOEC (Pseudokirchneriella subcapitata (green algae)): 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms
: EC10 (Pseudomonas putida): 67.000 mg/l
Exposure time: 30 min
Remarks: Based on data from similar materials

Tar, coal:
Toxicity to fish
: LL50 (Danio rerio (zebra fish)): > 250 mg/l
**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EL50 (Daphnia magna (Water flea))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Accommodated Fraction</td>
<td>2.8 mg/l</td>
<td>48 h</td>
<td>OECD Test Guideline 203</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Toxicity to algae/aquatic plants**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Desmodesmus subspicatus (green algae))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Accommodated Fraction</td>
<td>36 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 202</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Ethylbenzene**

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>4.2 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>1.8 - 2.4 mg/l</td>
<td>48 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity to algae/aquatic plants**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Pseudokirchneriella subcapitata (green algae))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>3.6 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 201</td>
<td></td>
</tr>
</tbody>
</table>

**NOELR**

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOELR (Desmodesmus subspicatus (green algae))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>5 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 201</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Substance</th>
<th>NOEC (Ceriodaphnia dubia (water flea))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>0.96 mg/l</td>
<td>7 d</td>
<td>OECD Test Guideline 201</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity to microorganisms**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Nitrosomonas sp.)</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>96 mg/l</td>
<td>24 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
</tbody>
</table>

**Xylene**

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 (Oncorhynchus mykiss (rainbow trout))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>13.5 mg/l</td>
<td>96 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
</tbody>
</table>

**Toxicity to daphnia and other aquatic invertebrates**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Daphnia magna (Water flea))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>&gt; 1 - 10 mg/l</td>
<td>24 h</td>
<td>OECD Test Guideline 202</td>
<td>Based on data from similar materials</td>
</tr>
</tbody>
</table>

**Toxicity to algae/aquatic plants**

<table>
<thead>
<tr>
<th>Substance</th>
<th>EC50 (Skeletonema costatum (marine diatom))</th>
<th>Exposure time</th>
<th>Method</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>10 mg/l</td>
<td>72 h</td>
<td>OECD Test Guideline 203</td>
<td></td>
</tr>
</tbody>
</table>

**Remarks:** Based on data from similar materials.
Dichlofenthion Formulation

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:

- **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
SAFETY DATA SHEET

Dichlofenthion Formulation

Version: 3.6
Revision Date: 27.08.2021
SDS Number: 1560330-00010
Date of last issue: 09.04.2021
Date of first issue: 14.04.2017

Castor oil:
Biodegradability: Result: Not readily biodegradable.
Biodegradation: 40 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

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

International Regulations

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

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 : CORROSION 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.

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
Argentina. Carcinogenic Substances and Agents : Tar, coal
Control of precursors and essential chemicals for the preparation of drugs: Not applicable

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

Full text of other abbreviations
- **ACGIH**: USA. ACGIH Threshold Limit Values (TLV)
- **ACGIH BEI**: ACGIH - Biological Exposure Indices (BEI)
- **AR BEI**: Argentina. Biological Exposure Indices
- **AR OEL**: Argentina. Occupational Exposure Limits
- **ACGIH / TWA**: 8-hour, time-weighted average
- **ACGIH / STEL**: Short-term exposure limit
- **ACGIH / C**: Ceiling limit
- **AR OEL / CMP**: TLV (Threshold Limit Value)
- **AR OEL / CMP - CPT**: STEL (Short Term Limit Value)
- **AR OEL / CMP - C**: Ceiling value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing 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 Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumu-
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

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