SAFETY DATA SHEET

Dichlofenthion Formulation

Version: 2.8  Revision Date: 27.08.2021  SDS Number: 1552595-00010  Date of last issue: 09.04.2021  Date of first issue: 14.04.2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Dichlofenthion Formulation

Manufacturer or supplier's details
Company: MSD
Address: 50 Tuas West Drive
          Singapore - Singapore 638408
Telephone: +1-908-740-4000
Emergency telephone number: 65 6697 2111 (24/7/365)
E-mail address: EHSDATASTEWARD@msd.com

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

2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 3
Acute toxicity (Oral): Category 4
Skin corrosion/irritation: Category 1
Serious eye damage/eye irritation: Category 1
Skin sensitisation: 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
Short-term (acute) aquatic: Category 1
hazard

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements :
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H350 May cause cancer if swallowed.
H361d Suspected of damaging the unborn child.
H370 Causes damage to organs (Nervous system).
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/ sparks/ open flames/ hot surfaces.
No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe vapours.
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/ shower. Immediately call a POISON CENTER/ doctor.
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P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a 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.
P308 + P313 IF exposed or concerned: Get medical advice/attention.
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:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

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

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

<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>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;= 1 &lt; 10</td>
</tr>
<tr>
<td>Xylene</td>
<td>1330-20-7</td>
<td>&gt;= 1 &lt; 10</td>
</tr>
<tr>
<td>Dichlofenthion (ISO)</td>
<td>97-17-6</td>
<td>&gt;= 3 &lt; 10</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; 3</td>
</tr>
<tr>
<td>p-Cresol</td>
<td>106-44-5</td>
<td>&gt;= 1 &lt; 3</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

General advice : In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.

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

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

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

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

Most important symptoms and effects, both acute and delayed:
- Harmful if swallowed.
- May be fatal if swallowed and enters airways.
- May 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.

5. FIREFIGHTING MEASURES

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

Unsuitable extinguishing media:
High volume water jet

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

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

Specific extinguishing methods:
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Remove all sources of ignition.
- Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

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

Methods and materials for containment and cleaning up:
- Non-sparking tools should be used.
- Soak up with inert absorbent material.
- Suppress (knock down) gases/vapours/mists with a water spray jet.
- For large spills, provide dyeing or other appropriate containment to keep material from spreading. If dyed material can be pumped, store recovered material in appropriate container.
- Clean up remaining materials from spill with suitable absorbent.
- Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
- Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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

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

Materials to avoid:
Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable gases
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Poisonous gases
Explosives

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>PEL (short term)</td>
<td>125 ppm 543 mg/m³</td>
<td>SG OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL (long term)</td>
<td>100 ppm 434 mg/m³</td>
<td>SG 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>PEL (long term)</td>
<td>100 ppm 434 mg/m³</td>
<td>SG OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL (short term)</td>
<td>150 ppm 651 mg/m³</td>
<td>SG OEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>100 ppm</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>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>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>PEL (short term)</td>
<td>2 mg/m³</td>
<td>SG 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>PEL (long term)</td>
<td>5 ppm 19 mg/m³</td>
<td>SG OEL</td>
</tr>
</tbody>
</table>

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

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## 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>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>methylhippuric acid</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>1.5 g/g creatinine</td>
<td>SG BTLV</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>100-41-4</td>
<td>Sum of mandelic acid and phenyl glyoxylic acid</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<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
Hand protection: Combined particulates and organic vapour type

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: viscous liquid

Colour: dark, brown

Odour: strong

Odour 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
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Flammability (liquids) : Not applicable

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Vapour pressure : No data available

Relative vapour density : No data available

Relative density : No data available

Density : 1,009 - 1,051 g/cm³ (20 °C)

Solubility(ies)
   Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Viscosity
   Viscosity, kinematic : No data available

Explosive properties : Not explosive

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

Particle size : Not applicable

10. STABILITY AND REACTIVITY

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions
   Flammable liquid and vapour.
   Vapours 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.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
   Inhalation
   Skin contact
   Ingestion
Eye contact

**Acute toxicity**
Harmful if swallowed.

**Product:**

**Acute oral toxicity**
- Acute toxicity estimate: 1,713 mg/kg
  - Method: Calculation method

**Acute inhalation toxicity**
- Acute toxicity estimate: > 20 mg/l
  - Exposure time: 4 h
  - Test atmosphere: vapour
  - Method: Calculation method

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

**Components:**

**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: vapour

**Acute dermal toxicity**
- LD50 (Rabbit): > 5,000 mg/kg

**Xylene:**

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

**Acute inhalation toxicity**
- LC50 (Rat): 27.571 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 4,200 mg/kg

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

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

Phenol:
Acute oral toxicity : LD50 (Rat): 650 mg/kg
Method: OECD Test Guideline 401
Acute toxicity estimate (Humans): 140 - 290 mg/kg
Method: Expert judgement

Acute inhalation toxicity : LC0 (Rat): 0.9 mg/l
Exposure time: 8 h
Test atmosphere: dust/mist
Assessment: Corrosive to the respiratory tract.
Acute toxicity estimate (Humans): > 0.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Expert judgement

Acute dermal toxicity : LD50 (Rabbit): 660 mg/kg
Method: OECD Test Guideline 402
Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgement

m-Cresol:
Acute oral toxicity : LD50 (Rat): 121 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.

Acute dermal toxicity : LD50 (Rabbit): 301 mg/kg
Remarks: Based on data from similar materials

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

Skin corrosion/irritation
Causes severe burns.

Components:

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

Rosin:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No 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:
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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 sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.
## Components:

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

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

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

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

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

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

### Phenol:
- **Test Type**: Buehler Test
- **Exposure routes**: Skin contact
- **Species**: Guinea pig
- **Method**: OECD Test Guideline 406
- **Result**: negative
p-Cresol:
Test Type: Draize Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Germ cell mutagenicity
Suspected of causing genetic defects.

Components:

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

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

Tar, coal:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: positive
Remarks: Based on data from similar materials
Germ cell mutagenicity - Assessment: Positive result(s) from in vivo non-mammalian somatic cell mutagenicity tests, supported by positive results from in vitro mutagenicity assays.
Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Ethylbenzene:
Genotoxicity in vitro: Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Test Type: Chromosome aberration test in vitro
Result: negative
Genotoxicity in vivo: Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo
Species: Mouse
Application Route: Inhalation
Method: OECD Test Guideline 486
Result: negative
Xylene:

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

- Test Type: Chromosome aberration test in vitro
  Result: negative

- Test Type: In vitro mammalian cell gene mutation test
  Result: negative

- Test Type: In vitro sister chromatid exchange assay in mammalian cells
  Result: negative

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

Phenol:

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

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

Germ cell mutagenicity - 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
SAFETY DATA SHEET

Dichlofenthion Formulation

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

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

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 (vapour)
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
- **Result**: equivocal
- **Remarks**: Based on data from similar materials

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

### Carcinogenicity - Assessment
- **Remarks**: 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.

#### Rosin:
- **Test Type**: Reproduction/Developmental toxicity screening test
  - **Species**: Rat
  - **Application Route**: Ingestion
  - **Method**: OECD Test Guideline 421
  - **Result**: negative

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

- **Test Type**: Embryo-foetal development
  - **Species**: Rat
  - **Application Route**: Inhalation
  - **Method**: OECD Test Guideline 414
  - **Result**: negative
Xylene:
Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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

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

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

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

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

Effects on foetal development : Test Type: Prenatal development toxicity study (teratogenicity)
Species: Rat
Application Route: Ingestion
Result: negative
SAFETY DATA SHEET
Dichlofenthion Formulation

Version 2.8  Revision Date: 27.08.2021  SDS Number: 1552595-00010  Date of last issue: 09.04.2021
Date of first issue: 14.04.2017

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

Effects on foetal development: Test Type: Embryofetal development
Species: Rat
Application Route: Ingestion
Result: negative

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

Components:

Tar, coal:
Exposure routes: 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.

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

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

Xylene:
Exposure routes: inhalation (vapour)
Target Organs: Auditory system
Assessment: Shown to produce significant health effects in animals at concentrations of >0.2 to 1 mg/l/6h/d.
Dichlofenthion (ISO):  
Target Organs : Nervous system  
Assessment : Causes damage to organs through prolonged or repeated exposure.  
Remarks : Based on human experience.

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

Repeated dose toxicity

Components:

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

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

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

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

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

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

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

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

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

**Components**

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

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

Components:

Dichlofenthion (ISO):
Skin contact: Symptoms: irritating, central nervous system effects, sweating
Remarks: Can be absorbed through skin.
May cause sensitisation by skin contact.
Eye contact: Symptoms: constriction of pupils, central nervous system ef-
fects
Ingestion: Symptoms: Nausea, Diarrhoea, Vomiting, sweating, Lachry-
mation, constriction of pupils, Central nervous system depres-
sion, Gastrointestinal disturbance, bronchospasm, central
nervous system effects, Oedema

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Tar, wood:
Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 28 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants: EC50 (Desmodesmus subspicatus (green algae)): 17 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
EC10 (Desmodesmus subspicatus (green algae)): 14 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Rosin:
Toxicity to fish: LL50 (Danio rerio (zebra fish)): > 1 - < 10 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 911 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants: NOELR (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Toxicity to microorganisms: EC50: > 10,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Tar, coal:
Toxicity to fish: LL50 (Danio rerio (zebra fish)): > 250 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates: EL50 (Daphnia magna (Water flea)): 2.8 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants: EL50 (Desmodesmus subspicatus (green algae)): 36 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Ethylbenzene:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 4.2 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 1.8 - 2.4 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants: EC50 (Pseudokirchneriella subcapitata (green algae)): 3.6 mg/l
Exposure time: 96 h

NOEC (Pseudokirchneriella subcapitata (green algae)): 3.4 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity):
NOEC (Ceriodaphnia dubia (water flea)): 0.96 mg/l
Exposure time: 7 d

Toxicity to microorganisms: EC50 (Nitrosomonas sp.): 96 mg/l
Exposure time: 24 h

Xylene:
Toxicity to fish: LC50 (Oncorhynchus mykiss (rainbow trout)): 13.5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
## Dichlofenthion Formulation

<table>
<thead>
<tr>
<th>Remarks: Based on data from similar materials</th>
</tr>
</thead>
</table>

### 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)
- **M-Factor**: 100

### M-Factor (Chronic aquatic toxicity)
- **M-Factor**: 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
m-Cresol:
Toxicity to fish : \( \text{LC50 (Oncorhynchus mykiss (rainbow trout)): } 8.6 \text{ mg/l} \)
Exposure time: 96 h

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

Toxicity to fish (Chronic toxicity) : \( \text{NOEC (Pimephales promelas (fathead minnow)): } 1.35 \text{ mg/l} \)
Exposure time: 32 d
Remarks: Based on data from similar materials

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

p-Cresol:
Toxicity to fish : \( \text{LC50 (Oncorhynchus mykiss (rainbow trout)): } 7.4 \text{ mg/l} \)
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : \( \text{EC50 (Daphnia magna (Water flea)): } 7.7 \text{ mg/l} \)
Exposure time: 48 h
Method: DIN 38412

Toxicity to algae/aquatic plants : \( \text{EC50 (Desmodesmus subspicatus (green algae)): } 7.8 \text{ mg/l} \)
Exposure time: 48 h
\( \text{EC10 (Desmodesmus subspicatus (green algae)): } 2.3 \text{ mg/l} \)
Exposure time: 48 h

Toxicity to fish (Chronic toxicity) : \( \text{NOEC (Pimephales promelas (fathead minnow)): } 1.35 \text{ mg/l} \)
Exposure time: 32 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : \( \text{NOEC (Daphnia magna (Water flea)): } 1 \text{ mg/l} \)
Exposure time: 21 d

Toxicity to microorganisms : \( \text{IC50 (Nitrosomonas sp.): } 260 \text{ mg/l} \)
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
- **Ethylbenzene:**
  - Biodegradation: 71%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301D

- **Xylene:**
  - Biodegradation: > 70%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301F
  - Remarks: Based on data from similar materials

- **Phenol:**
  - Biodegradation: 62%
  - Exposure time: 10 d
  - Method: OECD Test Guideline 301C

- **m-Cresol:**
  - Biodegradation: 90%
  - Exposure time: 28 d
  - Method: OECD Test Guideline 301D

- **p-Cresol:**
  - 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

- **Tar, coal:**
  - Partition coefficient: n-octanol/water: log Pow: 3 - 6.2
  - Remarks: No data available
Ethylbenzene:
Partition coefficient: n-octanol/water : log Pow: 3.6

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

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

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

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

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

Mobility in soil
No data available

Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Dispose of in accordance with local regulations.
Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.
14. TRANSPORT INFORMATION

International Regulations

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

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

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

15. REGULATORY INFORMATION

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

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subjected to the SDS, labelling, PEL and other requirements in the Act/Regulations.

Environmental Protection and Management Act and : Phosphorus compounds used as
Environmental Protection and Management (Hazardous Substances) Regulations
pesticides (insecticides, acaricides, etc.)
Phenols

Fire Safety (Petroleum and Flammable Materials) Regulations
Mixed Xylenes Isomers
Xylenes
Ethylbenzene

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

16. OTHER INFORMATION

Further information

Date format: dd.mm.yyyy

Full text of other abbreviations
ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
SG BTLV : Singapore. Biological Threshold Limit Values

ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
ACGIH / C : Ceiling limit
SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term
SG OEL / PEL (short term) : Permissible Exposure Level (PEL) Short Term

AIIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; 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 Civil Aviation Organization; 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 Con-
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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.

SG / EN