# SAFETY DATA SHEET

# Dichlofenthion Formulation

| Version | Revision Date: | SDS Number: | Date of last issue: 2024/06/17 |
|---|---|---|---|
| 12.0 | 2024/09/28 | 1552600-00018 | Date of first issue: 2017/04/14 |

## 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Dichlofenthion Formulation

**Supplier's company name, address and phone number**

Company name of supplier : MSD

Address : Kumagaya, Saitama Prefecture , Xicheng 810 MSD Co., Ltd. Menuma factory

Telephone : 048-588-8411

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

**Recommended use of the chemical and restrictions on use**

Recommended use : Veterinary product

Restrictions on use : Not applicable

## 2. HAZARDS IDENTIFICATION

**GHS classification of chemical product**

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Skin corrosion/irritation : Sub-category 1B

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 - : Category 2 (Nervous system, Respiratory Tract)

repeated exposure

| | | |
|---|---|---|
| Aspiration hazard | : | Category 1 |
| 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 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, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 Keep container tightly closed.
P241 Use explosion-proof electrical/ ventilating/ lighting equipment.
P242 Use non-sparking tools.
P243 Take action to prevent static discharges.
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 protec-

tion/ 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 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:**

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**

Important symptoms and outlines of the emergency assumed : Vapours may form explosive mixture with air.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

**Components**

| Chemical name | CAS-No. | Concentration (% w/w) | ENCS No. |
|---|---|---|---|
| Tar, wood | 91722-33-7 | >= 10 - < 20 | - |
| Rosin | 8050-09-7 | >= 10 - < 20 | 7-934 |
| Tar, coal | 8007-45-2 | 12 | 9-1741 |
| Ethylbenzene | 100-41-4 | 9.8 | 3-28 |

| | | | |
|---|---|---|---|
| Xylene | 1330-20-7 | 9.3 | 3-3, 3-60 |
| Dichlofenthion (ISO) | 97-17-6 | >= 1 - < 10 | 3-4112 |
| Sodium hydroxide | 1310-73-2 | >= 1 - < 10 | 1-410 |
| Phenol | 108-95-2 | 1.9 | 3-481 |
| m-Cresol | 108-39-4 | 1.1 | 3-499, 4-57 |
| p-Cresol | 106-44-5 | 1 | 3-499, 4-57 |

## 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<br>Alcohol-resistant foam<br>Carbon dioxide (CO2)<br>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.<br>Flash back possible over considerable distance.<br>Vapours may form explosive mixtures with air.<br>Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : | Carbon oxides<br>Metal oxides<br>Nitrogen oxides (NOx) |
| Specific extinguishing methods | : | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.<br>Use water spray to cool unopened containers.<br>Remove undamaged containers from fire area if it is safe to do so.<br>Evacuate area. |
| Special protective equipment for firefighters | : | In the event of fire, wear self-contained breathing apparatus.<br>Use personal protective equipment. |

## 6. ACCIDENTAL RELEASE MEASURES

| | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Remove all sources of ignition.<br>Use personal protective equipment.<br>Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8). |
| Environmental precautions | : | Avoid release to the environment.<br>Prevent further leakage or spillage if safe to do so.<br>Prevent spreading over a wide area (e.g. by containment or oil barriers).<br>Retain and dispose of contaminated wash water.<br>Local authorities should be advised if significant spillages cannot be contained. |
| Methods and materials for | : | Non-sparking tools should be used. |

| | |
|---|---|
| containment and cleaning up | Soak up with inert absorbent material.<br>Suppress (knock down) gases/vapours/mists with a water spray jet.<br>For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.<br>Clean up remaining materials from spill with suitable absorbent.<br>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.<br>Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

## 7. HANDLING AND STORAGE

**Handling**

| | | |
|---|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | If sufficient ventilation is unavailable, use with local exhaust ventilation.<br>Use explosion-proof electrical, ventilating and lighting equipment. |
| Advice on safe handling | : | Do not get on skin or clothing.<br>Do not breathe vapours.<br>Do not swallow.<br>Do not get in eyes.<br>Wash skin thoroughly after handling.<br>Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment<br>Non-sparking tools should be used.<br>Keep container tightly closed.<br>Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.<br>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br>Take precautionary measures against static discharges.<br>Do not eat, drink or smoke when using this product.<br>Take care to prevent spills, waste and minimize release to the environment. |
| Avoidance of contact | : | Oxidizing agents |
| Hygiene measures | : | If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place.<br>When using do not eat, drink or smoke.<br>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.

**Storage**

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:
Oxidizing solids
Oxidizing liquids

Packaging material : Unsuitable material: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Threshold limit value and permissible exposure limits for each component in the work environment**

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Concentration standard / Permissible concentration | Basis |
|---|---|---|---|---|
| Rosin | 8050-09-7 | TWA (Inhalable particulate matter) | 0.001 mg/m3 (total Resin acids) | ACGIH |
| Tar, coal | 8007-45-2 | ACL | 0.2 mg/m3 (soluble in benzene) | JP OEL ISHL |
| Ethylbenzene | 100-41-4 | ACL | 20 ppm | JP OEL ISHL |
| | | OEL-M | 20 ppm<br>87 mg/m3 | JP OEL JSOH |
| | Further information: Group 2: Substances presumed to cause reproductive toxicity in humans, Skin absorption, Group 2B: possibly carcinogenic to humans | | | |
| | | TWA | 20 ppm | ACGIH |
| Xylene | 1330-20-7 | ACL | 50 ppm | JP OEL ISHL |
| | | OEL-M | 50 ppm<br>217 mg/m3 | JP OEL JSOH |
| | Further information: Group 3: Substances suspected to cause reproductive toxicity in humans | | | |
| | | TWA | 20 ppm | ACGIH |
| Dichlofenthion (ISO) | 97-17-6 | TWA | 20 µg/m3 (OEB 3) | Internal |
| | Further information: Skin | | | |
| | | Wipe limit | 200 µg/100 cm² | Internal |

| | | | | |
|---|---|---|---|---|
| Sodium hydroxide | 1310-73-2 | OEL-C | 2 mg/m3 | JP OEL JSOH |
| | | C | 2 mg/m3 | ACGIH |
| Phenol | 108-95-2 | OEL-M | 5 ppm<br>19 mg/m3 | JP OEL JSOH |
| | Further information: Group 3: Substances suspected to cause reproductive toxicity in humans, Skin absorption | | | |
| | | TWA | 5 ppm | ACGIH |
| m-Cresol | 108-39-4 | ACL | 5 ppm | JP OEL ISHL |
| | | OEL-M | 5 ppm<br>22 mg/m3 | JP OEL JSOH |
| | Further information: Skin absorption | | | |
| | | TWA (Inhalable fraction and vapor) | 20 mg/m3 | ACGIH |
| p-Cresol | 106-44-5 | ACL | 5 ppm | JP OEL ISHL |
| | | OEL-M | 5 ppm<br>22 mg/m3 | JP OEL JSOH |
| | Further information: Skin absorption | | | |
| | | TWA (Inhalable fraction and vapor) | 20 mg/m3 | ACGIH |

**Biological occupational exposure limits**

| Components | CAS-No. | Target substance | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| Phenol | 108-95-2 | Phenol | Urine | End of shift | 250 mg/g creatinine | JSOH |
| | | Phenol | Urine | End of shift (As soon as possible after exposure ceases) | 250 mg/g creatinine | ACGIH BEI |
| Xylene | 1330-20-7 | total (o-, m-, p-)methylhippuric acid | Urine | End of shift at end of workweek | 800 mg/l | JSOH |
| | | Methylhippuric acids | Urine | End of shift (As soon as possible after exposure ceases) | 0.3 g/g creatinine | ACGIH BEI |
| Ethylbenzene | 100-41-4 | Mandelic acid | Urine | End of shift | 150 mg/g creatinine | JSOH |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Mandelic acid + Phenylglyoxylic acid | Urine | End of shift at end of work-week | 200 mg/g creatinine | JSOH |
| | | Ethylbenzene | Urine | End of shift | 15 µg/l | JSOH |
| | | Sum of mandelic acid and phenyl glyoxylic acid | Urine | End of shift (As soon as possible after exposure ceases) | 150 mg/g creatinine | ACGIH BEI |

**Engineering measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

**Personal protective equipment**

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

Filter type : Combined particulates and organic vapour type

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.
Impermeable protective gloves

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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| Physical state | : | viscous liquid |
| Colour | : | dark, brown |
| Odour | : | strong |
| Odour Threshold | : | No data available |
| Melting point/freezing point | : | No data available |
| Boiling point, initial boiling point and boiling range | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | Not applicable |
| Lower explosion limit and upper explosion limit / flammability limit | | |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Flash point | : | 30 °C |
| Decomposition temperature | : | No data available |
| pH | : | Not applicable |
| Evaporation rate | : | No data available |
| Auto-ignition temperature | : | No data available |
| Viscosity | | |
| Viscosity, kinematic | : | No data available |
| Solubility(ies) | | |
| Water solubility | : | No data available |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Vapour pressure | : | No data available |
| Density and / or relative density | | |
| Relative density | : | No data available |

| | | |
|---|---|---|
| Density | : | 1,009 - 1,051 g/cm³ (20 °C) |
| Relative vapour density | : | No data available |
| Explosive properties | : | Not explosive |
| Oxidizing properties | : | The substance or mixture is not classified as oxidizing. |
| Particle characteristics | | |
| 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.<br>Vapours may form explosive mixture with air.<br>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<br>Skin contact<br>Ingestion<br>Eye contact |

**Acute toxicity**

Harmful if swallowed.

**Product:**

| | | |
|---|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: 1,713 mg/kg<br>Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: > 20 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour<br>Method: Calculation method |
| Acute dermal toxicity | : | Acute toxicity estimate: > 2,000 mg/kg<br>Method: Calculation method |

**Components:**

**Tar, wood:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): > 2,000 mg/kg<br>Method: OECD Test Guideline 423<br>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<br>Method: OECD Test Guideline 402<br>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<br>Exposure time: 4 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD50 (Rabbit): > 5,000 mg/kg |

**Xylene:**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 3,523 mg/kg<br>Method: Directive 67/548/EEC, Annex V, B.1. |
| Acute inhalation toxicity | : | LC50 (Rat): 27.571 mg/l<br>Exposure time: 4 h<br>Test atmosphere: vapour |
| Acute dermal toxicity | : | LD50 (Rabbit): > 4,200 mg/kg |

**Dichlofenthion (ISO):**

| | | |
|---|---|---|
| Acute oral toxicity | : | LD50 (Rat): 172 mg/kg<br><br>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

Species : reconstructed human epidermis (RhE)
Method : OECD Test Guideline 431

Result : Skin irritation

**Rosin:**

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

**Tar, coal:**

Species : Rabbit
Result : Mild skin irritation

**Xylene:**

Species : Rabbit
Result : Skin irritation

**Dichlofenthion (ISO):**

Result : Mild skin irritation
Remarks : Based on data from similar materials

**Sodium hydroxide:**

Result : Corrosive after 3 minutes or less of exposure

**Phenol:**

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

**m-Cresol:**

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

**p-Cresol:**

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

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Components:**

**Tar, wood:**

Result : Irritation to eyes, reversing within 7 days

**Rosin:**

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

**Tar, coal:**

Species : Human
Result : Irreversible effects on the eye

**Xylene:**

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

**Sodium hydroxide:**

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

**Phenol:**

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

**m-Cresol:**

Species : Rabbit
Result : Irreversible effects on the eye

**p-Cresol:**

Species : Rabbit
Result : Irreversible effects on the eye

**Respiratory or skin 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:**

| | | |
|---|---|---|
| Test Type | : | Local lymph node assay (LLNA) |
| Exposure routes | : | Skin contact |
| Species | : | Mouse |
| Method | : | OECD Test Guideline 429 |
| Result | : | negative |

**Tar, coal:**

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

**Xylene:**

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

**Dichlofenthion (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)<br>Method: OECD Test Guideline 471<br>Result: negative |

**Rosin:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>Result: negative<br><br>Test Type: Chromosome aberration test in vitro<br>Method: OECD Test Guideline 473<br>Result: negative |

**Tar, coal:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Method: OECD Test Guideline 471<br>Result: positive<br>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.<br>Remarks: Based on national or regional regulation. |

**Ethylbenzene:**

| | | |
|---|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES)<br>Result: negative<br><br>Test Type: In vitro mammalian cell gene mutation test<br>Method: OECD Test Guideline 476<br>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

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

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

**Carcinogenicity**

May cause cancer if swallowed.

**Components:**

**Tar, coal:**

| | | |
|---|---|---|
| Species | : | Mouse |
| Application Route | : | Ingestion |
| Exposure time | : | 2 Years |
| Result | : | positive |

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

**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 | : | 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: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test<br>Species: Rat<br>Application Route: Ingestion<br>Method: OECD Test Guideline 422<br>Result: negative |
| Effects on foetal development | : | Test Type: Embryo-foetal development<br>Species: Rat<br>Application Route: Ingestion |

Method: OECD Test Guideline 414
Result: negative

**Ethylbenzene:**

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

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

**Xylene:**

Effects on fertility : Test Type: One-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

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

**Dichlofenthion (ISO):**

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

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

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

**Phenol:**

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

Method: OECD Test Guideline 416
Result: negative

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

**m-Cresol:**

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

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

**p-Cresol:**

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

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

**STOT - single exposure**

May cause respiratory irritation.
Causes damage to organs (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:**

**Rosin:**

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

**Ethylbenzene:**

| | | |
|---|---|---|
| Species | : | Rat |

| | | |
|---|---|---|
| LOAEL | : | 0.868 mg/l |
| Application Route | : | inhalation (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 |

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

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

**m-Cresol:**

| | | |
|---|---|---|
| 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<br>Remarks: Can be absorbed through skin.<br>May cause sensitisation by skin contact. |
| Eye contact | : | Symptoms: constriction of pupils, central nervous system effects |
| Ingestion | : | Symptoms: Nausea, Diarrhoea, Vomiting, sweating, Lachrymation, constriction of pupils, Central nervous system depression, 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<br>Exposure time: 48 h<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): 17 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201<br><br>EC10 (Desmodesmus subspicatus (green algae)): 14 mg/l<br>Exposure time: 72 h<br>Method: OECD Test Guideline 201 |

**Rosin:**

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Danio rerio (zebra fish)): > 1 - 10 mg/l<br>Exposure time: 96 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 203<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : | EL50 (Daphnia magna (Water flea)): 911 mg/l<br>Exposure time: 48 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EL50 (Raphidocelis subcapitata (freshwater green alga)): > 1,000 mg/l<br>Exposure time: 72 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201<br><br>NOELR (Raphidocelis subcapitata (freshwater green alga)): 1,000 mg/l<br>Exposure time: 72 h<br>Test substance: Water Accommodated Fraction<br>Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50 (activated sludge): > 10,000 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209 |

**Tar, coal:**

| | | |
|---|---|---|
| Toxicity to fish | : | LL50 (Danio rerio (zebra fish)): > 250 mg/l<br>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

NOELR (Desmodesmus subspicatus (green algae)): 5 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

**Ethylbenzene:**

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

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

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

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

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

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

**Xylene:**

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

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

| | | |
|---|---|---|
| Toxicity to algae/aquatic plants | : | EC50 (Skeletonema costatum (marine diatom)): 10 mg/l<br>Exposure time: 72 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Danio rerio (zebra fish)): > 0.1 - < 1 mg/l<br>Exposure time: 35 d<br>Method: OECD Test Guideline 210<br>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<br>Exposure time: 21 d<br>Method: OECD Test Guideline 211<br>Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : | NOEC: > 100 mg/l<br>Exposure time: 3 h<br>Method: OECD Test Guideline 209<br>Remarks: Based on data from similar materials |

**Dichlofenthion (ISO):**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (No species specified): 0.64 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203<br><br>LC50 (Lepomis macrochirus (Bluegill sunfish)): 1.23 mg/l<br>Exposure time: 96 h<br>Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 0.0011 mg/l<br>Exposure time: 48 h<br>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<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Ceriodaphnia dubia (water flea)): 3.1 mg/l<br>Exposure time: 48 h |
| Toxicity to algae/aquatic plants | : | EC50 (Selenastrum capricornutum (green algae)): 61.1 mg/l<br>Exposure time: 96 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC: 0.077 mg/l<br>Exposure time: 60 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 10 mg/l<br>Exposure time: 16 d |

| | | |
|---|---|---|
| Toxicity to microorganisms | : | IC50 (Nitrosomonas sp.): 21 mg/l<br>Exposure time: 24 h |

**m-Cresol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 8.6 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia pulex (Water flea)): > 99.5 mg/l<br>Exposure time: 48 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l<br>Exposure time: 32 d<br>Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 1 mg/l<br>Exposure time: 21 d<br>Remarks: Based on data from similar materials |

**p-Cresol:**

| | | |
|---|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 7.4 mg/l<br>Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 7.7 mg/l<br>Exposure time: 48 h<br>Method: DIN 38412 |
| Toxicity to algae/aquatic plants | : | EC50 (Desmodesmus subspicatus (green algae)): 7.8 mg/l<br>Exposure time: 48 h<br><br>EC10 (Desmodesmus subspicatus (green algae)): 2.3 mg/l<br>Exposure time: 48 h |
| Toxicity to fish (Chronic toxicity) | : | NOEC (Pimephales promelas (fathead minnow)): 1.35 mg/l<br>Exposure time: 32 d |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC (Daphnia magna (Water flea)): 1 mg/l<br>Exposure time: 21 d |
| Toxicity to microorganisms | : | IC50 (Nitrosomonas sp.): 260 mg/l<br>Exposure time: 24 h |

**Persistence and degradability**

**Components:**

**Tar, wood:**

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

**Rosin:**

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

**Ethylbenzene:**

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

**Xylene:**

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

**Phenol:**

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

**m-Cresol:**

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

**p-Cresol:**

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

**Bioaccumulative potential**

**Components:**

**Tar, wood:**

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

**Rosin:**

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

**Tar, coal:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | Remarks: No data available |

**Ethylbenzene:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 3.6 |

**Xylene:**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 3.16<br>Remarks: Calculation |

**Dichlofenthion (ISO):**

| | | |
|---|---|---|
| Partition coefficient: n-octanol/water | : | log Pow: 5.14 |

**Phenol:**

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

**m-Cresol:**

| | | |
|---|---|---|
| Bioaccumulation | : | Species: Leuciscus idus (Golden orfe)<br>Bioconcentration factor (BCF): 17 - 20 |
| Partition coefficient: n-octanol/water | : | log Pow: 1.96 |

**p-Cresol:**

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

**Mobility in soil**

No data available

**Hazardous to the ozone layer**

Not applicable

**Other adverse effects**

No data available

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods**

| | | |
|---|---|---|
| Waste from residues | : | Dispose of in accordance with local regulations.<br>Do not dispose of waste into sewer. |
| Contaminated packaging | : | Empty containers should be taken to an approved waste han- |

dling 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) |
| Environmentally hazardous | : | yes |

**IATA-DGR**

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

**IMDG-Code**

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

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

Not applicable for product as supplied.

**National Regulations**

Refer to section 15 for specific national regulation.

**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.

**ERG Code** : 132

## 15. REGULATORY INFORMATION

**Related Regulations**

**Fire Service Law**

Group 4, Type 2 petroleums, Water insoluble liquid, (1000 litre), Hazardous rank III

**Chemical Substance Control Law**

Priority Assessment Chemical Substance

| Chemical name | Number |
|---|---|
| Coal tar | 162 |
| Ethylbenzene | 50 |
| Xylene | 125 |
| Cresol | 156 |
| Phenol | 62 |

**Industrial Safety and Health Law**

**Harmful Substances Prohibited from Manufacture**

Not applicable

**Harmful Substances Required Permission for Manufacture**

Not applicable

**Substances Prevented From Impairment of Health**

| Chemical name |
|---|
| Ethylbenzene |

**Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity**

Not applicable

**Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity**

Not applicable

**Substances Subject to be Notified Names**

Article 57-2 (Enforcement Order Table 9)

| Chemical name | Concentration (%) | Remarks |
|---|---|---|
| Rosin | >=10 - <20 | - |
| Coal tar | 12 | - |
| Ethylbenzene | 9.8 | - |
| Xylene | 9.3 | - |
| O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate | >=1 - <10 | From April 1st, 2025 |
| Sodium hydroxide | >=1 - <10 | - |
| Phenol | >=1 - <10 | - |
| Cresol | >=1 - <10 | - |

**Substances Subject to be Indicated Names**

Article 57 (Enforcement Order Article 18)

| Chemical name | Remarks |
|---|---|
| Rosin | - |
| coal tar | - |
| ethylbenzene | - |
| xylene | - |
| O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate | From April 1st, 2025 |
| Sodium hydroxide | - |
| phenol | - |
| cresol | - |

**Skin and Eye Damage Substances for PPE Requirements (ISHL MO Art. 594-2)**

| Chemical name |
|---|
| Rosin |
| coal tar |
| ethylbenzene |
| Xylene |
| O-2,4-Dichlorophenyl O,O-diethyl phosphorothioate |
| Sodium hydroxide |
| m-Cresol |
| p-Cresol |

**Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)**

Not applicable

**Ordinance on Prevention of Hazards Due to Specified Chemical Substances - Group 2 Substance**

| Chemical name |
|---|
| coal tar |
| ethylbenzene |

**Ordinance on Prevention of Lead Poisoning**

Not applicable

**Ordinance on Prevention of Tetraalkyl Lead Poisoning**

Not applicable

**Ordinance on Prevention of Organic Solvent Poisoning**

Organic Solvents Class 2

**Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)**

Inflammable Substance

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof**

**Class I Designated Chemical Substances**

| Chemical name | Administration number | Concentration (%) |
|---|---|---|

| | | |
|---|---|---|
| Ethylbenzene | 53 | 9.8 |
| Xylene | 80 | 9.3 |
| Phenol | 349 | 1.9 |
| Cresol | 86 | 2.1 |

**High Pressure Gas Safety Act**

Not applicable

**Explosive Control Law**

Not applicable

**Vessel Safety Law**

Corrosive substances (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

**Aviation Law**

Corrosive substances (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

**Marine Pollution and Sea Disaster Prevention etc Law**

Bulk transportation : Noxious liquid substance(Category X)

Pack transportation : Classified as marine pollutant

**Narcotics and Psychotropics Control Act**

Narcotic or Psychotropic Raw Material (Export / Import Permission)
Not applicable
Specific Narcotic or Psychotropic Raw Material (Export / Import permission)
Not applicable

**Waste Disposal and Public Cleansing Law**

Specially Controlled Industrial Waste

**The components of this product are reported in the following inventories:**

AICS : not determined

DSL : not determined

IECSC : not determined

## 16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

**Further information**

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

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

| | | |
|---|---|---|
| Date format | : | yyyy/mm/dd |

**Full text of other abbreviations**

| | | |
|---|---|---|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| JP OEL ISHL | : | Japan. Administrative Control Levels |
| JP OEL JSOH | : | Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits |
| JSOH | : | Occupational exposure limits based on biological monitoring (JSOH). |

| | | |
|---|---|---|
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / C | : | Ceiling limit |
| JP OEL ISHL / ACL | : | Administrative Control level |
| JP OEL JSOH / OEL-M | : | Occupational Exposure Limit-Mean |
| JP OEL JSOH / OEL-C | : | Occupational Exposure Limit-Ceiling |

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, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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.

JP / EN