SAFETY DATA SHEET

According to 13 December 2014, No:29204, “Ministry of Environment and Urbanization; Regulation on Safety data sheets regarding hazardous substances and mixtures; Part I”.

Dichlofenthion Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 24.04.2019
2.2	13.09.2019	2379574-00005	Date of first issue: 22.01.2018

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Dichlofenthion Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Veterinary product

1.3 Details of the supplier of the safety data sheet

Company : MSD
Balıkhisar Mah. Köyiçi Küme Evleri No: 765/A
Çubuk Yolu 2. Km
Akyurt / Ankara / TÜRKİYE

Telephone : +90 312 840 53 00

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

National Poison Control Center (UZEM): 114
Emergency: 1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification T.R. SEA No 28848

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Carcinogenicity, Category 1A	H350: May cause cancer if swallowed.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure, Category 1	H370: Causes damage to organs.
Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling T.R. SEA No 28848

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.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary statements :

Prevention:

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

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.
P391 Collect spillage.

Hazardous components which must be listed on the label:

Tar, wood

Rosin

Tar, coal

Ethylbenzene

Dichlofenthion (ISO)

Sodium hydroxide

Phenol

Additional Labelling:

Restricted to professional users.

2.3 Other hazards

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Tar, wood	91722-33-7 294-436-0	Skin Irrit.2; H315 Eye Irrit.2; H319 Skin Sens.1B; H317 Aquatic Chronic3; H412	>= 10 - < 20
Rosin	8050-09-7 232-475-7 650-015-00-7	Skin Sens.1; H317	>= 10 - < 20
Tar, coal	8007-45-2 232-361-7 648-081-00-7	Acute Tox.4; H302 Eye Dam.1; H318 Skin Sens.1; H317 Muta.2; H341 Carc.1A; H350 STOT SE1; H370 STOT SE3; H335 STOT RE2; H373 Aquatic Chronic2; H411	>= 10 - < 20
Ethylbenzene	100-41-4 202-849-4 601-023-00-4	Flam. Liq.2; H225 Acute Tox.4; H332 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412	>= 2,5 - < 10
Xylene	1330-20-7 215-535-7 601-022-00-9	Flam. Liq.3; H226 Acute Tox.4; H332 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2; H319 STOT SE3; H335	>= 2,5 - < 10

		STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic3; H412	
Dichlofenthion (ISO)	97-17-6 202-564-5 015-068-00-7	Acute Tox.3; H301 Acute Tox.4; H332 Acute Tox.3; H311 Repr.2; H361d STOT RE1; H372 Aquatic Acute1; H400 Aquatic Chronic1; H410 M-Factor (Acute aquatic toxicity): 100 M-Factor (Chronic aquatic toxicity): 100	>= 3 - < 10
Sodium hydroxide	1310-73-2 215-185-5 011-002-00-6	Met. Corr.1; H290 Skin Corr.1A; H314 Eye Dam.1; H318	>= 2 - < 3
Phenol	108-95-2 203-632-7 604-001-00-2	Acute Tox.3; H301 Acute Tox.3; H331 Acute Tox.3; H311 Skin Corr.1B; H314 Eye Dam.1; H318 Muta.2; H341 STOT RE2; H373 Aquatic Chronic2; H411	>= 1 - < 2,5
m-Cresol	108-39-4 203-577-9 604-004-00-9	Acute Tox.3; H301 Acute Tox.3; H311 Skin Corr.1B; H314 Eye Dam.1; H318 Aquatic Chronic3; H412	>= 1 - < 2,5
p-Cresol	106-44-5 203-398-6 604-004-00-9	Acute Tox.3; H301 Acute Tox.3; H311 Skin Corr.1B; H314 Eye Dam.1; H318 Aquatic Chronic3; H412	>= 1 - < 2,5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of 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.

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).

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.

4.2 Most important symptoms and effects, both acute and delayed

Risks : 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.
Corrosive to the respiratory tract.
Causes severe burns.

Causes digestive tract burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

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

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
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)

5.3 Advice for firefighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe 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.
If advised by assessment of the local exposure potential, use only in an area equipped with explosion-proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Do not get in eyes.
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 and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

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. 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : 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.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethylbenzene	100-41-4	TWA (8 Hour)	100 ppm 442 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			
		STEL 15 min	200 ppm 884 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			

		TWA	100 ppm 442 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	200 ppm 884 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
Xylene	1330-20-7	TWA (8 Hour)	50 ppm 221 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			
		STEL 15 min	100 ppm 442 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			
		TWA	50 ppm 221 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
Dichlofenthion (ISO)	97-17-6	TWA	20 µg/m3 (OEB 3)	Internal
Further information	Skin			
		Wipe limit	200 µg/100 cm²	Internal
Phenol	108-95-2	TWA (8 Hour)	2 ppm 8 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			
		STEL 15 min	4 ppm 16 mg/m3	TR OEL
Further information	A skin notation assigned to the OEL identifies the possibility of significant uptake through the skin.			
		TWA	2 ppm 8 mg/m3	2009/161/EU
Further information	Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	4 ppm 16 mg/m3	2009/161/EU
Further information	Identifies the possibility of significant uptake through the skin, Indicative			

Derived No Effect Level (DNEL) :

Substance name	End Use	Exposure routes	Potential health effects	Value
Rosin	Workers	Inhalation	Long-term systemic effects	117 mg/m3
	Workers	Skin contact	Long-term systemic effects	17 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	35 mg/m3
	Consumers	Skin contact	Long-term systemic effects	10 mg/kg bw/day

	Consumers	Ingestion	Long-term systemic effects	10 mg/kg bw/day
Sodium hydroxide	Consumers	Inhalation	Long-term local effects	1 mg/m3
	Workers	Inhalation	Long-term local effects	1 mg/m3
Tar, wood	Workers	Inhalation		70,53 mg/m3
	Consumers	Inhalation		355,56 mg/m3
	Consumers	Ingestion		10 mg/kg bw/day
Phenol	Workers	Inhalation	Long-term systemic effects	8 mg/m3
	Workers	Inhalation	Acute local effects	16 mg/m3
	Workers	Skin contact	Long-term systemic effects	1,23 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1,32 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0,4 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,4 mg/kg bw/day
m-Cresol	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Inhalation	Acute systemic effects	343 mg/m3
	Workers	Skin contact	Long-term systemic effects	0,5 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	1,47 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,75 mg/m3
	Consumers	Inhalation	Acute systemic effects	222 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0,25 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	0,74 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,25 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	0,74 mg/kg bw/day
p-Cresol	Workers	Inhalation	Long-term systemic effects	3,5 mg/m3
	Workers	Inhalation	Acute systemic effects	7 mg/m3
	Workers	Skin contact	Long-term systemic effects	0,5 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	1 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,75 mg/m3

	Consumers	Inhalation	Acute systemic effects	1,5 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0,25 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	0,5 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0,25 mg/kg bw/day
Xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Workers	Inhalation	Acute local effects	442 mg/m3
	Workers	Skin contact	Long-term systemic effects	212 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	65,3 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Consumers	Inhalation	Long-term local effects	65,3 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Skin contact	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	12,5 mg/kg bw/day
Ethylbenzene	Workers	Inhalation	Long-term systemic effects	77 mg/m3
	Workers	Inhalation	Acute local effects	293 mg/m3
	Workers	Skin contact	Long-term systemic effects	180 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	15 mg/m3
	Consumers	Ingestion	Long-term systemic effects	1,6 mg/kg bw/day

Predicted No Effect Concentration (PNEC) :

Substance name	Environmental Compartment	Value
Rosin	Fresh water	0,0016 mg/l
	Marine water	0,00016 mg/l
	Intermittent use/release	0,016 mg/l
	Sewage treatment plant	1000 mg/l
	Fresh water sediment	0,007 mg/kg
	Marine sediment	0,0007 mg/kg
	Soil	0,00045 mg/kg
Tar, wood	Fresh water	0,003 mg/l
	Marine water	0 mg/l
	Fresh water sediment	0,006 mg/kg
	Marine sediment	0,001 mg/kg

	Soil	0,002 mg/kg
Phenol	Fresh water	0,0077 mg/l
	Marine water	0,00077 mg/l
	Intermittent use/release	0,031 mg/l
	Sewage treatment plant	2,1 mg/l
	Fresh water sediment	0,0915 mg/kg
	Marine sediment	0,00915 mg/kg
	Soil	0,136 mg/kg
m-Cresol	Fresh water	0,1 mg/l
	Marine water	0,01 mg/l
	Intermittent use/release	0,076 mg/l
	Sewage treatment plant	1,14 mg/l
	Fresh water sediment	0,71 mg/kg
	Marine sediment	0,071 mg/kg
	Soil	0,0831 mg/kg
p-Cresol	Fresh water	0,1 mg/l
	Marine water	0,01 mg/l
	Intermittent use/release	0,044 mg/l
	Sewage treatment plant	1,65 mg/l
	Fresh water sediment	0,85 mg/kg
	Marine sediment	0,085 mg/kg
	Soil	0,111 mg/kg
Xylene	Fresh water	0,327 mg/l
	Intermittent use/release	0,327 mg/l
	Marine water	0,327 mg/l
	Sewage treatment plant	6,58 mg/l
	Fresh water sediment	12,46 mg/kg dry weight (d.w.)
	Marine sediment	12,46 mg/kg dry weight (d.w.)
	Soil	2,31 mg/kg dry weight (d.w.)
Ethylbenzene	Fresh water	0,1 mg/l
	Freshwater - intermittent	0,1 mg/l
	Marine water	0,01 mg/l
	Sewage treatment plant	9,6 mg/l
	Fresh water sediment	13,7 mg/kg dry weight (d.w.)
	Marine sediment	1,37 mg/kg dry weight (d.w.)
	Soil	2,68 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	20 mg/kg food

8.2 Exposure controls

Engineering measures

Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).
Minimize open handling.

Personal protective equipment

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.
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.
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.
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 (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic 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
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.

9.2 Other information

Flammability (liquids)	:	Not applicable
Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Flammable liquid and vapour. Vapours may form explosive mixture with air. Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid	:	Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

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 Method: Directive 67/548/EEC, Annex V, B.1.
Acute inhalation toxicity	:	Acute toxicity estimate: 11 mg/l Exposure time: 4 h Test atmosphere: vapour Method: Expert judgement Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI
Acute dermal toxicity	:	Acute toxicity estimate: 1.100 mg/kg Method: Expert judgement Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

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:

Method : OECD Test Guideline 439
Result : Skin irritation

Rosin:

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

Tar, coal:

Species : Rabbit
Result : Mild skin irritation

Xylene:

Species : Rabbit
Result : Skin irritation

Dichlofenthion (ISO):

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

Sodium hydroxide:

Result : Corrosive after 3 minutes or less of exposure

Phenol:

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

m-Cresol:

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

p-Cresol:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

Tar, wood:

Result : Irritation to eyes, reversing within 7 days

Rosin:

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

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

m-Cresol:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

p-Cresol:

Species	:	Rabbit
Result	:	Irreversible effects on the eye

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

Tar, wood:

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

Rosin:

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

Tar, coal:

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

Xylene:

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

Dichlofenthion (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
Method: OECD Test Guideline 473
Result: positive

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

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

Carcinogenicity

May cause cancer if swallowed.

Components:

Tar, coal:

Species	:	Mouse
Application Route	:	Ingestion
Exposure time	:	2 Years
Result	:	positive
Carcinogenicity - Assessment	:	Positive evidence from human epidemiological studies (oral) Remarks: Based on harmonised classification in EU regulation 1272/2008, Annex VI

Ethylbenzene:

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

Ethylbenzene:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Inhalation Method: OECD Test Guideline 414 Result: negative

Xylene:

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

Dichlofenthion (ISO):

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

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

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

Phenol:

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

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

m-Cresol:

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

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

p-Cresol:

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

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

STOT - single exposure

May cause respiratory irritation.
Causes damage to organs.
Corrosive to the respiratory tract.

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 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

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 Remarks: Can be absorbed through skin. 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

SECTION 12: Ecological information

12.1 Toxicity

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	:	NOELR (Pseudokirchneriella subcapitata (green algae)): >

plants		1.000 mg/l Exposure time: 72 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 : > 10.000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Tar, coal:

Toxicity to fish	:	LL50 (Danio rerio (zebra fish)): > 250 mg/l Exposure time: 96 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 2,8 mg/l Exposure time: 48 h Test substance: Water Accommodated Fraction Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
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 microorganisms	:	EC50 (Nitrosomonas sp.): 96 mg/l Exposure time: 24 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,96 mg/l Exposure time: 7 d Species: Ceriodaphnia dubia (water flea)

Xylene:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 13,5 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 24 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae/aquatic plants	:	EC50 (Skeletonema costatum (marine diatom)): 10 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	NOEC : > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC: > 0,1 - < 1 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Method: OECD Test Guideline 210 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EL10: > 1 - 10 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Remarks: Based on data from similar materials

Dichlofenthion (ISO):

Toxicity to fish	:	LC50 (No species specified): 0,64 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,23 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,0011 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
M-Factor (Acute aquatic toxicity)	:	100
M-Factor (Chronic aquatic toxicity)	:	100

Phenol:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 24,9 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 3,1 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 61,1 mg/l Exposure time: 96 h
Toxicity to microorganisms	:	IC50 (Nitrosomonas sp.): 21 mg/l Exposure time: 24 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: 10 mg/l Exposure time: 16 d Species: Daphnia magna (Water flea)

m-Cresol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 8,6 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia pulex (Water flea)): > 99,5 mg/l Exposure time: 48 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 1,35 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow) Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Remarks: Based on data from similar materials

p-Cresol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 7,4 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 7,7 mg/l Exposure time: 48 h Method: DIN 38412
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 7,8 mg/l Exposure time: 48 h EC10 (Desmodesmus subspicatus (green algae)): 2,3 mg/l Exposure time: 48 h

Toxicity to microorganisms	:	IC50 (Nitrosomonas sp.): 260 mg/l Exposure time: 24 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 1,35 mg/l Exposure time: 32 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 1 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

Tar, wood:

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

Rosin:

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

Ethylbenzene:

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

Xylene:

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

Phenol:

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

m-Cresol:

Biodegradability	:	Result: Readily biodegradable.

Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

p-Cresol:

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

12.3 Bioaccumulative potential

Components:

Tar, wood:

Partition coefficient: n-octanol/water : log Pow: 0,2 - 2,02

Rosin:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Bioconcentration factor (BCF): < 100

Partition coefficient: n-octanol/water : log Pow: 3 - 6,2

Tar, coal:

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

Ethylbenzene:

Partition coefficient: n-octanol/water : log Pow: 3,6

Xylene:

Partition coefficient: n-octanol/water : log Pow: 3,16
Remarks: Calculation

Dichlofenthion (ISO):

Partition coefficient: n-octanol/water : log Pow: 5,14

Phenol:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 17,5
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 1,47

m-Cresol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 17 - 20

Partition coefficient: n-octanol/water	:	log Pow: 1,96

p-Cresol:

Bioaccumulation	:	Species: Leuciscus idus (Golden orfe) Bioconcentration factor (BCF): 17 - 20 Remarks: Based on data from similar materials
Partition coefficient: n-octanol/water	:	log Pow: 1,94

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	:	Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 2920
ADR	:	UN 2920
RID	:	UN 2920
IMDG	:	UN 2920
IATA	:	UN 2920

14.2 UN proper shipping name

ADN	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)

ADR	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)
RID	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene)
IMDG	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Sodium hydroxide, Ethylbenzene, Dichlofenthion (ISO))
IATA	:	Corrosive liquid, flammable, n.o.s. (Sodium hydroxide, Ethylbenzene)

14.3 Transport hazard class(es)

ADN	:	8
ADR	:	8
RID	:	8
IMDG	:	8
IATA	:	8

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)

ADR

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)
Tunnel restriction code	:	(D/E)

RID

Packing group	:	II
Classification Code	:	CF1
Hazard Identification Number	:	83
Labels	:	8 (3)

IMDG

Packing group	:	II
Labels	:	8 (3)
EmS Code	:	F-E, S-C

IATA (Cargo)

Packing instruction (cargo aircraft)	:	855
Packing instruction (LQ)	:	Y840
Packing group	:	II
Labels	:	Corrosive, Flammable Liquids

IATA (Passenger)

Packing instruction (passen-	:	851

ger aircraft)
Packing instruction (LQ) : Y840
Packing group : II
Labels : Corrosive, Flammable Liquids

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

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

KKDIK (30105 (Bis)) - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex 17) : Conditions of restriction for the following entries should be considered:
Number on list 3

Tar, coal (Number on list 28)

Other regulations:

According to 13 December 2014, No:29204, “Ministry of Environment and Urbanization; Regulation on Safety data sheets regarding hazardous substances and mixtures; Part I”.
Regulation on Classification, Labelling and Packaging of Substances and Mixtures. Dated 11 December 2013, Numbered 28848 (Bis) Ministry of Environment and Forestry.
Regulation on Health and Safety Measures Of Working with Chemicals Substances Dated 12.08.13, numbered 28733 Ministry of Labour and Social Security.

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

AICS : not determined

DSL : not determined

IECSC : not determined

SECTION 16: Other information

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

Full text of H-Statements

H225	:	Highly flammable liquid and vapour.
H226	:	Flammable liquid and vapour.
H290	:	May be corrosive to metals.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
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.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H373	:	May cause damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.

The Turkish SDS has been prepared according to the Regulation on Safety Data Sheets for Hazardous Substances and Mixtures No. 29204.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Met. Corr.	:	Corrosive to metals
Muta.	:	Germ cell mutagenicity

Repr.	:	Reproductive toxicity
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2009/161/EU	:	Europe. COMMISSION DIRECTIVE 2009/161/EU establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC
TR OEL	:	Turkey. Chemical Agents at Work - Annex I: Indicative occupational exposure limit values
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
2009/161/EU / TWA	:	Limit Value - eight hours
2009/161/EU / STEL	:	Short term exposure limit
TR OEL / TWA (8 Hour)	:	Measured or calculated in relation to a reference period of eight-hour time-weighted average
TR OEL / STEL 15 min	:	A limit value above which exposure should not occur and is related to a 15-minute priod, unless otherwise specified

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance 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

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/

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Acute Tox. 4	H302	Calculation method
Skin Corr. 1B	H314	Calculation method
Eye Dam. 1	H318	Calculation method
Skin Sens. 1	H317	Calculation method
Muta. 2	H341	Calculation method
Carc. 1A	H350	Calculation method
Repr. 2	H361d	Calculation method
STOT SE 1	H370	Calculation method
STOT SE 3	H335	Calculation method
STOT RE 2	H373	Calculation method
Asp. Tox. 1	H304	Based on product data or assessment
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user’s end product, if applicable.

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