

MATERIAL SAFETY DATA SHEET

DODECYLPHENOL

Ver. No. 4

Ver. Date 31.01.2011.

1. Identification of the substance and of the company

1.1 Identification of the substance

Trade name Dodecylphenol
Chemical name 4-Dodecylphenol, branched, mixture of isomers
Synonyms Para-Dodecylphenol; Tetrapropenylphenol
Chemical family Alkylphenols

1.2 Use of the substance

Raw material for chemical processing, esp. for manufacturing of fuel additives, surfactants and phenolic resins

1.3 Company identification

Manufacturer/trader
Address
Contact numbers
E-mail
Emergency telephone

2. Composition / information on ingredients

Chemical name	CAS No.	EINECS No.	Reach registration number
Dodecylphenol	121158-58-5	310-154-3	01-2119513207-49-0005
<u>Classification</u>	X _i ; C; N; (Explanation of the phrases – sec. 16)	R36/38 R34 R50; R53	

3. Hazards Identification

Health hazards

C; R34 Corrosive; Causes burns.
Xi; R36/37/38 Irritant; Irritating to eyes, respiratory system and skin.

Environmental hazards

N; R 50 R53 Dangerous for the environment; Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

Fire hazards

Flammable liquid; high flash point. Toxic vapors may form in fire.

4. First Aid Measures

Route of exposure

- Inhalation Remove victim from exposure area to fresh air. Seek immediate medical assistance. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

- Skin contact Remove contaminated clothing. Wash skin with plenty water and soap. Seek medical assistance. If victim is injured, clean and dress the wound.

- Eye contact Immediately rinse with clean water for at least 15 min, lifting upper and lower lids. Get medical attention immediately.

- Ingestion Get medical aid immediately. Do not induce vomiting. If victim is conscious, rinse mouth and give 2 – 4 cupfuls of milk or water. If victim is unconscious or in convulsions, it is strictly forbidden to administrate any liquid.

5. <u>Fire Fighting Measures</u>	
Extinguishing media	Carbon dioxide, dry chemical powder, foam, water spray.
Not to be used	Water in a jet
Special fire hazard	During a fire, hazardous vapor of dodecylphenol and toxic products of incomplete combustion / thermal decomposition may be generated. Collect used extinguishing media (esp. water) to avoid the contamination of sewers/public water.
Protective equipment	Full protective clothing and self-contained breathing apparatus.
6. <u>Accidental Release Measures</u>	
Personal protection:	Chemical safety goggles; chemical resistant clothing and gloves; mask respirator with organic vapor cartridge against mist, spray or vapors of dodecylphenol.
Environmental precautions:	Stop release. Prevent contamination of soil, or flow to sewers / public waters. Clean up spills immediately. Provide appropriate ventilation. Remove all sources of ignition.
Clean – up methods:	Recover large spills. Absorb spill with inert material (absorbing agent, dry sand or earth). Collect contaminated material into a labeled, closed container for disposal.
7. <u>Handling and Storage</u>	
Handling	Use appropriate protection equipment. Avoid contact of product with skin, eye and clothing. Avoid ingestion and inhalation. Remove contaminated cloth and wash it before reuse. Provide appropriate ventilation. Wash hands after handling, esp. before eating, drinking or smoking.
Storage	Store in a closed, stainless steel tank, equipped with low-pressure steam coil, under nitrogen. Store at ambient temperature. Heat it before handling to 50°C to reduce viscosity of dodecylphenol. Store containers (drums etc.) in a cool, dry, well-ventilated area away from incompatible materials. Used containers should be carefully emptied.
8. <u>Exposure Controls / Personal Protection</u>	
<u>Occupational exposure limits</u>	No data available.
<u>Personal protection</u>	
- Respiratory protection	Not necessary in normal conditions, if ventilation is sufficient. Respirator with organic vapor cartridge in emergency.
- Eye protection	Use protective goggles or face shield.
- Skin protection	Standard issue work clothing, PVC or nitrile rubber gloves.
<u>Industrial hygiene</u>	Use proper ventilation to keep vapor concentrations low. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Hygiene practices	Promptly remove contaminated clothing. Wash hands and face after handling the product. Avoid ingestion, inhalation and splashing / spraying of eye and skin.
9. <u>Physical and Chemical Properties</u>	
Physical state (25°C)	Viscous liquid
Colour	Colorless or pale yellow to brownish
Smell	Mild, phenolic
Density (20°C)	0,94 g/cm ³
Viscosity	7120 mPa.s (20°C); 195 mPa.s (50°C)
Freezing point	ca. 0°C
Boiling point	303 - 330°C
Flash point	ca. 150°C
Autoignition temperature	ca. 400°C
Solubility in water	1mg/dm ³
Other solvents	miscible with hydrocarbons, alcohols, acetone, soluble in water solutions of NaOH
Partition coefficient octanol / water	log Pow = 6,58
Vapor relative density	9,04
Vapor pressure at 25°C	0,01 Pa

10. Stability and Reactivity

<u>Stability</u>	Stable under normal conditions (at room temperature). Partially decompose above 250°C.
<u>Reactivity</u>	May react violently with strong oxidizing agents; react with strong alkali to give water soluble products;
<u>Decomposition products</u>	Hazardous products of incomplete combustion / thermal decomposition: carbon monoxide, phenol and other toxic and corrosive gases / vapors.
<u>Materials to avoid</u>	Strong oxidizing agents; strong alkali

11. Toxicological Information

<u>Acute toxicity</u>	
Acute toxicity: - oral	LD ₅₀ p.o. rat 2140 mg/kg b.w.
- skin	LD ₅₀ rabbit 5000 mg/kg
Irritation: - skin	severe rabbit 8,0/24h
- eye	severe rabbit 33,3/110
Inhalation	Irritant for respiratory tract. May cause breathing difficulties and delayed pulmonary edema.
Skin contact	May cause irritation, redness and swelling. Prolongated contact may cause burning of skin.
Eye contact	May cause severe damage of eye.
Ingestion	Can result in irritation or burning of mucous membranes, may cause stomach-ache, diarrhea, nausea, changes in liver, spleen, kidneys and lungs
<u>Chronic toxicity</u>	In the 28-day dietary study in rats were observed: reduction in body weight, changes in blood, liver, spleen, kidneys and reproductive organs.
No Observed Adverse Effect Level	NOAEL 25mg / kg b.w./ day
<u>Sensitization</u>	None
<u>Mutagenicity</u>	No data.
<u>Carcinogenicity</u>	No data.
<u>Toxicity to reproduction</u>	No human data are available. Possible adverse effects as in para-Nonylphenol (CAS No. 25154-52-3)

12. Ecological Information

<u>Mobility</u>	Dodecylphenol is a non-volatile, viscous liquid, insoluble in water.
<u>Water solubility</u>	1mg/dm ³
<u>Bioaccumulation</u>	
Partition coefficient	Log Pow 6,58
Bioconcentration factor	BCF = 6000 (measured); 9440 (calculated)
<u>Degradability</u> - abiotic	COD = 3,05
- biotic	Dodecylphenol is not readily biodegradable
<u>Vapor pressure</u>	0,01 Pa (25°C) – Dodecylphenol is not classified as Volatile Organic Compound
<u>Ecotoxicity:</u>	
Acute toxicity:	
- Fish	Leuciscus idus LC ₀ > 0,5 mg/l / 96h
	Salmo salar LC ₅₀ 0,14 mg/l/96h
- Invertebrates	Crangon septemspinosa LC ₅₀ 0,15 mg/l /48h
	Daphnia magna EC ₅₀ 0,093 mg/l /48h
- Algae	Scendesmus subspicatus EC ₁₀ 0,53 mg/l /72h
Other comments:	Dodecylphenol is very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

13. <u>Disposal Considerations</u>		
Product disposal	Contaminated product, or solid materials (soil, absorbing agents) containing dodecylphenol, are classified as dangerous waste, and should be burned in the plant designed for burning of wastes.	
Container disposal	Containers should be completely emptied, thoroughly cleaned and may be re-used. Dirty or damaged containers difficult to clean, containing dodecylphenol, should be disposed as dangerous waste.	
14. <u>Transportation Information</u>		
UN No.:	3145	
RID/ADR class	8	
Risk No.:	80	
Risk label	No. 8	
Packing group	II	
Material labeling	ALKYLPHENOLS, LIQUID, N.O.S. (DODECYLPHENOL)	
15. <u>Regulatory Information</u>		
Dodecylphenol is classified, according to EU 67/548 EEC Directive, as dangerous substance.		
<u>Labelling</u>		
<u>Symbols and indications of danger</u>		
C  Corrosive N  Dangerous for the environment		
- Risk phrases	C; R34 Xi; R36/37/38 N; R50/53	Causes burns Irritant; Irritating to eyes, respiratory system and skin Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
- Safety advices	(S1/2) S26 S36/37/39 S45 S46 S60 S61	Keep locked up and out of the reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). If swallowed, seek medical advice immediately and show this container or label. This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
<u>UE Regulations:</u>		
1. Commission Directive 2001/58/EC of 27 July 2001 amending for the second time Directive 91/155/EEC defining and laying down the detailed arrangements for the system of specific information relating to dangerous preparations (Official Journal L212, 7.8.2001, p. 24)		
2. Commission Directive 2001/59/EC of 6 August 2001 adapting to technical progress for the 28th time Council Directive 67/548/EEC on the approximation of the laws, regulations and administrative provisions relating to the classification, packaging and labelling of dangerous substances (Official Journal L225, 21.08.2001, p. 1)		
3. Annexes A and B to Council Directive 96/49/EC as announced in Commission Directive 2001/6/EC adapting for the third time to technical progress Council Directive 96/49/EC on the approximation of the laws of the Member States with regard to the transport of dangerous goods by rail (Official Journal L 121 , 26/04/2004 p. 1)		
4. Annexes A and B to Council Directive 94/55/EC as announced in Commission Directive 2001/7/EC adapting for the third time to technical progress Council Directive 94/55/EC on the approximation of the laws of the Member States with regard to the transport of dangerous goods by road (Official Journal L 018 , 26/01/2004 p. 1)		

16. **Other information**

Explanation of indications of danger and risk phrases

X _i	Irritant
C	Corrosive
N	Dangerous for the environment
R34	Causes burns
R36/37/38	Irritating to eyes, respiratory system and skin
R50	Very toxic to aquatic organisms
R53	May cause long-term adverse effects in the aquatic environment

Last version: No. 2, 21.04.2005.

DISCLAIMER OF LIABILITY

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of this product.

Each user should consider the information in the context of how the product will be handled and used in the workplace.