

Product name: SURFYNOL® DF-110 L

# SAFETY DATA SHEET

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567

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

### 1.1 Product identifier

**Product name:**  
SURFYNOL® DF-110 L

**Chemical name:**  
Acetylenic diol in solvent

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

**Identified uses:** Industrial use

**Uses advised against:** None known.

### 1.3 Details of the supplier of the safety data sheet

Company Name : Evonik Operations GmbH  
Rellinghauser Str. 1-11  
45128 Essen  
Germany

Telephone : +49 201 173 01

Fax : +49 201 173 3000

E-mail : productsafety-cs@evonik.com

### 1.4 Emergency telephone number:

24-Hour Health : +49 2365 49 2232  
Emergency : +49 2365 49 4423 (Fax)

National Poison Information Service (NPIS)  
England, Scotland and Wales: NHS: 111

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567**

#### Health Hazards

Acute toxicity (Oral)	Category 4	H302: Harmful if swallowed.
Skin irritation	Category 2	H315: Causes skin irritation.
Serious eye irritation	Category 2	H319: Causes serious eye irritation.

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Specific Target Organ Toxicity - Repeated Exposure <b>Environmental Hazards</b>	Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Chronic hazards to the aquatic environment	Category 3	H412: Harmful to aquatic life with long lasting effects.

**2.2 Label Elements**

**Signal Words:**

Warning

**Hazard Statement(s):**

H302: Harmful if swallowed.  
 H315: Causes skin irritation.  
 H319: Causes serious eye irritation.  
 H373: May cause damage to organs through prolonged or repeated exposure.  
 H412: Harmful to aquatic life with long lasting effects.

**Precautionary Statements**
**Prevention:**

P260: Do not breathe dust/fume/gas/mist/vapors/spray.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.

**Response:**

P301+P312: IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**Hazardous ingredients which must be listed on the label:**

Ethane-1,2-diol

**2.3 Other hazards**

None known.

<b>SECTION 3: Composition/information on ingredients</b>
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**Chemical name:**

Acetylenic diol in solvent

**3.2 Mixtures**

Chemical name	Concentration	CAS-No.	EC No.	UK-REACH Registration No.	REACH Registration No.	M-Factor:	Notes
Ethane-1,2-diol	20 - <50%	107-21-1	203-473-3		01-211945681-6-28	No data available.	#

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2,5,8,11-Tetramethyl dodec-6-yne-5,8-diol	10 - <20%	68227-33-8	269-348-0		01-212005442 1-68	No data available.	
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\* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

# This substance has workplace exposure limit(s).

## This substance is listed as SVHC.

**Classification**

Chemical name	Classification	Notes
Ethane-1,2-diol	Classification: Acute Tox.: 4: H302; STOT RE: 2: H373; Supplemental label information: None known.	None.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Classification: Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Aquatic Chronic: 2: H411; Supplemental label information: None known.	None.

The full text for all H-statements is displayed in section 16.

**SECTION 4: First aid measures**
**4.1 Description of first aid measures**

<b>General information:</b>	Immediately remove contaminated clothing.
<b>Inhalation:</b>	fresh air supply, consult a doctor if feeling unwell.
<b>Skin Contact:</b>	In case of contact with skin wash off with soap and water. If skin irritation persists, call a physician.
<b>Eye contact:</b>	In case of contact with eyes rinse thoroughly with plenty of water. If symptoms persist, seek medical advice.
<b>Ingestion:</b>	Thoroughly clean the mouth with water In case of discomfort: Supply with medical care.
<b>Personal Protection for First-aid Responders:</b>	No data available.

**4.2 Most important symptoms and effects, both acute and delayed**

<b>Symptoms:</b>	Skin irritation Serious eye irritation
<b>Hazards:</b>	No data available.

**4.3 Indication of immediate medical attention and special treatment needed**

<b>Treatment:</b>	Treat symptomatically.
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**SECTION 5: Firefighting measures**
**5.1 Extinguishing media**

**Suitable extinguishing media:** foam, carbon dioxide, dry powder, water spray.

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**Unsuitable extinguishing media:** High volume water jet.

**5.2 Special hazards arising from the substance or mixture:**

In the event of fire the following can be released: - carbon dioxide, carbon monoxide Under certain conditions of combustion traces of other toxic substances cannot be excluded

**5.3 Advice for firefighters**

**Special fire fighting procedures:** No specific precautions.

**Special protective equipment for fire-fighters:** Do not inhale explosion and/or combustion gases. Use self-contained breathing apparatus and wear protective suit

<b>SECTION 6: Accidental release measures</b>
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**6.1 Personal precautions, protective equipment and emergency procedures:**

Use personal protective equipment.

**6.1.1 For non-emergency personnel:**

No data available.

**6.1.2 For emergency responders:**

No data available.

**6.2 Environmental Precautions:**

Do not allow to enter drains or waterways Prevent product from getting into subsoil/soil.

**6.3 Methods and material for containment and cleaning up:**

Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder). Dispose of absorbed material in accordance with the regulations.

**6.4 Reference to other sections:**

For further information on exposure monitoring and disposal see sections 8 and 13.

<b>SECTION 7: Handling and storage</b>
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**7.1 Precautions for safe handling**

**Technical measures:** No data available.

**Local/Total ventilation:** No data available.

**Safe handling advice:** Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with skin and eyes. Do not inhale gases/vapours/aerosols.

**Contact avoidance measures:** No data available.

**7.2 Conditions for safe storage, including any incompatibilities**

**Safe storage conditions:** Keep container tightly closed in a cool, well-ventilated place. Do not store together with oxidizing agents.

**Safe packaging materials:** No data available.

**7.3 Specific end use(s):**

No further recommendations.

<b>SECTION 8: Exposure controls/personal protection</b>
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## 8.1 Control Parameters

### Occupational Exposure Limits

Chemical name	Type	Form of exposure	Exposure Limit Values		Source
Ethane-1,2-diol	TWA	Vapor.	20 ppm	52 mg/m <sup>3</sup>	EH40 WEL (12 2011)
	TWA	Particulate		10 mg/m <sup>3</sup>	EH40 WEL (12 2011)
	STEL 15 minutes	Vapor.	40 ppm	104 mg/m <sup>3</sup>	EH40 WEL (01 2020)

Please refer to the latest edition of the appropriate source text and consult an industrial hygienist or similar professional, or local agencies, for further information.

### Biological Limit Values

No biological exposure limits noted for the ingredient(s).

### DNEL-Values

Remarks: DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
Ethane-1,2-diol	General population	Inhalation	Local, long-term; 7 mg/m <sup>3</sup>	Skin irritation
	Workers	Inhalation	Local, long-term; 35 mg/m <sup>3</sup>	Skin irritation
	Workers	Eyes	Local effect;	No hazard identified
	General population	Dermal	Systemic, long-term; 53 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 106 mg/kg	Repeated dose toxicity
	General population	Eyes	Local effect;	No hazard identified
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Workers	Dermal	Systemic, short-term; 3 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, short-term; 1.5 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, short-term; 1.5 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0.25 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 0.64 mg/m <sup>3</sup>	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0.25 mg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 0.11 mg/m <sup>3</sup>	Repeated dose toxicity
	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
	Workers	Inhalation	Systemic, long-term; 1.76 mg/m <sup>3</sup>	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 5.28 mg/m <sup>3</sup>	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0.5 mg/kg	Repeated dose toxicity
	Workers	Eyes	Local effect;	Medium hazard (no threshold derived)

### PNEC-Values

Remarks: PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
Ethane-1,2-diol	Soil	1.53 mg/kg	
	Aquatic (marine water)	1 mg/l	
	Sediment (marine water)	3.7 mg/kg	
	Sediment (freshwater)	37 mg/kg	
	Aquatic (freshwater)	10 mg/l	
	Sewage treatment plant	199.5 mg/l	

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2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Sewage treatment plant	7 mg/l	
	Aquatic (freshwater)	0.04 mg/l	
	Soil	0.028 mg/kg	
	Aquatic (marine water)	0.004 mg/l	
	Sediment (freshwater)	0.32 mg/kg	
	Sediment (marine water)	0.032 mg/kg	

**8.2 Exposure controls**

**Appropriate Engineering Controls:** No data available.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection:</b>	Safety glasses
<b>Hand Protection:</b>	Additional Information: gloves made of chloroprene (CR, e.g. Neoprene), gloves made of nitril (NBR)
<b>Skin and Body Protection:</b>	protective clothing
<b>Respiratory Protection:</b>	in case of formation of vapours/aerosols: Short term: filter apparatus, combination filter A-P2
<b>Hygiene measures:</b>	Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. Remove soiled or soaked clothing immediately.
<b>Environmental Controls:</b>	The environmental regulations on the control and monitoring of environmental exposures are to be observed.

**SECTION 9: Physical and chemical properties**
**9.1 Information on basic physical and chemical properties**
**Appearance**

<b>Physical state:</b>	liquid
<b>Form:</b>	liquid
<b>Color:</b>	Pale yellow
<b>Odor:</b>	Characteristic
<b>Odor Threshold:</b>	not measured
<b>Freezing point:</b>	not measured
<b>Boiling Point:</b>	> 199 °C
<b>Flammability:</b>	not measured
<b>Upper/lower limit on flammability or explosive limits</b>	
<b>Explosive limit - upper:</b>	not measured
<b>Explosive limit - lower:</b>	not measured
<b>Flash Point:</b>	> 110 °C
<b>Auto-ignition temperature:</b>	not measured
<b>Decomposition Temperature:</b>	not measured
<b>pH:</b>	5 - 7 at 25 °C Concentration: 100 g/l Concentration: 10 % in Water

**Viscosity**

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<b>Dynamic viscosity:</b>	not measured
<b>Kinematic viscosity:</b>	not measured
<b>Solubility(ies)</b>	
<b>Solubility in Water:</b>	not measured
<b>Solubility (other):</b>	not measured
<b>Partition coefficient (n-octanol/water):</b>	not measured
<b>Vapor pressure:</b>	13.3 hPa at 21 °C
<b>Relative density:</b>	not measured
<b>Density:</b>	1.03 g/cm <sup>3</sup> at 21 °C
<b>Relative vapor density:</b>	not measured

**9.2 Other information**

<b>Explosive properties:</b>	not measured
<b>Oxidizing properties:</b>	not oxidizing
<b>Self-ignition:</b>	not measured
<b>Metal Corrosion:</b>	Not corrosive to metals
<b>Evaporation Rate:</b>	not measured

<b>SECTION 10: Stability and reactivity</b>
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<b>10.1 Reactivity:</b>	see section "Possibility of hazardous reactions".
<b>10.2 Chemical Stability:</b>	The product is stable under normal conditions.
<b>10.3 Possibility of hazardous reactions:</b>	No hazardous reactions with proper storage and handling
<b>10.4 Conditions to avoid:</b>	None with proper storage and handling.
<b>10.5 Incompatible Materials:</b>	Oxidizing agents.
<b>10.6 Hazardous Decomposition Products:</b>	None with proper storage and handling.

<b>SECTION 11: Toxicological information</b>
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**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
**Information on likely routes of exposure**

<b>Inhalation:</b>	Information on effects are given below.
<b>Skin Contact:</b>	Information on effects are given below.
<b>Eye contact:</b>	Information on effects are given below.
<b>Ingestion:</b>	Information on effects are given below.

**Acute toxicity (list all possible routes of exposure)**
**Oral**

<b>Product:</b>	LD 50, ATEmix, 1,235 mg/kg
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	LD 50, ATEmix, > 5,000 mg/kg
<b>Components:</b>	
Ethane-1,2-diol	LD 50, Acute toxicity estimate, 500 mg/kg, GB-CLP according to Regulation, UK SI 2019/720, and UK SI 2020/1567
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	LD 50, Rat, Male, 12,900 mg/kg
<b>Dermal</b>	
<b>Product:</b>	LD 50, Rabbit, > 2,000 mg/kg
<b>Components:</b>	
Ethane-1,2-diol	LD 50, Mouse, Female, Male, > 3,500 mg/kg
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	LD 50, Rabbit, > 2,000 mg/kg
<b>Inhalation</b>	
<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	Not toxic after single exposure, No data available., Vapour Not toxic after single exposure, Not applicable, Dust and mist
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	LC 50, Rat, 1 h, > 20.1 mg/l, Dust and mist LC 50, Rat, 4 h, > 5.25 mg/l, Dust and mist Not toxic after single exposure, Vapour, No data available.
<b>Repeated dose toxicity</b>	
<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	No data available.
<b>Skin Corrosion/Irritation</b>	
<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	Not irritating, Rabbit
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Irritating., 16 CFR 1500.41, Rabbit
<b>Serious Eye Damage/Eye Irritation</b>	
<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	Not irritating, Rabbit
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Irritating., 16 CFR 1500.42, Rabbit
<b>Respiratory or Skin Sensitization</b>	
<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	Maximization Test, OECD 406, Guinea Pig, Not a skin sensitizer. Not a respiratory sensitizer
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	Local Lymph Node Assay (LLNA), OECD 429, Mouse, Not a skin sensitizer.
<b>Carcinogenicity</b>	
<b>Product:</b>	No data available.



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**Components:**

Ethane-1,2-diol	Not classified
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Germ Cell Mutagenicity**

No data available.

**In vitro****Product:** No data available.**Components:**

Ethane-1,2-diol	Bacterial reverse mutation assay, OECD 471: , negative Chromosomal aberration, OECD 473: , negative
2,5,8,11-	Ames test, OECD 471: , negative
Tetramethyldodec-6-yne-	Chromosomal aberration, OECD 473: , negative
5,8-diol	

**In vivo****Product:** No data available.**Components:**

Ethane-1,2-diol	No data available.
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Reproductive toxicity****Product:** No data available.**Components:**

Ethane-1,2-diol	Not classified
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Components:**

Ethane-1,2-diol	Not classified
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Specific Target Organ Toxicity - Repeated Exposure****Product:** No data available.**Components:**

Ethane-1,2-diol	Oral, Kidney, Category 2 May cause damage to organs through prolonged or repeated exposure.
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Aspiration Hazard****Product:** Not classified**Components:**

Ethane-1,2-diol	Not classified
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**Product name: SURFYNOL® DF-110 L**2,5,8,11- Not applicable  
Tetramethyldodec-6-yne-  
5,8-diol**11.2 Information on other hazards****Other information****Product:** No data available.**SECTION 12: Ecological information****12.1 Toxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available.**Components:**Ethane-1,2-diol LC 50, Pimephales promelas, 96 h, 53,000 mg/l  
2,5,8,11- LC 50, Oncorhynchus mykiss, 96 h, 6.3 mg/l  
Tetramethyldodec-6- NOEC, Oncorhynchus mykiss, 96 h, 2.7 mg/l  
yne-5,8-diol**Aquatic Invertebrates****Product:** No data available.**Components:**Ethane-1,2-diol EC 50, Daphnia magna, 48 h, > 100 mg/l OECD 202  
2,5,8,11- EC 50, Daphnia magna, 48 h, 6.6 mg/l OECD 202  
Tetramethyldodec-6-  
yne-5,8-diol**Toxicity to Aquatic Plants****Product:** No data available.**Components:**Ethane-1,2-diol No data available.  
2,5,8,11- EC 50 (Algae (Pseudokirchneriella subcapitata), 72 h): 44 mg/l (OECD  
Tetramethyldodec-6-yne- 201)  
5,8-diol**Toxicity to microorganisms****Product:** No data available.**Components:**Ethane-1,2-diol EC 20, activated sludge, 0.5 h, > 1,995 mg/l, ISO 8192, (analogy)  
2,5,8,11- No data available.  
Tetramethyldodec-6-yne-  
5,8-diol**Toxicity to soil dwelling organisms****Product:** No data available.**Components:**Ethane-1,2-diol No data available.  
2,5,8,11- No data available.  
Tetramethyldodec-6-yne-  
5,8-diol**Toxicity to terrestrial organisms****Product:** No data available.**Components:**

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Ethane-1,2-diol	No data available.
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-	
5,8-diol	

**Chronic hazards to the aquatic environment:**
**Fish**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	NOEC, Menidia peninsulae, 28 d, > 40 mg/l, (analogy)
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-5,8-diol	

**Aquatic Invertebrates**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	NOEC, Ceriodaphnia dubia, 7 d, 8,590 mg/l
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-5,8-diol	

**Toxicity to Aquatic Plants**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	NOEC (Algae (Pseudokirchneriella subcapitata), 72 h): > 100 mg/l (OECD 201) (analogy)
2,5,8,11-	NOEC (Algae (Pseudokirchneriella subcapitata), 72 h): 25 mg/l (OECD 201)
Tetramethyldodec-6-yne-5,8-diol	

**Toxicity to microorganisms**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	EC 20, activated sludge, 0.5 h, > 1,995 mg/l, ISO 8192, (analogy)
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-5,8-diol	

**Toxicity to soil dwelling organisms**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-5,8-diol	

**Toxicity to terrestrial organisms**

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-	No data available.
Tetramethyldodec-6-yne-5,8-diol	

**12.2 Persistence and Degradability**
**Biodegradation**

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<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	90 - 100 %, 10 d, OECD 301 A, The product is easily biodegradable., aerobic
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	3 %, 28 d, The product is not biodegradable.

### 12.3 Bioaccumulative potential

#### Bioconcentration Factor (BCF)

<b>Product:</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	No data available.

#### Partition Coefficient n-octanol / water (log Kow)

<b>Product:</b>	not measured
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	No data available.

### 12.4 Mobility in soil:

<b>Product</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	No data available.

### 12.5 Results of PBT and vPvB assessment:

<b>Product</b>	No data available.
<b>Components:</b>	
Ethane-1,2-diol	No data available.
2,5,8,11-Tetramethyldodec-6-yne-5,8-diol	No data available.

### 12.6 Other adverse effects:

#### Other hazards

<b>Product:</b>	Do not allow to enter soil, waterways or waste water canal.
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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

<b>General information:</b>	No data available.
<b>Disposal methods:</b>	In accordance with local authority regulations, take to special waste incineration plant
<b>Contaminated Packaging:</b>	If empty contaminated containers are recycled or disposed of, the receiver must be informed about possible hazards.

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## SECTION 14: Transport information

### 14.1 UN/ID No.

Not regulated as a dangerous good

### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

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

**EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:** Not applicable

**15.2 Chemical safety assessment:** No chemical safety assessment was carried out for this product.

#### International regulations

##### Montreal protocol

Not applicable

##### Stockholm convention

Not applicable

##### Rotterdam convention

Not applicable

##### Kyoto protocol

Not applicable

## SECTION 16: Other information

### Abbreviations and acronyms:

EH40 WEL:

EH40 WEL / STEL:

EH40 WEL / TWA:

UK. EH40 Workplace Exposure Limits (WELs), as amended

Short Term Exposure Limit (STEL):

Time Weighted Average (TWA):

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC -

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Australian Inventory of Industrial Chemicals; 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; EIGA - European Industrial Gases Association; 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; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Key literature references and sources for data:** No data available.

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]**

Classification according to Regulation (EC) No 1272/2008 as amended.	Classification procedure
Acute toxicity, Category 4 Oral	On basis of test data
Skin irritation, Category 2	Calculation method
Serious eye irritation, Category 2	On basis of test data
Specific Target Organ Toxicity - Repeated Exposure, Category 2	On basis of test data
Chronic hazards to the aquatic environment, Category 3	On basis of test data

**Wording of the statements in section 2 and 3**

H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

**Training information:** Comply with national laws regulating employee instruction.

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**Revision Information**

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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