

## Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

### FACTORY COLORMAXI EP (A)

Date of first edition: 11/25/2020

Safety Data Sheet dated 28/11/2024

version 4

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

### 1.1. Product identifier

Mixture identification:

Trade name: FACTORY COLORMAXI EP (A)

Trade code: 001051003

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

Recommended use: Paints/coatings - Protective and functional; Restricted to professional users

Uses advised against: All uses other than recommended ones; Not intended for use by private individuals or non-professionals.

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

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

Ireland Poison information centre: 01 809 2166 (Daily 8am-10pm) In case of emergency call 999 or 112

Malta In case of emergency call: +356 2395 2000 (24h)

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

#### Regulation (EC) n. 1272/2008 (CLP)

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
Repr. 1B	May damage fertility.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.
DECL10	This titanium dioxide-containing product is not classified as carcinogen by inhalation because it does not meet the criteria stated in Note 10, Annex VI of Regulation (EC) 1272/2008.  Note 10: The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter $\leq 10 \mu\text{m}$ .

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

#### Regulation (EC) No 1272/2008 (CLP):

#### Hazard pictograms and Signal Word



Danger

#### Hazard statements

H315 Causes skin irritation.

- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H360F May damage fertility.
- H411 Toxic to aquatic life with long lasting effects.

**Precautionary statements**

- P202 Do not handle until all safety precautions have been read and understood.
- P273 Avoid release to the environment.
- P280 Wear protective gloves/clothing and eye/face protection.
- P280 Wear protective gloves and eye protection.
- P302+P352 IF ON SKIN: Wash with plenty of 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.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P501 Dispose of contents/container in accordance with applicable regulations.

**Contains**

oxirane, mono[(C12-14-alkyloxy)methyl]  
derivs.

maleic anhydride

bis-[4-(2,3-epoxipropoxy)phenyl]propane

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane

1,3 Propanediol 2,2-bis(hydroxymethyl)-polymer with 2-(chloromethyl)oxirane

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

4-morpholinecarbaldehyde

**Dir. 2004/42/EC (VOC directive)**

- Two-pack reactive performance coatings for specific end use such as floors
- EU limit value for this product (cat. A/j): 500 g/l
- This product contains max 8.44 g/l VOC.

**Special provisions according to Annex XVII of REACH and subsequent amendments:**

None.

**2.3. Other hazards**

No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

Other Hazards: No other hazards

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

N.A.

**3.2. Mixtures**

Mixture identification: FACTORY COLORMAXI EP (A)

**Hazardous components within the meaning of the CLP regulation and related classification:**

Qty	Name	Ident. Numb.	Classification	Registration Number
≥20-<50 %	bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411, M-Chronic:1	01-2119456619-26
Specific Concentration Limits: C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: Skin Irrit. 2 H315				

≥10-<20 %	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411, M-Chronic:1	01-2119454392-40
≥10-<20 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Repr. 1B, H360F	01-2119485289-22
≥3-<5 %	1,3 Propanediol 2,2-bis(hydroxymethyl)-polymer with 2-(chloromethyl)oxirane	CAS:30973-88-7 EC:608-564-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
≥1-<3 %	Titanium dioxide	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Not classified as hazardous	
≥0.3-<0.5 %	4-morpholinecarbaldehyde	CAS:4394-85-8 EC:224-518-3	Skin Sens. 1B, H317	01-2119987993-12
≥0.3-<0.5 %	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	CAS:933999-84-9 EC:618-939-5	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 3, H412, M-Chronic:1	01-2119463471-41
<0.05 %	xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; Asp. Tox. 1, H304; STOT RE 2, H373; Eye Irrit. 2, H319; STOT SE 3, H335	01-2119488216-32
<0.01 %	phosphoric acid	CAS:7664-38-2 EC:231-633-2 Index:015-011-00-6	Skin Corr. 1B, H314  Specific Concentration Limits: 10% ≤ C < 25%: Eye Irrit. 2 H319 10% ≤ C < 25%: Skin Irrit. 2 H315 C ≥ 25%: Skin Corr. 1B H314	01-2119485924-24
<0.01 %	ethylbenzene	CAS:100-41-4 EC:202-849-4 Index:601-023-00-4	Flam. Liq. 2, H225; Acute Tox. 4, H332; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412	01-2119489370-35
<0.01 %	maleic anhydride	CAS:108-31-6 EC:203-571-6 Index:607-096-00-9	Acute Tox. 4, H302 STOT RE 1, H372 Skin Corr. 1B, H314 Eye Dam. 1, H318 Resp. Sens. 1, H334 Skin Sens. 1A, H317, EUH071  Specific Concentration Limits: C ≥ 0.001%: Skin Sens. 1A H317	

This mixture contains >= 1% titanium dioxide (CAS 13463-67-7). The Annex VI classification of titanium dioxide does not apply to this mixture according to its Note 10.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately and dispose off safely.
- After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

- After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.
- Protect uninjured eye.

In case of Ingestion:

- Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

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

Eye irritation

Eye damages

Skin Irritation

Erythema

#### **4.3. Indication of any immediate medical attention and special treatment needed**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

#### **5.2. Special hazards arising from the substance or mixture**

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

#### **5.3. Advice for firefighters**

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **For non emergency personnel:**

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

##### **For emergency responders:**

Wear personal protection equipment.

#### **6.2. Environmental precautions**

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Retain contaminated washing water and dispose it.

In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Suitable material for taking up: absorbing material, organic, sand

#### **6.3. Methods and material for containment and cleaning up**

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

#### **6.4. Reference to other sections**

See also section 8 and 13

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### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

##### **Advice on general occupational hygiene:**

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

Store cool and dry. Store away from heat

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

#### **7.3. Specific end use(s)**

Recommendation(s)

None in particular

Industrial sector specific solutions:

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Community Occupational Exposure Limits (OEL)**

	<b>OEL Type</b>	<b>Country</b>	<b>Occupational Exposure Limit</b>
Barium sulfate CAS: 7727-43-7	NATIONAL	AUSTRALIA	Long Term: 10 mg/m <sup>3</sup> (8h)
	ACGIH		Long Term: 5 mg/m <sup>3</sup> (8h) I, E - Pneumoconiosis
	NATIONAL	BELGIUM	Long Term: 5 mg/m <sup>3</sup> Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m <sup>3</sup> U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m <sup>3</sup> R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 5 mg/m <sup>3</sup> Source: 2021 Code of Practice
	NATIONAL	SPAIN	Long Term: 10 mg/m <sup>3</sup> e Source: LEP 2022
	NATIONAL	BULGARIA	Long Term: 10 mg/m <sup>3</sup> Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	SLOVAKIA	Long Term: 4 mg/m <sup>3</sup> 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SLOVAKIA	Long Term: 1.5 mg/m <sup>3</sup> 11) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	SUVA	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup> TWA mg/m <sup>3</sup> : (a), Formel / Formal Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Calcium carbonate CAS: 471-34-1	NATIONAL	AUSTRALIA	Long Term: 10 mg/m <sup>3</sup> This value is for inhalable dust containing no asbestos and <1 % crystalline silica.
	NATIONAL	HUNGARY	Long Term: 10 mg/m <sup>3</sup> inhalable aerosol Source: 5/2020. (II. 6.) ITM
	NATIONAL	IRELAND	Long Term: 10 mg/m <sup>3</sup> Inhalable fraction Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 4 mg/m <sup>3</sup> Respirable fraction Source: 2021 Code of Practice
	NATIONAL	UNITED KINGDOM OF GREAT	Long Term: 10 mg/m <sup>3</sup> inhalable aerosol Source: EH40/2005 Workplace exposure limits

Titanium dioxide CAS: 13463-67-7	BRITAIN AND NORTHERN IRELAND	
	NATIONAL UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 respirable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021
	NATIONAL FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
	NATIONAL LATVIA	Long Term: 6 mg/m3 Source: KN325P1
	NATIONAL POLAND	Long Term: 10 mg/m3 4) Source: Dz.U. 2018 poz. 1286
	SUVA SWITZERLAN D	Long Term: 3 mg/m3 TWA mg/m3: (a), Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
	ACGIH	Long Term: 2.5 mg/m3 (8h) Finescale particles; R ; A3 - LRT irr, pneumoconiosis
	NATIONAL AUSTRALIA	Long Term: 10 mg/m3 (8h)
	NATIONAL GERMANY	Long Term: 0.3 mg/m3; Short Term: 2.4 mg/m3 DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density; Source: TRGS900
	NATIONAL BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021
	NATIONAL IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice
	NATIONAL IRELAND	Long Term: 4 mg/m3 Source: 2021 Code of Practice
	NATIONAL ROMANIA	Long Term: 10 mg/m3; Short Term: 15 mg/m3 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL SPAIN	Long Term: 10 mg/m3 Source: LEP 2022
	NATIONAL AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL DENMARK	Long Term: 6 mg/m3 K Source: BEK nr 2203 af 29/11/2021
	NATIONAL ESTONIA	Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL FRANCE	Long Term: 10 mg/m3

		Cancérogène de catégorie 2 Source: INRS outil65
NATIONAL	GREECE	Long Term: 10 mg/m <sup>3</sup> εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	GREECE	Long Term: 5 mg/m <sup>3</sup> αvapn. Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	LATVIA	Long Term: 10 mg/m <sup>3</sup> Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 5 mg/m <sup>3</sup> Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NORWAY	Long Term: 5 mg/m <sup>3</sup> Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 10 mg/m <sup>3</sup> 4), 7) Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 5 mg/m <sup>3</sup> Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 5 mg/m <sup>3</sup> 3 Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup> TWA mg/m <sup>3</sup> : (a), SSC, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
silicon dioxide, chemically prepared CAS: 7631-86-9	NATIONAL	AUSTRALIA Long Term: 2 mg/m <sup>3</sup> This value is for inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	BELGIUM Long Term: 10 mg/m <sup>3</sup> Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	IRELAND Long Term: 6 mg/m <sup>3</sup> Inhalable fraction Source: 2021 Code of Practice
	NATIONAL	IRELAND Long Term: 2.4 mg/m <sup>3</sup> Respirable fraction Source: 2021 Code of Practice
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND Long Term: 6 mg/m <sup>3</sup> Inhalable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND Long Term: 2.4 mg/m <sup>3</sup> Respirable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL	GERMANY Long Term: 4 mg/m <sup>3</sup> DFG, 2, Y, E Source: TRGS 900
	NATIONAL	SLOVENIA Long Term: 4 mg/m <sup>3</sup> Y, (I) Source: UL št. 72, 11. 5. 2021
	NATIONAL	AUSTRIA MAK

Source: BGBl. II Nr. 156/2021

NATIONAL	ESTONIA	Long Term: 2 mg/m3 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	LATVIA	Long Term: 1 mg/m3 Source: KN325P1
SUVA	SWITZERLAND	SSC, Fibpulm / Lungenfibrose, Des VMEs se trouvent sous les substances associées / MAK-Werte finden sich unter den zugeordneten Stoffen Source: suva.ch/valeurs-limites
SUVA	SWITZERLAND	Long Term: 4 mg/m3 TWA mg/m3: (I), SSC, Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites
NATIONAL	LITHUANIA	Long Term: 1 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	GERMANY	Long Term: 4 mg/m3 (8h) Inhalable aerosol
NATIONAL	GERMANY	Long Term: 1.5 mg/m3 (8h) Respirable aerosol
NATIONAL	SWITZERLAND	Long Term: 3 mg/m3 (8h) Respirable aerosol
NATIONAL	BELGIUM	Long Term: 2 mg/m3 (8h)
NATIONAL	BULGARIA	Long Term: 2 mg/m3 (8h)
NATIONAL	CROATIA	Long Term: 2 mg/m3 (8h)
NATIONAL	DENMARK	Long Term: 1 mg/m3 (8h)
NATIONAL	ESTONIA	Long Term: 2 mg/m3 (8h)
NATIONAL	FINLAND	Long Term: 2 mg/m3 (8h)
NATIONAL	FRANCE	Long Term: 2 mg/m3 (8h)
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 2 mg/m3 (8h)
NATIONAL	GREECE	Long Term: 2 mg/m3 (8h)
NATIONAL	IRELAND	Long Term: 2 mg/m3 (8h)
NATIONAL	SLOVENIA	Long Term: 6 mg/m3 (8h)
NATIONAL	SPAIN	Long Term: 2 mg/m3 (8h)
NATIONAL	SWEDEN	Long Term: 1 mg/m3 (8h)
NATIONAL	SWEDEN	Long Term: 1 mg/m3 (8h)
NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 6 mg/m3 F Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	POLAND	Long Term: 2.5 mg/m3 4) Source: Dz.U. 2018 poz. 1286
NATIONAL	POLAND	Long Term: 1.2 mg/m3 6) Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 1.5 mg/m3 11) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), B, Formel / Formal, NIOSH

Aluminium oxide  
CAS: 1344-28-1

Source: suva.ch/valeurs-limites

NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h) Inhalable dust containing no asbestos and < 1% crystalline silica
NATIONAL	BELGIUM	Long Term: 1 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
NATIONAL	CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021
NATIONAL	ROMANIA	Long Term: 2 mg/m3; Short Term: 5 mg/m3 (Aerosoli) Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SPAIN	Long Term: 10 mg/m3 véase Capítulo 9 Source: LEP 2022
NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, MAK, A Source: GKV, BGBl. II Nr. 156/2021
NATIONAL	DENMARK	Long Term: 5 mg/m3 Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 4 mg/m3 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν Source: ΦΕΚ 94/A` 13.5.1999
NATIONAL	GREECE	Long Term: 5 mg/m3 αvapν Source: ΦΕΚ 94/A` 13.5.1999
NATIONAL	HUNGARY	Long Term: 5 mg/m3 N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	HUNGARY	Long Term: 2 mg/m3 resp, N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
NATIONAL	LATVIA	Long Term: 4 mg/m3 Source: KN325P1
NATIONAL	NORWAY	Long Term: 10 mg/m3 1 Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 2.5 mg/m3 4) Source: Dz.U. 2018 poz. 1286
NATIONAL	POLAND	Long Term: 1.2 mg/m3 6) Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006

xylene  
CAS: 1330-20-7

SUVA	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup> TWA mg/m <sup>3</sup> : (a), B, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
SUVA	SWITZERLAND	Long Term: 3 mg/m <sup>3</sup> ; Short Term: 24 mg/m <sup>3</sup> TWA mg/m <sup>3</sup> : (a), Fimétal / Metallrauch, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
ACGIH		Long Term: 20 ppm (8h) A4, BEI - URT and eye irr; hematologic eff; CNS impair
EU		Long Term: 221 mg/m <sup>3</sup> - 50 ppm (8h); Short Term: 442 mg/m <sup>3</sup> - 100 ppm Skin
NATIONAL	AUSTRIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm 15(Miw), 4x, MAK Source: BGBl. II Nr. 156/2021
NATIONAL	BULGARIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
NATIONAL	CZECHIA	Long Term: 200 mg/m <sup>3</sup> ; Short Term: Ceiling - 400 mg/m <sup>3</sup> B, D, I Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 109 mg/m <sup>3</sup> - 25 ppm EH Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 200 mg/m <sup>3</sup> - 50 ppm; Short Term: 450 mg/m <sup>3</sup> - 100 ppm A Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 440 mg/m <sup>3</sup> - 100 ppm iho Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
NATIONAL	GREECE	Long Term: 435 mg/m <sup>3</sup> - 100 ppm; Short Term: 650 mg/m <sup>3</sup> - 150 ppm Δ Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 221 mg/m <sup>3</sup> ; Short Term: 442 mg/m <sup>3</sup> b, BEM, EU1, R Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LITHUANIA	Long Term: 200 mg/m <sup>3</sup> - 50 ppm; Short Term: 450 mg/m <sup>3</sup> - 100 ppm O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 210 mg/m <sup>3</sup> ; Short Term: 442 mg/m <sup>3</sup> H Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 108 mg/m <sup>3</sup> - 25 ppm H E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 100 mg/m <sup>3</sup> ; Short Term: 200 mg/m <sup>3</sup> skóra Source: Dz.U. 2018 poz. 1286

NATIONAL	SLOVAKIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm K, 7) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm H Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 440 mg/m <sup>3</sup> - 100 ppm R/H, B, SNC / ZNS, NIOSH INRS Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 441 mg/m <sup>3</sup> - 100 ppm Sk, BMGV Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm D Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm koža Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 220 mg/m <sup>3</sup> - 50 ppm DFG, EU, H, 2(II) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Sk, IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Cute Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Āda Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm skin Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Cutânea Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm P, Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm K, BAT, EU1 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 221 mg/m <sup>3</sup> - 50 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm vía dérmica, VLB®, VLI Source: LEP 2022
phosphoric acid CAS: 7664-38-2	ACGIH	Long Term: 1 mg/m <sup>3</sup> (8h); Short Term: 3 mg/m <sup>3</sup> URT, eye and skin irr
	EU	Long Term: 1 mg/m <sup>3</sup> (8h); Short Term: 2 mg/m <sup>3</sup>
	NATIONAL AUSTRIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> 15(Miw), 4x, MAK Source: BGBl. II Nr. 156/2021

NATIONAL	BULGARIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
NATIONAL	CZECHIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: Ceiling - 2 mg/m <sup>3</sup> Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 1 mg/m <sup>3</sup> E Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Long Term: 1 mg/m <sup>3</sup> - 0.2 ppm; Short Term: 2 mg/m <sup>3</sup> - 0.5 ppm Source: INRS outil65, arrêté du 30-06-2004 modifié
NATIONAL	GREECE	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 3 mg/m <sup>3</sup> Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> m, EU1, N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LITHUANIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 1 mg/m <sup>3</sup> E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 2 mg/m <sup>3</sup> ; Short Term: 4 mg/m <sup>3</sup> TWA mg/m <sup>3</sup> : (i), SSC, Poumons VRS Peau Yeux / Lunge OAW Haut Auge, NIOSH OSHA Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 2 mg/m <sup>3</sup> DFG, EU, AGS, Y, E, 2(I) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: KN325P1

ethylbenzene  
CAS: 100-41-4

NATIONAL	LUXEMBOURG	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> Y, EU1, (I) Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 2 mg/m <sup>3</sup> VLI, s Source: LEP 2022
ACGIH		Long Term: 20 ppm (8h) OTO; A3, BEI - URT & eye irr; ototoxicity; kidney eff; CNS impair
EU		Long Term: 442 mg/m <sup>3</sup> - 100 ppm (8h); Short Term: 884 mg/m <sup>3</sup> - 200 ppm Skin
NATIONAL	AUSTRIA	Long Term: 440 mg/m <sup>3</sup> - 100 ppm; Short Term: Ceiling - 880 mg/m <sup>3</sup> - 200 ppm 5(Mow), 8x, MAK, H Source: BGBl. II Nr. 156/2021
NATIONAL	BULGARIA	Long Term: 435 mg/m <sup>3</sup> ; Short Term: 545 mg/m <sup>3</sup> Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
NATIONAL	CZECHIA	Long Term: 200 mg/m <sup>3</sup> ; Short Term: Ceiling - 500 mg/m <sup>3</sup> D, B Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 217 mg/m <sup>3</sup> - 50 ppm EHK Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm A, S Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 880 mg/m <sup>3</sup> - 200 ppm iho Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Long Term: 88.4 mg/m <sup>3</sup> - 20 ppm; Short Term: 442 mg/m <sup>3</sup> - 100 ppm Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
NATIONAL	GREECE	Long Term: 435 mg/m <sup>3</sup> - 100 ppm; Short Term: 545 mg/m <sup>3</sup> - 125 ppm Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 442 mg/m <sup>3</sup> ; Short Term: 884 mg/m <sup>3</sup> b, i, BEM, EU1, T Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LITHUANIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 215 mg/m <sup>3</sup> ; Short Term: 430 mg/m <sup>3</sup> H Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 20 mg/m <sup>3</sup> - 5 ppm H K E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 200 mg/m <sup>3</sup> ; Short Term: 400 mg/m <sup>3</sup> skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm K, 7)

NATIONAL	SWEDEN	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm H Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 220 mg/m <sup>3</sup> - 50 ppm; Short Term: 220 mg/m <sup>3</sup> - 50 ppm R/H, OB, B, Rein Foie / Niere Leber, NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 441 mg/m <sup>3</sup> - 100 ppm; Short Term: 552 mg/m <sup>3</sup> - 125 ppm Sk Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	CROATIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm koža Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 88 mg/m <sup>3</sup> - 20 ppm DFG, H, Y, EU, 2(II) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm Sk, IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm Cute Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm Āda; Ietekme uz dzirdi Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm skin Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm Cutânea Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm P, Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 442 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm K, Y, BAT, EKA EU1 Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 441 mg/m <sup>3</sup> - 100 ppm; Short Term: 884 mg/m <sup>3</sup> - 200 ppm vía dérmica, VLB®, VLI Source: LEP 2022
octamethylcyclotetrasiloxane CAS: 556-67-2	NATIONAL AUSTRIA	f Source: BGBl. II Nr. 156/2021
maleic anhydride CAS: 108-31-6	ACGIH	Long Term: 0.01 mg/m <sup>3</sup> (8h) IFV, DSEN, RSEN, A4 - Resp sens
	NATIONAL AUSTRIA	Long Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm; Short Term: Ceiling - 0.8 mg/m <sup>3</sup> - 0.2 ppm 5(Mow), 8x, MAK, Sah Source: BGBl. II Nr. 156/2021
	NATIONAL BULGARIA	Long Term: 1 mg/m <sup>3</sup> Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL CZECHIA	Long Term: 1 mg/m <sup>3</sup> ; Short Term: Ceiling - 2 mg/m <sup>3</sup>

		I, S Source: Nařízení vlády č. 361-2007 Sb
NATIONAL	DENMARK	Long Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm Source: BEK nr 2203 af 29/11/2021
NATIONAL	ESTONIA	Long Term: 1.2 mg/m <sup>3</sup> - 0.3 ppm; Short Term: 2.5 mg/m <sup>3</sup> - 0.6 ppm S Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
NATIONAL	FINLAND	Long Term: 0.41 mg/m <sup>3</sup> - 0.1 ppm; Short Term: Ceiling - 0.81 mg/m <sup>3</sup> - 0.2 ppm kattoarvo Source: HTP-ARVOT 2020
NATIONAL	FRANCE	Short Term: 1 mg/m <sup>3</sup> Risque d'allergie Source: INRS outil65
NATIONAL	GREECE	Long Term: 1 mg/m <sup>3</sup> - 0.25 ppm Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	HUNGARY	Long Term: 0.08 mg/m <sup>3</sup> ; Short Term: 0.08 mg/m <sup>3</sup> m, sz, R+T Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LATVIA	Long Term: 1 mg/m <sup>3</sup> Source: KN325P1
NATIONAL	LITHUANIA	Long Term: 1.2 mg/m <sup>3</sup> - 0.3 ppm; Short Term: 2.5 mg/m <sup>3</sup> - 0.6 ppm J Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NORWAY	Long Term: 0.8 mg/m <sup>3</sup> - 0.2 ppm A Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 0.5 mg/m <sup>3</sup> ; Short Term: 1 mg/m <sup>3</sup> skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 0.41 mg/m <sup>3</sup> - 0.1 ppm S Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 0.2 mg/m <sup>3</sup> - 0.05 ppm; Short Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm M, S Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm; Short Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm S, SSC, VR / AW, NIOSH OSHA, La substance peut être présente sous forme de vapeur et d'aérosol en même temps / Der Stoff kann gleichzeitig als Dampf und Aerosol vorliegen Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m <sup>3</sup> ; Short Term: 3 mg/m <sup>3</sup> Sen Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 0.01 mg/m <sup>3</sup> - 0.003 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 0.41 mg/m <sup>3</sup> - 0.1 ppm; Short Term: 0.8 mg/m <sup>3</sup> - 0.2 ppm alergen (koža i udisanje) Source: NN 1/2021
NATIONAL	GERMANY	Long Term: 0.081 mg/m <sup>3</sup> - 0.02 ppm DFG, Sah, Y, 11, 1;=2, 5=(I) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 0.01 ppm Sens., IFV Source: 2021 Code of Practice
NATIONAL	ROMANIA	Long Term: 1 mg/m <sup>3</sup> - 0.25 ppm; Short Term: 3 mg/m <sup>3</sup> - 0.75 ppm Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 0.41 mg/m <sup>3</sup> - 0.1 ppm; Short Term: 0.41 mg/m <sup>3</sup> - 0.1 ppm

		Y Source: UL št. 72, 11. 5. 2021
	NATIONAL SPAIN	Long Term: 0.4 mg/m <sup>3</sup> - 0.1 ppm FIV, Sen Source: LEP 2022
2,6-dimethylheptan-4-one; di-isobutyl ketone CAS: 108-83-8	ACGIH	Long Term: 25 ppm (8h) URT and eye irr
	NATIONAL AUSTRALIA	Long Term: 145 mg/m <sup>3</sup> - 25 ppm (8h)
	NATIONAL AUSTRIA	Long Term: 290 mg/m <sup>3</sup> - 50 ppm MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL DENMARK	Long Term: 150 mg/m <sup>3</sup> - 25 ppm Source: BEK nr 2203 af 29/11/2021
	NATIONAL FINLAND	Long Term: 150 mg/m <sup>3</sup> - 25 ppm; Short Term: 240 mg/m <sup>3</sup> - 40 ppm Source: HTP-ARVOT 2020
	NATIONAL FRANCE	Long Term: 250 mg/m <sup>3</sup> - 25 ppm Source: INRS outil65
	NATIONAL GREECE	Long Term: 290 mg/m <sup>3</sup> - 50 ppm Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL NORWAY	Long Term: 120 mg/m <sup>3</sup> - 20 ppm Source: FOR-2021-06-28-2248
	NATIONAL POLAND	Long Term: 150 mg/m <sup>3</sup> ; Short Term: 300 mg/m <sup>3</sup> Source: Dz.U. 2018 poz. 1286
	SUVA SWITZERLAND	Long Term: 150 mg/m <sup>3</sup> - 25 ppm VRS Yeux / OAW Auge, INRS NIOSH Source: suva.ch/valeurs-limites
	WEL-EH40 UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 148 mg/m <sup>3</sup> - 25 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	NATIONAL BELGIUM	Long Term: 147 mg/m <sup>3</sup> - 25 ppm Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL CROATIA	Long Term: 148 mg/m <sup>3</sup> - 25 ppm Source: NN 1/2021
	NATIONAL IRELAND	Long Term: 150 mg/m <sup>3</sup> - 25 ppm Source: 2021 Code of Practice
	NATIONAL ROMANIA	Long Term: 150 mg/m <sup>3</sup> - 26 ppm; Short Term: 250 mg/m <sup>3</sup> - 43 ppm Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL SPAIN	Long Term: 148 mg/m <sup>3</sup> - 25 ppm Source: LEP 2022

#### Predicted No Effect Concentration (PNEC) values

bis-[4-(2,3-epoxipropoxy)phenyl]  
propane  
CAS: 1675-54-3

Exposure Route: Fresh Water; PNEC Limit: 0.006 mg/l

Exposure Route: Marine water; PNEC Limit: 600 ng/L

Exposure Route: Freshwater sediments; PNEC Limit: 0.996 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.099 mg/kg

Exposure Route: Soil; PNEC Limit: 0.196 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.018 mg/l

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]  
bis(oxirane) and 2,2'-

Exposure Route: Fresh Water; PNEC Limit: 3 µg/l

[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 25.4 µg/l  
Exposure Route: Marine water; PNEC Limit: 300 ng/L  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 294 µg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 29.4 µg/kg  
Exposure Route: Soil; PNEC Limit: 237 µg/kg

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.  
CAS: 68609-97-2

Exposure Route: Fresh Water; PNEC Limit: 0.007 mg/l  
Exposure Route: Marine water; PNEC Limit: 0.072 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 66.77 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 6.677 mg/kg  
Exposure Route: Soil; PNEC Limit: 80.12 mg/kg  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.072 mg/l  
Exposure Route: Fresh Water; PNEC Limit: 0.184 mg/l

Titanium dioxide  
CAS: 13463-67-7

Exposure Route: Marine water; PNEC Limit: 0.018 mg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/kg  
Exposure Route: Intermittent releases (marine water); PNEC Limit: 100 mg/kg  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/kg  
Exposure Route: Fresh Water; PNEC Limit: 500 µg/l

4-morpholinecarbaldehyde  
CAS: 4394-85-8

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 5 mg/l  
Exposure Route: Marine water; PNEC Limit: 50 µg/l  
Exposure Route: Marine water; PNEC Limit: 2000 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 2.69 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 269 µg/kg  
Exposure Route: Soil; PNEC Limit: 244 µg/kg  
Exposure Route: Fresh Water; PNEC Limit: 327 µg/l

xylene  
CAS: 1330-20-7

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 327 µg/l  
Exposure Route: Marine water; PNEC Limit: 327 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg  
Exposure Route: Soil; PNEC Limit: 2.31 mg/kg  
Exposure Route: Fresh Water; PNEC Limit: 100 µg/l

ethylbenzene  
CAS: 100-41-4

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 100 µg/l  
Exposure Route: Marine water; PNEC Limit: 55 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 9.6 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 13.7 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 1.37 mg/kg  
Exposure Route: Soil; PNEC Limit: 2.68 mg/kg  
Exposure Route: Secondary poisoning; PNEC Limit: 20 mg/kg

maleic anhydride  
CAS: 108-31-6

Exposure Route: Fresh Water; PNEC Limit: 87.5 µg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 589.5 µg/l

Exposure Route: Marine water; PNEC Limit: 8.75 µg/l  
 Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 24.53 mg/l  
 Exposure Route: Freshwater sediments; PNEC Limit: 197 µg/kg  
 Exposure Route: Marine water sediments; PNEC Limit: 19.7 µg/kg  
 Exposure Route: Soil; PNEC Limit: 25.75 µg/kg  
 Exposure Route: Secondary poisoning; PNEC Limit: 6.67 mg/kg

#### Derived No Effect Level (DNEL) values

bis-[4-(2,3-epoxipropoxy)phenyl]propane  
 CAS: 1675-54-3

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects  
 Worker Professional: 0.75 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 0.75 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 3.571 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
 Worker Professional: 3.571 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 12.25 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
 Worker Professional: 12.25 mg/m<sup>3</sup>

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 29.39 mg/m<sup>3</sup>; Consumer: 8.7 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 104.15 mg/kg; Consumer: 62.5 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
 Consumer: 6.25 mg/kg

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.  
 CAS: 68609-97-2

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
 Worker Professional: 17 mg/kg; Consumer: 10 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
 Worker Professional: 29 mg/m<sup>3</sup>; Consumer: 7.6 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
 Consumer: 1219 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects  
 Worker Professional: 68 mg/kg; Consumer: 40 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
 Worker Professional: 9.8 mg/m<sup>3</sup>; Consumer: 2.9 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 3.9 mg/kg; Consumer: 2.35 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
 Worker Professional: 13.8 mg/m<sup>3</sup>; Consumer: 4.1 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
 Consumer: 1 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects  
 Worker Professional: 1.7 mg/kg; Consumer: 1 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
 Worker Professional: 0.98 mg/kg; Consumer: 1.46 mg/kg

Titanium dioxide CAS: 13463-67-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 10 mg/m <sup>3</sup>
4-morpholinecarbaldehyde CAS: 4394-85-8	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 98 mg/m <sup>3</sup> ; Consumer: 29 mg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 1.7 mg/m <sup>3</sup> ; Consumer: 840 µg/m <sup>3</sup>
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 14 mg/kg; Consumer: 8 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects Worker Professional: 0.293 mg/cm <sup>2</sup> ; Consumer: 176 mg/cm <sup>2</sup>
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 8 mg/kg
xylene CAS: 1330-20-7	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 289 mg/m <sup>3</sup> ; Consumer: 174 mg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 289 mg/m <sup>3</sup> ; Consumer: 174 mg/m <sup>3</sup>
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 180 mg/kg; Consumer: 108 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 1.6 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 77 mg/kg; Consumer: 14.8 mg/kg
phosphoric acid CAS: 7664-38-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 10.7 mg/m <sup>3</sup> ; Consumer: 4.57 mg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 1 mg/m <sup>3</sup> ; Consumer: 360 µg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 2 mg/m <sup>3</sup>
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 100 µg/kg
ethylbenzene CAS: 100-41-4	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 77 mg/m <sup>3</sup> ; Consumer: 15 mg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 293 mg/m <sup>3</sup>
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 180 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Worker Professional: 1.6 mg/kg
maleic anhydride CAS: 108-31-6	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 190 µg/m <sup>3</sup> ; Consumer: 50 µg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 800 µg/m <sup>3</sup>
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 320 µg/m <sup>3</sup> ; Consumer: 80 µg/m <sup>3</sup>
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 200 µg/kg; Consumer: 100 µg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Professional: 200 µg/kg; Consumer: 100 µg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 60 µg/kg
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 100 µg/kg

## 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

Suitable materials for safety gloves (EN 374, EN 16523-1:2015+A1:2018: Level 6):

Nitrile rubber - NBR: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Respiratory protection:

Respiratory protective equipment should be worn when there is a possibility that the exposure limit value will be exceeded. In the absence of exposure limit values, respiratory protective equipment should be worn when adverse effects occur, such as respiratory irritation or discomfort, or if indicated by the results of your risk assessment. Use the following CE-approved air-purifying respirator: A-type organic vapour cartridge (boiling point  $>65^{\circ}\text{C}$ )

Thermal Hazards:

Not expected if used as intended

Environmental exposure controls:

Prevent the product from entering sewers or surface and underground water.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: In compliance with the product description

Odour: Like: Ammonia

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range:  $269^{\circ}\text{C}$  ( $516^{\circ}\text{F}$ ) ( ASTM-E537 )

Flash point:  $159^{\circ}\text{C}$  ( $318^{\circ}\text{F}$ ) ( ISO 3679 )

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density:  $1.27\text{ g/cm}^3$  ( ISO 2811 )

Solubility in water: Soluble

Solubility in oil: N.A.

Partition coefficient n-octanol/water (log value): Not Relevant

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs =  $0.01\%$  ;  $0.09\text{ g/l}$

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

No other relevant information

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## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Stable under normal conditions

### 10.2. Chemical stability

Data not available.

### 10.3. Possibility of hazardous reactions

None.

### 10.4. Conditions to avoid

Stable under normal conditions.

### 10.5. Incompatible materials

None in particular.

### 10.6. Hazardous decomposition products

None.

## SECTION 11: Toxicological information

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Toxicological Information of the Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1A(H317)
e) germ cell mutagenicity	Not classified Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified Based on available data, the classification criteria are not met
g) reproductive toxicity	The product is classified: Repr. 1B(H360)
h) STOT-single exposure	Not classified Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified Based on available data, the classification criteria are not met

#### Toxicological information on main components of the mixture:

bis-[4-(2,3-epoxipropoxy)phenyl]propane	a) acute toxicity	LD50 Oral Rabbit = 19800 mg/kg	
		LD50 Skin Rabbit > 20 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	epoxy resin with an average molecular mass ≤ 700 d irritate skin of rabbits
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Oral Rat = 15 mg/kg Carcinogenicity Skin Rat = 1 mg/kg	Mouse, oral NOAEL NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750 mg/kg	
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LD50 Skin Rat > 2000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Hamster oral route
oxirane, mono[(C12-14-	a) acute toxicity	LD50 Oral Rat = 26800 mg/kg	

alkyloxy)methyl] derivs.

		LC50 Inhalation Rat > 0.206 mg/l 4h	
		LD50 Skin Rabbit > 4.5 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Yes	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 200 mg/kg	
Titanium dioxide	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg LC50 Inhalation > 6.82 mg/l LD50 Skin Rat > 2000 mg/kg	
	c) serious eye damage/irritation	Eye Corrosive Negative	
		Eye Irritant No	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	
	i) STOT-repeated exposure	No Observed Adverse Effect Level 1000	
4-morpholinecarbaldehyde	a) acute toxicity	LD50 Oral Rat > 7360 mg/kg	
		LC50 Inhalation of aerosol Rat > 5.3 mg/l 4h LD50 Skin Rabbit > 18400 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg	
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	a) acute toxicity	LD50 Oral Rat = 3010 mg/kg	
xylene	a) acute toxicity	LD50 Oral Rat = 3523 ml/Kg LC50 Inhalation Vapour Rabbit = 26 mg/l 4h LD50 Skin Rat = 4350 mg/kg	
phosphoric acid	a) acute toxicity	LD50 Oral Rat = 2600 mg/kg LC50 Inhalation Rat = 3846 mg/m <sup>3</sup> 1h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat >= 500 mg/kg	
ethylbenzene	a) acute toxicity	LD50 Oral Rat = 3500 mg/kg LC50 Inhalation Mouse = 1432 Ppm LD50 Skin Rabbit = 17.8 ml/Kg	

maleic anhydride	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	f) carcinogenicity	Genotoxicity Negative 24h	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 100	ppm
	a) acute toxicity	LD50 Oral Rat = 1090 mg/kg LC50 Inhalation Rat > 4.35 mg/l 1h LD50 Skin Rabbit = 2620 mg/kg	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
		Respiratory Sensitization Rat Positive	
	f) carcinogenicity	Genotoxicity Rat Negative 6h Carcinogenicity Negative	Inhalation route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 55 mg/kg	

## 11.2. Information on other hazards

### Endocrine disrupting properties:

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

#### List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

#### List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 2 mg/L 96h  a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1.8 mg/L 48h a) Aquatic acute toxicity : EC50 Algae Scenedesmus capricornutum = 11 mg/L 72h EPA-660/3-75-009  c) Bacteria toxicity : EC50 Sludge activated sludge = 100 mg/L 3h a) Aquatic acute toxicity : LC50 Fish Leuciscus idus = 2.54 mg/L 96h
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	EINECS: 701-263-0	a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 2.55 mg/L 48h b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 0.3 mg/L - 21days  a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 1.8 mg/L 72h  a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L 3h

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS: 68609-97-2 - EINECS: 271-846-8 - INDEX: 603-103-00-4	<p>a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> &gt; 5000 mg/L 96h</p> <p>a) Aquatic acute toxicity : NOEC Algae <i>Pseudokirchneriella subcapitata</i> = 500 mg/L 72h „OECD Guideline 201 (Alga, Growth Inhibition Test)</p> <p>a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> = 843 mg/L 72h</p> <p>c) Bacteria toxicity : EC50 Sludge &gt; 100 mg/L</p>
Titanium dioxide	CAS: 13463-67-7 - EINECS: 236-675-5 - INDEX: 022-006-00-2	<p>a) Aquatic acute toxicity : LC50 Fish <i>Pimephales promelas</i> (Cavedano americano) &gt; 1000 mg/L 96h</p> <p>a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> (alghe cloroficee) &gt; 100 mg/L 72h</p> <p>a) Aquatic acute toxicity : NOEC Algae = 5600 mg/L</p> <p>a) Aquatic acute toxicity : EC50 <i>Daphnia magna</i> (Pulce d'acqua grande) &gt; 100 mg/L 48h</p>
4-morpholinecarbaldehyde	CAS: 4394-85-8 - EINECS: 224-518-3	<p>a) Aquatic acute toxicity : LC50 Fish <i>Leuciscus idus</i> &gt; 500 mg/L 96h „German Industrial Standard DIN 38412, Part 15</p> <p>a) Aquatic acute toxicity : EC50 <i>Daphnia magna</i> &gt; 500 mg/L 48h EEC Directive 79/831/EEC</p> <p>a) Aquatic acute toxicity : EC50 Algae German Industrial Standard guideline DIN 38412, part 9 = 23.8 g/L 72h „German Industrial Standard guideline DIN 38412, part 9</p> <p>c) Bacteria toxicity : EC10 <i>Pseudomonas putida</i> &gt; 2000 mg/L „German Industrial Standard guideline DIN 38412, part 8 an EC10</p>
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	CAS: 933999-84-9 - EINECS: 618-939-5	<p>a) Aquatic acute toxicity : LC50 Fish rainbow trout = 30 mg/L 96h</p> <p>a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 47 mg/L 48h</p> <p>a) Aquatic acute toxicity : EC50 Algae = 23.1 mg/L 72h</p>
phosphoric acid	CAS: 7664-38-2 - EINECS: 231-633-2 - INDEX: 015-011-00-6	<p>a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> &gt; 100 mg/L 48h „OECD TG 202, static, Klimisch reliability 1</p> <p>a) Aquatic acute toxicity : EC50 Algae <i>Desmodesmus subspicatus</i> &gt; 100 mg/L 72h „OECD TG 201, static, Klimisch reliability 1</p> <p>a) Aquatic acute toxicity : EC50 Sludge activated sludge &gt; 1000 mg/L 3h „OECD TG 209, static, Klimisch reliability 1</p>
ethylbenzene	CAS: 100-41-4 - EINECS: 202-849-4 - INDEX: 601-023-00-4	<p>a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> = 4.2 mg/L 96h</p> <p>a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 1.8 mg/L 48h</p> <p>b) Aquatic chronic toxicity : NOEC <i>Ceriodaphnia dubia</i> = 1 mg/L - 7days</p> <p>a) Aquatic acute toxicity : EC50 Algae <i>Selenastrum capricornutum</i> = 3.6 mg/L 96h</p> <p>c) Bacteria toxicity : EC50 &gt; 96 mg/L 24h</p> <p>d) Terrestrial toxicity : LC50 Worm <i>Eisenia fetida</i> = 4.93 µg/L 48h OECD TG 207</p>
maleic anhydride	CAS: 108-31-6 - EINECS: 203-571-6 - INDEX: 607-096-00-9	<p>a) Aquatic acute toxicity : LC50 Fish rainbow trout = 75 mg/L 96h</p>

a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 42.81 mg/L 48h

b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 10 mg/L - 21days

a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 74.32 mg/L

a) Aquatic acute toxicity : NOEC Sludge activated sludge = 44.6 mg/L - 18h

## 12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes:
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Non-readily biodegradable	Oxygen consumption		OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	Non-readily biodegradable		16.000	28days
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Readily biodegradable	Oxygen consumption	87.000	%; OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
4-morpholinecarbaldehyde	Readily biodegradable	Dissolved organic carbon	96.000	%; OECD 301 A
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	Non-readily biodegradable			
ethylbenzene	Readily biodegradable	CO2 production		
maleic anhydride	Readily biodegradable		90.000	28days

## 12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Bioaccumulative	BCF - Bioconcentration factor	31.000	
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	Bioaccumulative	BCF - Bioconcentration factor	150.000	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Bioaccumulative	BCF - Bioconcentration factor	160.000	
4-morpholinecarbaldehyde	Bioaccumulative	BCF - Bioconcentration factor	1.900	
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	Bioaccumulative	BCF - Bioconcentration factor	3.570	
xylene	Bioaccumulative	BCF - Bioconcentration factor	25.900	
ethylbenzene	Bioaccumulative	BCF - Bioconcentration factor	110.000 L/kg ww	

## 12.4. Mobility in soil

N.A.

## 12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration  $\geq 0.1\%$

## 12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

## 12.7. Other adverse effects

N.A.

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## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

A waste code according to the European List of Wastes (LoW) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

The product disposed of as such, pursuant to Regulation (EU) 1357/2014, must be classified as hazardous waste

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## SECTION 14: Transport information

### 14.1. UN number or ID number

3082

### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxi)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

### 14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

### 14.5. Environmental hazards

Most important toxic component: bis-[4-(2,3-epoxipropoxi)phenyl]propane

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-F

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 375 601

ADR-Transport category (Tunnel restriction code): 3 (-)

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 964

IATA-Cargo Aircraft: 964

IATA-Label: 9

IATA-Subsidiary hazards: -

IATA-Erg: 9L

IATA-Special Provisions: A97 A158 A197 A215

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274 335 969

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

N.A.

## SECTION 15: Regulatory information

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

Dir. 98/24/EC (Risks related to chemical agents at work)

Dir. 2000/39/EC (Occupational exposure limit values)

Regulation (EC) n. 1907/2006 (REACH)

Regulation (EC) n. 1272/2008 (CLP)

Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013

Regulation (EU) n. 286/2011 (ATP 2 CLP)

Regulation (EU) n. 618/2012 (ATP 3 CLP)

Regulation (EU) n. 487/2013 (ATP 4 CLP)

Regulation (EU) n. 944/2013 (ATP 5 CLP)

Regulation (EU) n. 605/2014 (ATP 6 CLP)

Regulation (EU) n. 2015/1221 (ATP 7 CLP)

Regulation (EU) n. 2016/918 (ATP 8 CLP)

Regulation (EU) n. 2016/1179 (ATP 9 CLP)

Regulation (EU) n. 2017/776 (ATP 10 CLP)

Regulation (EU) n. 2018/669 (ATP 11 CLP)

Regulation (EU) n. 2018/1480 (ATP 13 CLP)

Regulation (EU) n. 2019/521 (ATP 12 CLP)

Regulation (EU) n. 2020/217 (ATP 14 CLP)

Regulation (EU) n. 2020/1182 (ATP 15 CLP)

Regulation (EU) n. 2021/643 (ATP 16 CLP)

Regulation (EU) n. 2021/849 (ATP 17 CLP)

Regulation (EU) n. 2022/692 (ATP 18 CLP)

Regulation (EU) n. 2020/878

Regulation (EC) nr 648/2004 (Detergents).

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

Restrictions related to the product: 3

Restrictions related to the substances contained: 40, 70, 75

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
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Product belongs to category: E2	200	500
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### Explosives precursors – Regulation 2019/1148

No substances listed

### Regulation (EU) No 649/2012 (PIC regulation)

No substances listed

### German Water Hazard Class.

3: Severe hazard to waters

### German Lagerklasse according to TRGS 510:

LGK 10

SVHC Substances:

No SVHC substances present in concentration  $\geq 0.1\%$

### Dir. 2004/42/EC (VOC directive)

(ready to use)

Volatile Organic compounds - VOCs = 0.69 %

Volatile Organic compounds - VOCs = 8.44 g/L

FACTORY COLORMAXI EP (A) (not ready to use)

Volatile Organic compounds - VOCs = 0.01 %

Volatile Organic compounds - VOCs = 0.09 g/L

### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

#### Substances for which a Chemical Safety Assessment has been carried out:

bis-[4-(2,3-epoxipropoxy)phenyl]propane

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

xylene

## SECTION 16: Other information

Code	Description
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
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.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360F	May damage fertility.
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.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1A, H317	Calculation method
Repr. 1B, H360F	Calculation method
Aquatic Chronic 2, H411	Calculation method

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate  
 ATEmix: Acute toxicity Estimate (Mixtures)  
 BCF: Biological Concentration Factor  
 BEI: Biological Exposure Index  
 BOD: Biochemical Oxygen Demand  
 CAS: Chemical Abstracts Service (division of the American Chemical Society).  
 CAV: Poison Center  
 CE: European Community  
 CLP: Classification, Labeling, Packaging.  
 CMR: Carcinogenic, Mutagenic and Reprotoxic  
 COD: Chemical Oxygen Demand  
 COV: Volatile Organic Compound  
 CSA: Chemical Safety Assessment  
 CSR: Chemical Safety Report  
 DMEL: Derived Minimal Effect Level  
 DNEL: Derived No Effect Level.  
 DPD: Dangerous Preparations Directive  
 DSD: Dangerous Substances Directive  
 EC50: Half Maximal Effective Concentration  
 ECHA: European Chemicals Agency  
 EINECS: European Inventory of Existing Commercial Chemical Substances.  
 ES: Exposure Scenario  
 GefStoffVO: Ordinance on Hazardous Substances, Germany.  
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.  
 IARC: International Agency for Research on Cancer  
 IATA: International Air Transport Association.  
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  
 IC50: half maximal inhibitory concentration  
 ICAO: International Civil Aviation Organization.  
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).  
 IMDG: International Maritime Code for Dangerous Goods.  
 INCI: International Nomenclature of Cosmetic Ingredients.  
 IRCCS: Scientific Institute for Research, Hospitalization and Health Care  
 KAFH: Keep Away From Heat  
 KSt: Explosion coefficient.  
 LC50: Lethal concentration, for 50 percent of test population.  
 LD50: Lethal dose, for 50 percent of test population.  
 LDLo: Leathal Dose Low  
 N.A.: Not Applicable  
 N/A: Not Applicable  
 N/D: Not defined/ Not available  
 NA: Not available  
 NIOSH: National Institute for Occupational Safety and Health  
 NOAEL: No Observed Adverse Effect Level  
 OSHA: Occupational Safety and Health Administration  
 PBT: Persistent, Bioaccumulative and Toxic  
 PGK: Packaging Instruction  
 PNEC: Predicted No Effect Concentration.  
 PSG: Passengers  
 RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.  
 STEL: Short Term Exposure limit.  
 STOT: Specific Target Organ Toxicity.  
 TLV: Threshold Limiting Value.  
 TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).  
 vPvB: Very Persistent, Very Bioaccumulative.  
 WGK: German Water Hazard Class.

**Paragraphs modified from the previous revision:**

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection

- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information



## Exposure Scenario

### Xylene, Mixed Isomers

## Exposure Scenario, 14/10/2022

Substance identity	
	Xylene, Mixed Isomers
CAS No.	1330-20-7
INDEX No.	601-022-00-9
EINECS No.	215-535-7
Registration number	01-2119488216-32

## Table of contents

1. **ES 1**      Widespread use by professional workers

1. ES 1 Widespread use by professional workers	
<b>1.1 TITLE SECTION</b>	
Exposure Scenario name	Professional application of coatings and inks
Date - Version	14/10/2022 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
<b>Environment Contributing Scenario</b>	
CS1	ERC8a - ERC8d
<b>Worker Contributing Scenario</b>	
CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11
<b>1.2 Conditions of use affecting exposure</b>	
<b>1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)</b>	
Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid	
Concentration of substance in product: Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use (or from service life)</i>	
Emission days: 300 days per year	
<i>Conditions and measures related to sewage treatment plant</i>	
STP type: Onsite Sewage Treatment Plant	
STP effluent (m <sup>3</sup> /day): 2000	
<i>Conditions and measures related to treatment of waste (including article waste)</i>	
Waste treatment External treatment and disposal of waste should comply with applicable local and/or national regulations.	
<i>Other conditions affecting environmental exposure</i>	
Local marine water dilution factor: 100 Local freshwater dilution factor: 10	
<b>1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)</b>	
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid	
Vapour pressure: = 500 Pa	

<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Use in closed process Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Wear suitable gloves tested to EN374.	
<i>Other conditions affecting worker exposure</i>	
Professional use <b>Temperature:</b> Assumes use at not more than 20 °C above ambient temperature.	
<b>1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)</b>	
<b>Process Categories</b>	Roller application or brushing (PROC10)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> = 500 Pa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
<b>Technical and organisational measures</b> Provide a good standard of controlled ventilation (10 to 15 air changes per hour).	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
<b>Personal protection</b> Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140.	
<i>Other conditions affecting worker exposure</i>	
Professional use <b>Temperature:</b> Assumes use at not more than 20 °C above ambient temperature.	
<b>1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)</b>	
<b>Process Categories</b>	Non industrial spraying (PROC11)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> = 500 Pa	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use/exposure</i>	

**Duration:**

Covers daily exposures up to 8 hours

**Technical and organisational conditions and measures****Technical and organisational measures**

Carry out in a vented booth provided with laminar airflow.

**Conditions and measures related to personal protection, hygiene and health evaluation****Personal protection**

Wear suitable gloves tested to EN374.

**Other conditions affecting worker exposure**

Professional use

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.0015 mg/L	N/A	= 0.005
marine water	= 0.000145 mg/L	N/A	< 0.001
freshwater sediment	= 0.016 mg/kg wet weight	N/A	= 0.006
marine sediment	= 0.0156 mg/kg wet weight	N/A	< 0.001
soil	= 0.0117 mg/kg wet weight	N/A	= 0.006
Sewage treatment plant	= 0.00866 mg/L	N/A	= 0.001

**1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 14 ppm	N/A	= 0.79
dermal, systemic, long-term	= 13.71 mg/kg bw/day	N/A	= 0.08
combined routes	N/A	N/A	= 0.87

**1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 3 ppm	N/A	= 0.17
dermal, systemic, long-term	= 27.43 mg/kg bw/day	N/A	= 0.15
combined routes	N/A	N/A	= 0.32

**1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
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inhalative, systemic, long-term	= 5 ppm	N/A	= 0.28
dermal, systemic, long-term	= 13.71 mg/kg bw/day	N/A	= 0.08
combined routes	N/A	N/A	= 0.29

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### **Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

## bis-[4-(2,3-epoxipropoxy)phenyl]propane

### Exposure Scenario, 07/06/2021

Substance identity	
	bis-[4-(2,3-epoxipropoxy)phenyl]propane
CAS No.	1675-54-3
INDEX No.	603-073-00-2
EINECS No.	216-823-5
Registration number	01-2119456619-26

### Table of contents

1. **ES 1** Widespread use by professional workers; ESC2\_0000001

1. ES 1      Widespread use by professional workers; ESC2_0000001	
<b>1.1 TITLE SECTION</b>	
Exposure Scenario name	Professional application of coatings and inks - Etching agent - Resins (prepolymers) - Adhesion promotor
Date - Version	27/05/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	ESC2_0000001
Article Category(ies)	Other articles made of stone, plaster, cement, glass or ceramic (AC4g)
<b>Environment Contributing Scenario</b>	
CS1	ERC8c - ERC8f
<b>Worker Contributing Scenario</b>	
CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11
CS5 Mixing operations - Manual	PROC19
<b>1.2 Conditions of use affecting exposure</b>	
<b>1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)</b>	
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)
<i>Product (article) characteristics</i>	
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<i>Amount used, frequency and duration of use (or from service life)</i>	
<b>Amounts used:</b> Daily amount per site = 175 kg/day	
<b>Release type:</b> Continuous release	
<b>Emission days:</b> 365 days per year	
<i>Technical and organisational conditions and measures</i>	
<b>Control measures to prevent releases</b> Provide onsite wastewater removal efficiency of <sup>3</sup> (%):	
<i>Conditions and measures related to sewage treatment plant</i>	
<b>STP type:</b> Municipal Sewage Treatment Plant	
<b>STP effluent (m<sup>3</sup>/day):</b> 2	
<i>Conditions and measures related to treatment of waste (including article waste)</i>	
<b>Waste treatment</b> Dispose of waste cans and containers according to local regulations.	
<i>Other conditions affecting environmental exposure</i>	

**Local marine water dilution factor:** 100  
**Local freshwater dilution factor:** 10  
**Receiving surface water flow:** 18000 m<sup>3</sup>/day  
 Covers indoor and outdoor use

## 1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

<b>Process Categories</b>	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
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### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 4 hours per day.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

#### *Other conditions affecting worker exposure*

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

<b>Process Categories</b>	Roller application or brushing (PROC10)
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### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 4 hours per day.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

#### *Other conditions affecting worker exposure*

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

## 1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

<b>Process Categories</b>	Non industrial spraying (PROC11)
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### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

***Amount used, frequency and duration of use/exposure*****Duration:**

Covers daily exposures up to 8 hours

***Technical and organisational conditions and measures*****Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 4 hours per day.

***Conditions and measures related to personal protection, hygiene and health evaluation*****Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

Wear suitable face shield.

Wear an impervious suit.

Wear a respirator conforming to EN140.

***Other conditions affecting worker exposure***

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

**1.2. CS5: Worker Contributing Scenario: Mixing operations - Manual (PROC19)****Process Categories**

Manual activities involving hand contact (PROC19)

***Product (article) characteristics*****Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

***Amount used, frequency and duration of use/exposure*****Duration:**

Covers daily exposures up to 8 hours

***Technical and organisational conditions and measures*****Technical and organisational measures**

Avoid carrying out activities involving exposure for more than 1 hour per day.

***Conditions and measures related to personal protection, hygiene and health evaluation*****Personal protection**

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.

***Other conditions affecting worker exposure***

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.0022 mg/L	EUSES	= 0.00022
marine sediment	= 0.00127 mg/L	EUSES	= 0.0128
freshwater sediment	= 0.012 mg/L	EUSES	= 0.0369
marine water	= 2.34E-05 mg/L	EUSES	= 0.029
soil	= 0.00142 mg/kg dry weight	EUSES	= 0.00722

### 1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.84 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.07
dermal, systemic, long-term	= 0.2742 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.03

### 1.3. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 5E-07 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	< 0.001
dermal, systemic, long-term	= 2.743 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.33

### 1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.36 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.03
dermal, systemic, long-term	= 2.68 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.32

### 1.3. CS5: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 2E-07 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	< 0.001
dermal, systemic, long-term	= 1.414 mg/kg bw/day	ECETOC TRA worker v3	< 0.42
combined routes, systemic, long-term	N/A	ECETOC TRA worker v3	= 0.42

## 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

# Exposure Scenario

oxirane, mono[(c12-14-alkyloxy)methyl] derivs.

## Exposure Scenario, 08/06/2021

Substance identity	
	oxirane, mono[(c12-14-alkyloxy)methyl] derivs.
CAS No.	68609-97-2
INDEX No.	603-103-00-4
EINECS No.	271-846-8
Registration number	01-2119485289-22

## Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC1, PC9a, PC9b)

1. ES 1		Widespread use by professional workers; Various products (PC1, PC9a, PC9b)	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks by brush or roller - Professional application of coatings and inks		
Date - Version	07/04/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	Adhesives, sealants (PC1) - Coatings and paints, thinners, paint removers (PC9a) - Fillers, putties, plasters, modelling clay (PC9b)		
Environment Contributing Scenario			
CS1		ERC8c	
Worker Contributing Scenario			
CS2 Mixing operations		PROC5	
CS3 Large surfaces - Surfaces - Rolling, Brushing		PROC10	
CS4 Large surfaces - Surfaces - Roller, spreader, flow application		PROC11	
CS5 Large surfaces - Surfaces - Rolling, Brushing		PROC19	
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8c)			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)		
Product (article) characteristics			
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP			
Amount used, frequency and duration of use (or from service life)			
Release type: Intermittent release			
1.2. CS2: Worker Contributing Scenario: Mixing operations (PROC5)			
Process Categories	Mixing or blending in batch processes (PROC5)		
Product (article) characteristics			
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP			
Concentration of substance in product: Covers percentage substance in the product up to 25 %.			
Amount used, frequency and duration of use/exposure			
Duration: Covers daily exposures up to 8 hours			
Technical and organisational conditions and measures			
Technical and organisational measures Ensure operatives are trained to minimise exposures. Avoid direct eye contact with product, also via contamination on hands.			
Conditions and measures related to personal protection, hygiene and health evaluation			
Personal protection Wear suitable gloves tested to EN374.			

<b>Other conditions affecting worker exposure</b>	
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures. <b>Body parts exposed:</b> Assumes that potential dermal contact is limited to hands and forearms.	
<b>1.2. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)</b>	
<b>Process Categories</b>	Roller application or brushing (PROC10)
<b>Product (article) characteristics</b>	
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 25 %.	
<b>Amount used, frequency and duration of use/exposure</b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b>Technical and organisational conditions and measures</b>	
<b>Technical and organisational measures</b> Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers.	
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Personal protection</b> Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140.	
<b>Other conditions affecting worker exposure</b>	
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures.	
<b>1.2. CS4: Worker Contributing Scenario: Large surfaces - Surfaces - Roller, spreader, flow application (PROC11)</b>	
<b>Process Categories</b>	Non industrial spraying (PROC11)
<b>Product (article) characteristics</b>	
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<b>Amount used, frequency and duration of use/exposure</b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b>Frequency:</b> For each use, avoid using for more than .... < 4 h/event	
<b>Technical and organisational conditions and measures</b>	
<b>Technical and organisational measures</b> Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.	
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	

<b>Personal protection</b> Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures.															
<b>1.2. CS5: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC19)</b>															
<b>Process Categories</b>		Manual activities involving hand contact (PROC19)													
<i>Product (article) characteristics</i>															
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP															
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 25 %.															
<i>Amount used, frequency and duration of use/exposure</i>															
<b>Duration:</b> Covers daily exposures up to 8 hours															
<b>Frequency:</b> For each use, avoid using for more than .... < 1 h/event															
<i>Technical and organisational conditions and measures</i>															
<b>Technical and organisational measures</b> Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers.															
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>															
<b>Personal protection</b> Wear suitable gloves tested to EN374.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures.															
<b>1.3 Exposure estimation and reference to its source</b>															
<b>1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC5)</b>															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> <tr> <td>inhalative, systemic, long-term</td> <td>= 9.3 mg/m<sup>3</sup></td> <td>ECETOC TRA worker v2.0</td> <td>= 0.674</td> </tr> <tr> <td>dermal, systemic, long-term</td> <td>= 0.007 mg/kg bw/day</td> <td>ECETOC TRA worker v2.0</td> <td>= 0.002</td> </tr> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)	inhalative, systemic, long-term	= 9.3 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	= 0.674	dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												
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dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002												
<b>Additional information on exposure estimation:</b> If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.															
<b>1.3. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)</b>															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)								
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												

inhalative, local, short-term	= 2.325 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	= 0.168
dermal, systemic, long-term	= 0.137 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.035

**Additional information on exposure estimation:**

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.

**1.3. CS4: Worker Contributing Scenario: Large surfaces - Surfaces - Roller, spreader, flow application (PROC11)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 0.36 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	= 0.03
dermal, systemic, long-term	= 2.68 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.32

**Additional information on exposure estimation:**

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.

**1.3. CS5: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC19)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, long-term	= 2E-07 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	< 0.001
dermal, systemic, long-term	= 1.414 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.42

**Additional information on exposure estimation:**

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.

**1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES**

**Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## Exposure Scenario

### Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)

## Exposure Scenario, 23/07/2021

Substance identity	
	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)
CAS No.	933999-84-9
EINECS No.	618-939-5
Registration number	01-2119463471-41

## Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC1, PC9a); Building and construction work (SU19)

1. ES 1		Widespread use by professional workers; Various products (PC1, PC9a); Building and construction work (SU19)	
<b>1.1 TITLE SECTION</b>			
Exposure Scenario name	Professional application of coatings and inks		
Date - Version	23/07/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22) - Building and construction work (SU19)		
Product Categories	Adhesives, sealants (PC1) - Coatings and paints, thinners, paint removers (PC9a)		
<b>Environment Contributing Scenario</b>			
CS1	ERC8c - ERC8f		
<b>Worker Contributing Scenario</b>			
CS2 Mixing operations - Rolling, Brushing - Roller, spreader, flow application - Material transfers	PROC8a - PROC10 - PROC11 - PROC19		
<b>1.2 Conditions of use affecting exposure</b>			
<b>1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)</b>			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)		
<i>Product (article) characteristics</i>			
<b>Physical form of product:</b> Liquid			
<b>Concentration of substance in product:</b> Covers concentrations up to 10 %			
<i>Conditions and measures related to treatment of waste (including article waste)</i>			
<b>Waste treatment</b> Dispose of this material and its container at hazardous or special waste collection point. Hazardous waste incineration			
<i>Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.</i>			
<b>Additional Good Practice Advice:</b> Prevent leaks and prevent soil / water pollution caused by leaks.			
<b>1.2. CS2: Worker Contributing Scenario: Mixing operations - Rolling, Brushing - Roller, spreader, flow application - Material transfers (PROC8a, PROC10, PROC11, PROC19)</b>			
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing - Non industrial spraying - Manual activities involving hand contact (PROC8a, PROC10, PROC11, PROC19)		
<i>Product (article) characteristics</i>			
<b>Physical form of product:</b> Liquid			
<b>Concentration of substance in product:</b> Covers concentrations up to 10 %			
<i>Amount used, frequency and duration of use/exposure</i>			
<b>Duration:</b> Covers daily exposures up to 8 hours			
<b>Frequency:</b> Use frequency 5 days per week			
<i>Technical and organisational conditions and measures</i>			

### Technical and organisational measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).  
For further specification, refer to section 8 of the SDS.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### Personal protection

Wear suitable gloves tested to EN374.  
Use suitable eye protection.  
Wear suitable coveralls to prevent exposure to the skin.  
Wear suitable respiratory protection.  
For further specification, refer to section 8 of the SDS.

### 1.3 Exposure estimation and reference to its source

N/A

### 1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

#### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.