

## Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

#### 1.1. Product identifier

Code: **21P**  
Product name: **NORPHEN POOL (A)**

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

Intended use: **WATERPROOFING EPOXY RESIN**

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

Name: **NORD RESINE S.p.A.**  
Full address: **Via Fornace Vecchia, 79**  
District and Country: **31058 Susegana (TV) Italia**  
Tel.: **+39 0438-437511**  
Fax: **+39 0438-435155**e-mail address of the competent person responsible for the Safety Data Sheet: **annabreda@nordresine.com**Supplier: **NORD RESINE S.p.A.**

#### 1.4. Emergency telephone number

For urgent inquiries refer to: **+39 0438 437511**

### SECTION 2. Hazards identification

#### 2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

##### Hazard classification and indication:

Germ cell mutagenicity, category 2	H341	Suspected of causing genetic defects.
Reproductive toxicity, category 2	H361d	Suspected of damaging the unborn child.
Eye irritation, category 2	H319	Causes serious eye irritation.
Skin irritation, category 2	H315	Causes skin irritation.
Skin sensitization, category 1A	H317	May cause an allergic skin reaction.
Hazardous to the aquatic environment, chronic toxicity, category 2	H411	Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

##### Hazard pictograms:

Signal words: **Warning**

Hazard statements:

### SECTION 2. Hazards identification ... / >>

<b>H341</b>	Suspected of causing genetic defects.
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H317</b>	May cause an allergic skin reaction.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>EUH205</b>	Contains epoxy constituents. May produce an allergic reaction.

Precautionary statements:

<b>P280</b>	Wear protective gloves/ protective clothing / eye protection / face protection.
<b>P273</b>	Avoid release to the environment.
<b>P391</b>	Collect spillage.
<b>P261</b>	Avoid breathing dust / fume / gas / mist / vapours / spray.
<b>P201</b>	Obtain special instructions before use.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice / attention.

**Contains:**

2,3-EPOXYPROPYL NEODECANOATE  
 Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane  
 bis-[4-(2,3-epoxipropoxy)phenyl]propane  
 Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and  
 [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and  
 [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane  
 MALEIC ANHYDRIDE  
 FATTY ACIDS, C18, USATD., DIMERS, REACTION PRODUCTS WITH  
 N,N-DIMETHYL-1,3-PROPANEDIAMINE AND 1,3-PROPANEDIAMINE  
 2,3-epoxypropyl o-tolyl ether

VOC (Directive 2004/42/EC) :

Two-pack reactive performance coatings for specific end use such as floors.		
VOC given in g/litre of product in a ready-to-use condition :		189,73
Limit value:		500,00
- Catalysed with :	40,00 %	NORPHEN POOL (B)

### 2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

## SECTION 3. Composition/information on ingredients

### 3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
<b>bis-[4-(2,3-epoxipropoxy)phenyl]propane</b>		
INDEX	603-073-00-2     35 $\leq$ x < 50	<b>Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411</b>
EC	216-823-5	<b>Skin Irrit. 2 H315: <math>\geq</math> 5%, Eye Irrit. 2 H319: <math>\geq</math> 5%</b>
CAS	1675-54-3	
REACH Reg.	01-2119456619-26	
<b>Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane</b>		
INDEX	7 $\leq$ x < 10	<b>Skin Irrit. 2 H315, Skin Sens. 1A H317, Aquatic Chronic 2 H411</b>
EC	701-263-0	
CAS		
REACH Reg.	01-2119454392-40	
<b>2,3-EPOXYPROPYL NEODECANOATE</b>		
INDEX	5 $\leq$ x < 7	<b>Muta. 2 H341, Repr. 2 H361d, Skin Sens. 1 H317, Aquatic Chronic 2 H411</b>
EC	247-979-2	
CAS	26761-45-5	
REACH Reg.	01-2119431597-33	

### SECTION 3. Composition/information on ingredients ... / >>

#### TITANIUM DIOXIDE

INDEX 3 ≤ x < 5 EUH212

EC 236-675-5  
CAS 13463-67-7  
REACH Reg. 01-2119489379-17

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

INDEX 3 ≤ x < 5 Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 3 H412

EC 618-939-5  
CAS 933999-84-9  
REACH Reg. 01-2119463471-41

#### 2,3-epoxypropyl o-tolyl ether

INDEX 603-056-00-X 0,5 ≤ x < 1 Muta. 2 H341, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411, Classification note according to Annex VI to the CLP Regulation: C

EC 218-645-3  
CAS 2210-79-9  
REACH Reg. 01-2119966907-18

#### 2-METHOXY-1-METHYLETHYL ACETATE

INDEX 607-195-00-7 0,5 ≤ x < 1 Flam. Liq. 3 H226, STOT SE 3 H336

EC 203-603-9  
CAS 108-65-6  
REACH Reg. 01-2119475791-29

#### 4-HYDROXY-4-METHYLPENTAN-2-ONE

INDEX 603-016-00-1 0 ≤ x < 0,5 Repr. 2 H361d, Eye Irrit. 2 H319, STOT SE 3 H335

EC 204-626-7  
CAS 123-42-2  
REACH Reg. 01-2119473975-21

#### N-BUTYL ACETATE

INDEX 607-025-00-1 0 ≤ x < 0,5 Flam. Liq. 3 H226, STOT SE 3 H336, EUH066

EC 204-658-1  
CAS 123-86-4  
REACH Reg. 01-2119485493-29

#### FATTY ACIDS, C18, USATD., DIMERS, REACTION PRODUCTS WITH N,N-DIMETHYL-1,3-PROPANEDIAMINE AND 1,3-PROPANEDIAMINE

INDEX 0 ≤ x < 0,1 Skin Sens. 1A H317

EC 605-296-0  
CAS 162627-17-0  
REACH Reg. 01-2119970640-38

#### XYLENE (MIXTURE OF ISOMERS)

INDEX 601-022-00-9 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: C  
STA Dermal: 1100 mg/kg, STA Inhalation vapours: 11 mg/l

EC 215-535-7  
CAS 1330-20-7  
REACH Reg. 01-2119488216-32

#### 1-METHOXY-2-PROPANOL

INDEX 603-064-00-3 0 ≤ x < 0,5 Flam. Liq. 3 H226, STOT SE 3 H336

EC 203-539-1  
CAS 107-98-2  
REACH Reg. 01-2119457435-35

#### ETHYLBENZENE

INDEX 601-023-00-4 0 ≤ x < 0,5 Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373  
LC50 Inhalation vapours: 17,2 mg/l/4h

EC 202-849-4  
CAS 100-41-4  
REACH Reg. 01-2119489370-35

#### MIXED XYLENES, ETHYLBENZENE

INDEX 601-022-00-9 0 ≤ x < 0,5 Flam. Liq. 3 H226, Acute Tox. 4 H312, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Chronic 3 H412, Classification note according to Annex VI to the CLP Regulation: C

EC 215-535-7  
CAS 1330-20-7  
REACH Reg. 01-2119488216-32

#### ETHYLBENZENE

INDEX 601-023-00-4 0 ≤ x < 0,5 Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373, Aquatic Chronic 3 H412

EC 202-849-4  
CAS 100-41-4  
REACH Reg. 01-2119489370-35

LC50 Inhalation vapours: 17,2 mg/l/4h

**SECTION 3. Composition/information on ingredients** ... / >>**QUARTZ**

INDEX 0 ≤ x &lt; 0,5 STOT RE 1 H372

EC 238-878-4

CAS 14808-60-7

**MALEIC ANHYDRIDE**INDEX 607-096-00-9 0 ≤ x < 0,001 **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**EC 203-571-6 **Skin Sens. 1A H317: ≥ 0,001%**

CAS 108-31-6

REACH Reg. 01-2119472428-31

**ETHYL METHYL KETONE**INDEX 606-002-00-3 0 ≤ x < 0,5 **Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066**

EC 201-159-0

CAS 78-93-3

REACH Reg. 01-2119457290-43

The full wording of hazard (H) phrases is given in section 16 of the sheet.

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

**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

**SKIN:** Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

**INHALATION:** Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

**INGESTION:** Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Specific information on symptoms and effects caused by the product are unknown.

**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).

Treatment: see section 4.1

**SECTION 5. Firefighting measures****5.1. Extinguishing media****SUITABLE EXTINGUISHING EQUIPMENT**

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

**UNSUITABLE EXTINGUISHING EQUIPMENT**

None in particular.

**5.2. Special hazards arising from the substance or mixture****HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE**

Do not breathe combustion products.

**5.3. Advice for firefighters****GENERAL INFORMATION**

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

## SECTION 6. Accidental release measures

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

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

### 6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

### 6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

2-METHOXY-1-METHYLETHYL ACETATE

Store in an inert atmosphere, sheltered from moisture because it hydrolyses easily.

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

CZE	Česká Republika	Nariadení vlády č. 41/2020 Sb. Nařízení vlády, kterým se mění nařízení vlády č. 361/2007 Sb., kterým se stanoví podmínky ochrany zdraví při práci, ve znění pozdějších předpisů
DEU	Deutschland	Technischen Regeln für Gefahrstoffe (TRGS 900) - Liste der Arbeitsplatzgrenzwerte und Kurzzeitwerte. MAK- und BAT-Werte-Liste 2020, Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Mitteilung 56
ESP	España	Límites de exposición profesional para agentes químicos en España 2021
FRA	France	Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS
GRC	Ελλάδα	Π.Δ. 26/2020 (ΦΕΚ 50/Α΄ 6.3.2020) Εναρμόνιση της ελληνικής νομοθεσίας προς τις διατάξεις των οδηγιών 2017/2398/ΕΕ, 2019/130/ΕΕ και 2019/983/ΕΕ «για την τροποποίηση της οδηγίας 2004/37/ΕΚ "σχετικά με την προστασία των εργαζομένων από τους κινδύνους που συνδέονται με την έκθεση σε καρκινογόνους ή μεταλλαξιογόνους παράγοντες κατά την εργασία"»
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
HRV	Hrvatska	Pravilnik o izmjenama i dopunama Pravilnika o zaštiti radnika od izloženosti opasnim kemikalijama na radu, graničnim vrijednostima izloženosti i biološkim graničnim vrijednostima (NN 1/2021)
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NLD	Nederland	Arbeidsomstandighedenregeling. Lijst van wettelijke grenswaarden op grond van de artikelen 4.3,

### SECTION 8. Exposure controls/personal protection ... / >>

PRT	Portugal	eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit Decreto-Lei n.º 1/2021 de 6 de janeiro, valores-limite de exposição profissional indicativos para os agentes químicos. Decreto-Lei n.º 35/2020 de 13 de julho, proteção dos trabalhadores contra os riscos ligados à exposição durante o trabalho a agentes cancerígenos ou mutagénicos
POL	Polska	Rozporządzenie ministra rozwoju, pracy i technologii z dnia 18 lutego 2021 r. Zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
SVN	Slovenija	Pravilnik o varovanju delavcev pred tveganji zaradi izpostavljenosti kemičnim snovem pri delu (Uradni list RS, št. 100/01, 39/05, 53/07, 102/10, 43/11 – ZVZD-1, 38/15, 78/18 in 78/19)
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2022

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

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,006	mg/l
Normal value in marine water	0,0006	mg/l
Normal value for fresh water sediment	0,996	mg/kg
Normal value for marine water sediment	0,0996	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic local	Chronic systemic	Effects on workers		
	Acute local	Acute systemic	Chronic local			Acute systemic	Chronic local	Chronic systemic
Oral				VND	0,75 mg/kg/d			
Inhalation							VND	12,25 mg/m3
Skin				VND	3,571 mg/kg/d		VND	8,33 mg/kg

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

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,003	mg/l
Normal value for fresh water sediment	0,294	mg/kg
Normal value for marine water sediment	0,029	mg/kg
Normal value for water, intermittent release	0,025	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,237	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic local	Chronic systemic	Effects on workers		
	Acute local	Acute systemic	Chronic local			Acute systemic	Chronic local	Chronic systemic
Oral					6,25 mg/kg bw/d			
Inhalation					8,7 mg/m3			29,39 mg/m3
Skin					62,5 mg/kg bw/d	0,0083 mg/cm2		104,15 mg/kg bw/d

**SECTION 8. Exposure controls/personal protection** ... / >>

**2,3-EPOXYPROPYL NEODECANOATE**

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,0035	mg/l
Normal value in marine water	0,00035	mg/l
Normal value for water, intermittent release	0,035	mg/l
Normal value of STP microorganisms	50	mg/l

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			VND	4 mg/m3		11,76 mg/m3	VND	5,88 mg/m3
Skin			VND	2,5 mg/kg bw/d			VND	4,2 mg/kg bw/d

**TITANIUM DIOXIDE**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
VLA	ESP	10				
VLEP	FRA	10				
TLV	GRC		10			
GVI/KGVI	HRV	10				INHAL
GVI/KGVI	HRV	4				RESP
NDS/NDSch	POL	10				INHAL
TLV	ROU	10		15		
WEL	GBR	10				INHAL
WEL	GBR	4				RESP
TLV-ACGIH		2,5				RESP

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

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,0115	mg/l
Normal value in marine water	0,00115	mg/l
Normal value for fresh water sediment	0,283	mg/kg
Normal value for marine water sediment	0,0283	mg/kg
Normal value for water, intermittent release	0,115	mg/l
Normal value of STP microorganisms	1	mg/l
Normal value for the terrestrial compartment	0,223	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0,83 mg/kg bw/d				0,83 mg/kg bw/d		
Inhalation		2,9 mg/m3	0,27 mg/m3	2,9 mg/m3		4,9 mg/m3	0,44 mg/m3	4,9 mg/m3
Skin	0,0136 mg/kg bw/d	1,7 mg/kg bw/d	0,0136 mg/cm2	1,7 mg/kg bw/d	0,0136 mg/kg bw/d		0,0226 mg/cm2	2,8 mg/kg bw/d



### SECTION 8. Exposure controls/personal protection ... / >>

#### 2,3-epoxypropyl o-tolyl ether

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0028	mg/l
Normal value in marine water	0,00028	mg/l
Normal value for fresh water sediment	0,039	mg/kg/d
Normal value for marine water sediment	0,0039	mg/kg/d
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,012	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				0,14 mg/kg bw/d				
Inhalation					40 mg/m3	40 mg/m3	0,46 mg/m3	0,46 mg/m3
Skin								0,139 mg/kg bw/d

#### 2-METHOXY-1-METHYLETHYL ACETATE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	270	49,14	550	100,1	SKIN
AGW	DEU	270	50	270	50	
MAK	DEU	270	50	270	50	
VLA	ESP	275	50	550	100	SKIN
VLEP	FRA	275	50	550	100	SKIN
TLV	GRC	275	50	550	100	
AK	HUN	275		550		
GVI/KGVI	HRV	275	50	550	100	SKIN
VLEP	ITA	275	50	550	100	SKIN Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	550				
VLE	PRT	275	50	550	100	SKIN
NDS/NDSch	POL	260		520		SKIN
TLV	ROU	275	50	550	100	SKIN
MV	SVN	275	50	550	100	SKIN
WEL	GBR	274	50	548	100	SKIN
OEL	EU	275	50	550	100	SKIN

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,635	mg/l
Normal value in marine water	0,0635	mg/l
Normal value for fresh water sediment	3,29	mg/kg
Normal value for marine water sediment	0,329	mg/kg
Normal value for water, intermittent release	6,35	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	0,29	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic local	Chronic systemic	Effects on workers			
	Acute local	Acute systemic			Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				1,67 mg/kg/d				
Inhalation				33 mg/m3				275 mg/m3
Skin				54,8 mg/kg/d				153,5 mg/kg/d



**SECTION 8. Exposure controls/personal protection** ... / >>

### 4-HYDROXY-4-METHYLPENTAN-2-ONE

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	200		300		
AGW	DEU	96	20	192	40	SKIN
MAK	DEU	96	20	192	40	SKIN
VLA	ESP	241	50			
VLEP	FRA	240	50			
TLV	GRC	240	50	360	75	
GVI/KGVI	HRV	241	50	362	75	
TGG	NLD	120				SKIN
NDS/NDSch	POL	240				
TLV	ROU	150	32	250	53	
MV	SVN	240	50			SKIN
WEL	GBR	241	50	362	75	
TLV-ACGIH		238	50			

### N-BUTYL ACETATE

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	950	196,65	1200	248,4	
AGW	DEU	300	62	600 (C)	124 (C)	
VLA	ESP	241	50	724	150	
VLEP	FRA	710	150	940	200	
TLV	GRC	710	150	950	200	
AK	HUN	241		723		
GVI/KGVI	HRV	241	50	723	150	
VLEP	ITA	241	50	723	150	Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	150				
VLE	PRT	241	50	723	150	
NDS/NDSch	POL	240		720		
TLV	ROU	241	50	723	150	
MV	SVN	300	62	600	124	
WEL	GBR	724	150	966	200	
OEL	EU	241	50	723	150	
TLV-ACGIH			50		150	

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,18	mg/l
Normal value in marine water	0,018	mg/l
Normal value for fresh water sediment	0,981	mg/kg/d
Normal value for marine water sediment	0,0981	mg/kg/d
Normal value for water, intermittent release	0,36	mg/l
Normal value of STP microorganisms	35,6	mg/l
Normal value for the terrestrial compartment	0,0903	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		2 mg/kg/d		2 mg/kg/d				
Inhalation	300 mg/m3	300 mg/m3	35,7 mg/m3	35,7 mg/m3	600 mg/m3	600 mg/m3	300 mg/m3	300 mg/m3
Skin		6 mg/kg/d		6 mg/kg/d		11 mg/kg bw/d		11 mg/kg bw/d

**SECTION 8. Exposure controls/personal protection** ... / >>

**XYLENE (MIXTURE OF ISOMERS)**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	200	46	400	92	SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
GVI/KGVI	HRV	221	50	442	100	SKIN
VLEP	ITA	221	50	442	100	SKIN Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	221	50	442	100	SKIN
MV	SVN	221	50	442	100	SKIN
WEL	GBR	220	50	441	100	SKIN
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg
Normal value for marine water sediment	12,46	mg/kg
Normal value for water, intermittent release	0,327	mg/l
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral								1,6 mg/kg/d
Inhalation				14,8 mg/m3	289 mg/m3	289 mg/m3		77 mg/m3
Skin				108 mg/kg/d				180 mg/kg/d

**SECTION 8. Exposure controls/personal protection** ... / >>

**1-METHOXY-2-PROPANOL**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	CZE	270	72,09	550	146,85	SKIN
AGW	DEU	370	100	740	200	
MAK	DEU	370	100	740	200	
VLA	ESP	375	100	568	150	SKIN
VLEP	FRA	188	50	375	100	SKIN
TLV	GRC	360	100	1080	300	
AK	HUN	375		568		SKIN
GVI/KGVI	HRV	375	100	568	150	
VLEP	ITA	375	100	568	150	SKIN Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	375		563		SKIN
VLE	PRT	375	100	568	150	
NDS/NDSch	POL	180		360		SKIN
TLV	ROU	375	100	568	150	SKIN
MV	SVN	375	100	568	150	SKIN
WEL	GBR	375	100	560	150	SKIN
OEL	EU	375	100	568	150	SKIN
TLV-ACGIH		184	50	368	100	

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	10	mg/l
Normal value in marine water	1	mg/l
Normal value for fresh water sediment	52,3	mg/kg
Normal value for marine water sediment	5,2	mg/kg
Normal value for water, intermittent release	100	mg/l
Normal value of STP microorganisms	100	mg/l
Normal value for the terrestrial compartment	4,59	mg/kg

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				33 mg/kg bw/d				
Inhalation				43,9 mg/m <sup>3</sup>	553,5 mg/m <sup>3</sup>			369 mg/m <sup>3</sup>
Skin				78 mg/kg bw/d				183 mg/kg bw/d

**SECTION 8. Exposure controls/personal protection** ... / >>

**ETHYLBENZENE**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	CZE	200	45,4	500	113,5	SKIN
AGW	DEU	88	20	176	40	SKIN
MAK	DEU	88	20	176	40	SKIN
VLA	ESP	441	100	884	200	SKIN
VLEP	FRA	88,4	20	442	100	SKIN
TLV	GRC	435	100	545	125	
AK	HUN	442		884		SKIN
GVI/KGVI	HRV	442	100	884	200	SKIN
VLEP	ITA	442	100	884	200	SKIN Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	215		430		SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSch	POL	200		400		SKIN
TLV	ROU	442	100	884	200	SKIN
MV	SVN	442	100	884	200	SKIN
WEL	GBR	441	100	552	125	SKIN
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH		87	20			

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,1	mg/l
Normal value in marine water	0,01	mg/l
Normal value for fresh water sediment	13,7	mg/kg/d
Normal value for marine water sediment	1,37	mg/kg/d
Normal value for marine water, intermittent release	0,1	mg/l
Normal value of STP microorganisms	9,6	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,68	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		1,6 mg/kg bw/d				
Inhalation	LOW	LOW	LOW	15 mg/m <sup>3</sup>	293 mg/m <sup>3</sup>	LOW	442 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>
Skin	NPI	NPI	NPI	NPI	NPI	NPI	NPI	180 mg/kg bw/d

**SECTION 8. Exposure controls/personal protection** ... / >>

**MIXED XYLENES, ETHYLBENZENE**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	CZE	200		400		SKIN
AGW	DEU	440	100	880	200	SKIN
MAK	DEU	440	100	880	200	SKIN
VLA	ESP	221	50	442	100	SKIN
VLEP	FRA	221	50	442	100	SKIN
TLV	GRC	435	100	650	150	
AK	HUN	221		442		SKIN
GVI/KGVI	HRV	221	50	442	100	SKIN
VLEP	ITA	221	50	442	100	SKIN
TGG	NLD	210		442		SKIN
VLE	PRT	221	50	442	100	SKIN
NDS/NDSch	POL	100				
MV	SVN	221	50			SKIN
WEL	GBR	220	50	441	100	
OEL	EU	221	50	442	100	SKIN
TLV-ACGIH		434	100	651	150	

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,327	mg/l
Normal value in marine water	0,327	mg/l
Normal value for fresh water sediment	12,46	mg/kg/d
Normal value for marine water sediment	12,46	mg/kg/d
Normal value of STP microorganisms	6,58	mg/l
Normal value for the terrestrial compartment	2,31	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		5 mg/kg bw/d				
Inhalation	260 mg/m <sup>3</sup>	260 mg/m <sup>3</sup>	65,3 mg/m <sup>3</sup>	65,3 mg/m <sup>3</sup>	442 mg/m <sup>3</sup>	442 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>	221 mg/m <sup>3</sup>
Skin	LOW	LOW	NPI	125 mg/kg bw/d		LOW		212 mg/kg bw/d

### SECTION 8. Exposure controls/personal protection ... / >>

#### ETHYLBENZENE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	CZE	200	45,4	500	113,5	SKIN
AGW	DEU	88	20	176	40	SKIN
MAK	DEU	88	20	176	40	SKIN
VLA	ESP	441	100	884	200	SKIN
VLEP	FRA	88,4	20	442	100	SKIN
TLV	GRC	435	100	545	125	
AK	HUN	442		884		SKIN
GVI/KGVI	HRV	442	100	884	200	SKIN
VLEP	ITA	442	100	884	200	SKIN Allegato XXXVIII D.Lgs. 81/08
TGG	NLD	215		430		SKIN
VLE	PRT	442	100	884	200	SKIN
NDS/NDSch	POL	200		400		SKIN
TLV	ROU	442	100	884	200	SKIN
MV	SVN	442	100	884	200	SKIN
WEL	GBR	441	100	552	125	SKIN
OEL	EU	442	100	884	200	SKIN
TLV-ACGIH		87	20			

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,1	mg/l
Normal value in marine water	0,01	mg/l
Normal value for fresh water sediment	13,7	mg/kg/d
Normal value for marine water sediment	1,37	mg/kg/d
Normal value for marine water, intermittent release	0,1	mg/l
Normal value of STP microorganisms	9,6	mg/l
Normal value for the food chain (secondary poisoning)	20	mg/kg
Normal value for the terrestrial compartment	2,68	mg/kg/d

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		NPI		1,6 mg/kg bw/d				
Inhalation	LOW	LOW	LOW	15 mg/m <sup>3</sup>	293 mg/m <sup>3</sup>	LOW	442 mg/m <sup>3</sup>	77 mg/m <sup>3</sup>
Skin	NPI	NPI	NPI	NPI	NPI	NPI	NPI	180 mg/kg bw/d

#### QUARTZ

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
VLA	ESP		0,05			RESP
VLEP	FRA	0,1				RESP
GVI/KGVI	HRV	0,1				
VLEP	ITA	0,1				RESP
TGG	NLD	0,075				RESP
VLE	PRT	0,025				RESP
NDS/NDSch	POL	0,1				RESP
TLV	ROU	0,1				RESP
MV	SVN	0,15				RESP
OEL	EU	0,1				RESP
TLV-ACGIH		0,025				RESP

**SECTION 8. Exposure controls/personal protection** ... / >>

**MALEIC ANHYDRIDE**

**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV	CZE	1	0,245	2	0,49	
AGW	DEU	0,081	0,02	0,081 (C)	0,02 (C)	
MAK	DEU	0,081	0,02	0,081 (C)	0,02 (C)	C = 0,20 mg/m3
VLA	ESP	0,4	0,1			
VLEP	FRA			1		
TLV	GRC	1				
AK	HUN	0,08		0,08		
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	INHAL
GVI/KGVI	HRV	0,41	0,1	0,8	0,2	SKIN
NDS/NDSch	POL	0,5		1		SKIN
TLV	ROU	1	0,25	3	0,75	
MV	SVN	0,41	0,1	0,41	0,1	
WEL	GBR	1		3		
TLV-ACGIH		0,01	0,0025			INHAL

**Predicted no-effect concentration - PNEC**

Normal value in fresh water	0,038	mg/l
Normal value in marine water	0,004	mg/l
Normal value for fresh water sediment	0,296	mg/kg/d
Normal value for marine water sediment	0,03	mg/kg/d
Normal value of STP microorganisms	44,6	mg/l
Normal value for the terrestrial compartment	0,037	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation					0,2 mg/m3	0,2 mg/m3	0,081 mg/m3	0,081 mg/m3



### SECTION 8. Exposure controls/personal protection ... / >>

#### ETHYL METHYL KETONE

##### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
TLV	CZE	600	200,4	900	300,6	
AGW	DEU	600	200	600	200	SKIN
MAK	DEU	600	200	600	200	SKIN
VLA	ESP	600	200	900	300	
VLEP	FRA	600	200	900	300	SKIN
TLV	GRC	600	200	900	300	
AK	HUN	600		900		SKIN
GVI/KGVI	HRV	600	200	900	300	
VLEP	ITA	600	200	900	300	
TGG	NLD	590		500		SKIN
VLE	PRT	600	200	900	300	
NDS/NDSch	POL	450		900		SKIN
TLV	ROU	600	200	900	300	
MV	SVN	600	200	900	300	SKIN
WEL	GBR	600	200	899	300	SKIN
OEL	EU	600	200	900	300	
TLV-ACGIH		590	200	885	300	

##### Predicted no-effect concentration - PNEC

Normal value in fresh water	55,8	mg/l
Normal value in marine water	55,8	mg/l
Normal value for fresh water sediment	284,74	mg/kg
Normal value of STP microorganisms	709	mg/l
Normal value for the food chain (secondary poisoning)	100	mg/kg
Normal value for the terrestrial compartment	22,5	mg/kg

##### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				31 mg/kg bw/d				
Inhalation				106 mg/m <sup>3</sup>				600 mg/m <sup>3</sup>
Skin				412 mg/kg bw/d				1161 mg/kg bw/d

##### Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.  
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

### 8.2. Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Provide an emergency shower with face and eye wash station.

#### HAND PROTECTION

Protect your hands with category III work gloves.

For the final choice of the material of work gloves (ref. standard EN 374) the following must be considered: compatibility, degradation, breakage and permeation time.

In the case of preparations, the resistance of work gloves to chemical agents must be checked before use as it is unpredictable. The gloves have a wear time that depends on the duration and method of use.

Materials suitable for protective gloves; EN ISO 374:

Nitrile rubber - NBR: thickness  $\geq$  0.35mm; breakthrough time  $\geq$  480min.

Butyl rubber - IIR: thickness  $\geq$  0.5mm; breakthrough time  $\geq$  480min.

#### SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

#### EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

#### RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of

### SECTION 8. Exposure controls/personal protection ... / >>

gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

#### ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

### SECTION 9. Physical and chemical properties

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

Properties	Value	Information
Appearance	viscous liquid	
Colour	various	
Odour	characteristic	
Melting point / freezing point	not determined	Reason for missing data: not determined
Initial boiling point	> 200 °C	
Flammability	not determined	
Lower explosive limit	not determined	Reason for missing data: not determined
Upper explosive limit	not determined	Reason for missing data: not determined
Flash point	> 150 °C	
Auto-ignition temperature	not determined	Reason for missing data: not determined
Decomposition temperature	not determined	Reason for missing data: not determined
pH	not available	
Kinematic viscosity	not determined	Reason for missing data: not determined
Solubility	insoluble in water	
Partition coefficient: n-octanol/water	not applicable	
Vapour pressure	not available	Reason for missing data: not determined
Density and/or relative density	1,54 kg/l	Method: EN ISO 1675 Temperature: 23 °C
Relative vapour density	not determined	Reason for missing data: not determined
Particle characteristics	not applicable	

#### 9.2. Other information

##### 9.2.1. Information with regard to physical hazard classes

Information not available

##### 9.2.2. Other safety characteristics

VOC (Directive 2004/42/EC) :	1,09 % - 16,80	g/litre
VOC (volatile carbon)	0,67 % - 10,25	g/litre

### SECTION 10. Stability and reactivity

#### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

##### 2-METHOXY-1-METHYLETHYL ACETATE

Stable in normal conditions of use and storage.

With the air it may slowly develop peroxides that explode with an increase in temperature.

##### 4-HYDROXY-4-METHYLPENTAN-2-ONE

Decomposes at temperatures above 90°C/194°F.

##### N-BUTYL ACETATE

Decomposes on contact with: water.

##### 1-METHOXY-2-PROPANOL

**SECTION 10. Stability and reactivity** ... / >>

Dissolves various plastic materials. Stable in normal conditions of use and storage.  
Absorbs and dissolves in water and in organic solvents. With air it may slowly form explosive peroxides.

**ETHYL METHYL KETONE**

Reacts with: light metals, strong oxidants. Attacks various types of plastic materials. Decomposes under the effect of heat.

**10.2. Chemical stability**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**2-METHOXY-1-METHYLETHYL ACETATE**

May react violently with: oxidising substances, strong acids, alkaline metals.

**4-HYDROXY-4-METHYLPENTAN-2-ONE**

Risk of explosion on contact with: air, sources of heat. May react dangerously with: alkaline metals, amines, oxidising agents, acids.

**N-BUTYL ACETATE**

Risk of explosion on contact with: strong oxidising agents. May react dangerously with: alkaline hydroxides, potassium tert-butoxide. Forms explosive mixtures with: air.

**XYLENE (MIXTURE OF ISOMERS)**

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

**1-METHOXY-2-PROPANOL**

May react dangerously with: strong oxidising agents, strong acids.

**ETHYLBENZENE**

Reacts violently with: strong oxidants. Attacks various types of plastic materials. May form explosive mixtures with: air.

**MIXED XYLENES, ETHYLBENZENE**

Stable in normal conditions of use and storage. Reacts violently with: strong oxidants, strong acids, nitric acid, perchlorates. May form explosive mixtures with: air.

**ETHYLBENZENE**

Reacts violently with: strong oxidants. Attacks various types of plastic materials. May form explosive mixtures with: air.

**ETHYL METHYL KETONE**

May form peroxides with: air, light, strong oxidising agents. Risk of explosion on contact with: hydrogen peroxide, nitric acid, sulphuric acid. May react dangerously with: oxidising agents, trichloromethane, alkalis. Forms explosive mixtures with: air.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

**4-HYDROXY-4-METHYLPENTAN-2-ONE**

Avoid exposure to: light, sources of heat, naked flames.

**N-BUTYL ACETATE**

Avoid exposure to: moisture, sources of heat, naked flames.

**1-METHOXY-2-PROPANOL**

Avoid exposure to: air.

**ETHYL METHYL KETONE**

Avoid exposure to: sources of heat.

**10.5. Incompatible materials****2-METHOXY-1-METHYLETHYL ACETATE**

Incompatible with: oxidising substances, strong acids, alkaline metals.

**N-BUTYL ACETATE**

Incompatible with: water, nitrates, strong oxidants, acids, alkalis, zinc.

**1-METHOXY-2-PROPANOL**

Incompatible with: oxidising substances, strong acids, alkaline metals.

**ETHYL METHYL KETONE**

Incompatible with: strong oxidants, inorganic acids, ammonia, copper, chloroform.

**10.6. Hazardous decomposition products****ETHYLBENZENE**

May develop: methane, styrene, hydrogen, ethane.

**ETHYLBENZENE**

May develop: methane, styrene, hydrogen, ethane.

**SECTION 11. Toxicological information**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**SECTION 11. Toxicological information** ... / >>**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008****MIXED XYLENES, ETHYLBENZENE**

Has a toxic effect on the CNS (encephalopathies). Irritating to the skin, conjunctivae, cornea and respiratory apparatus.

Metabolism, toxicokinetics, mechanism of action and other information**2-METHOXY-1-METHYLETHYL ACETATE**

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product.

Information on likely routes of exposure**2-METHOXY-1-METHYLETHYL ACETATE**

WORKERS: inhalation; contact with the skin.

**4-HYDROXY-4-METHYLPENTAN-2-ONE**

WORKERS: inhalation; contact with the skin.

**N-BUTYL ACETATE**

WORKERS: inhalation; contact with the skin.

**XYLENE (MIXTURE OF ISOMERS)**

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of environmental air.

**1-METHOXY-2-PROPANOL**

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; inhalation of ambient air; contact with the skin of products containing the substance.

**ETHYLBENZENE**

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

**ETHYLBENZENE**

WORKERS: inhalation; contact with the skin.

POPULATION: ingestion of contaminated food or water; contact with the skin of products containing the substance.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**2-METHOXY-1-METHYLETHYL ACETATE**

Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported (INCR, 2010).

**4-HYDROXY-4-METHYLPENTAN-2-ONE**

Acute toxicity causes irritation of the eyes, nose and throat in humans at 100 ppm (476 mg/kg) and pulmonary disorders at 400 ppm. No chronic effects on humans have been reported. The substance may have a depressive effect on the respiratory centres and cause death from respiratory failure.

**N-BUTYL ACETATE**

In humans, the substance's vapours cause irritation of the eyes and nose. In the event of repeated exposure, skin irritation, dermatitis (dryness and cracking of the skin) and keratitis appear.

**XYLENE (MIXTURE OF ISOMERS)**

Toxic effect on the central nervous system (encephalopathy); irritating for the skin, conjunctiva, cornea and respiratory apparatus.

**1-METHOXY-2-PROPANOL**

The main route of entry is the skin, whereas the respiratory route is less important due to the low vapour pressure of the product. Above 100 ppm causes irritation of the eye, nose and oropharynx mucous membranes. At 1000 ppm, disturbance of equilibrium and severe eye irritation can be noticed. Clinical and biological examinations carried out on exposed volunteers revealed no anomalies. Acetate produces greater skin and eye irritation with direct contact. No chronic effects on humans have been reported.

**ETHYLBENZENE**

As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

### SECTION 11. Toxicological information ... / >>

#### ETHYLBENZENE

As the counterparts of benzene, may have an acute effect on the central nervous system, with depression, narcosis, often preceded by dizziness and associated with headache (Ispesl). Is irritating for skin, conjunctiva and respiratory tract.

#### Interactive effects

#### N-BUTYL ACETATE

A case of acute intoxication been reported involving a 33 year old worker while cleaning a tank with a preparation containing xylenes, butyl acetate and ethylene glycol acetate. The person had irritation of the conjunctiva and upper respiratory tract, drowsiness and motor coordination disorders, which disappeared within 5 hours. The symptoms are attributed to poisoning by mixed xylenes and butyl acetate, with a possible synergistic effect responsible for the neurological effects. Cases of vacuolar keratitis are reported in workers exposed to a mixture of butyl acetate and isobutanol vapours, but with uncertainty concerning the responsibility of a particular solvent (INRC, 2011).

#### XYLENE (MIXTURE OF ISOMERS)

Intake of alcohol interferes with the metabolism of the substance, inhibiting it. Ethanol consumption (0.8 g/kg) before a 4-hour exposure to xylene vapours (145 and 280 ppm) causes a 50% reduction in the excretion of methyl hippuric acid, whereas the concentration of xylenes in the blood increases approx. 1.5-2 times. At the same time there is an increase in the secondary side effects of the ethanol. The metabolism of the xylenes is increased by phenobarbital and 3-methyl-colantrene type enzyme inducers. Aspirin and xylenes mutually inhibit their conjugation with the glycine, which results in a decrease in urinary excretion of methyl hippuric acid. Other industrial products can interfere with the metabolism of xylenes.

#### ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

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

LD50 (Dermal):	> 2000 mg/kg Rat
LD50 (Oral):	> 5000 mg/kg Rat

#### 2,3-EPOXYPROPYL NEODECANOATE

LD50 (Dermal):	3800 mg/kg Rat
LD50 (Oral):	> 9700 mg/kg Rat
LC50 (Inhalation vapours):	> 240 mg/l/4h Rat

#### TITANIUM DIOXIDE

LD50 (Oral):	> 10000 mg/kg Rat
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#### 2,3-epoxypropyl o-tolyl ether

LD50 (Dermal):	2000 mg/kg Rabbit
LC50 (Inhalation vapours):	1220 mg/l

#### 2-METHOXY-1-METHYLETHYL ACETATE

LD50 (Dermal):	> 5000 mg/kg Rat
LD50 (Oral):	5155 mg/kg Rat

#### 4-HYDROXY-4-METHYLPENTAN-2-ONE

LD50 (Oral):	4000 mg/kg Rat
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#### N-BUTYL ACETATE

LD50 (Dermal):	> 14112 mg/kg Rabbit
LD50 (Oral):	10760 mg/kg Rat
LC50 (Inhalation vapours):	21,1 mg/l/4h Rat

#### XYLENE (MIXTURE OF ISOMERS)

LD50 (Dermal):	4350 mg/kg Rabbit
STA (Dermal):	1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)
LD50 (Oral):	3523 mg/kg Rat
LC50 (Inhalation vapours):	26 mg/l/4h Rat

#### 1-METHOXY-2-PROPANOL

LD50 (Dermal):	> 2000 mg/kg Rat
LD50 (Oral):	> 3739 mg/kg Rat
LC50 (Inhalation vapours):	30,02 mg/l/4h Rat

**SECTION 11. Toxicological information ... / >>****ETHYLBENZENE**

LD50 (Dermal): 15400 mg/kg Rabbit  
LD50 (Oral): 3500 mg/kg Rat  
LC50 (Inhalation vapours): 17,2 mg/l/4h Rat

**MIXED XYLENES, ETHYLBENZENE**

LD50 (Dermal): 4350 mg/kg Rabbit  
STA (Dermal): 1100 mg/kg estimate from table 3.1.2 of Annex I of the CLP  
(figure used for calculation of the acute toxicity estimate of the mixture)  
LD50 (Oral): 3523 mg/kg Rat  
LC50 (Inhalation vapours): 26 mg/l/4h Rat

**ETHYLBENZENE**

LD50 (Dermal): 15400 mg/kg Rabbit  
LD50 (Oral): 3500 mg/kg Rat  
LC50 (Inhalation vapours): 17,2 mg/l/4h Rat

**MALEIC ANHYDRIDE**

LD50 (Dermal): 2620 mg/kg Rabbit  
LD50 (Oral): 1090 mg/kg Rat

**ETHYL METHYL KETONE**

LD50 (Dermal): 6480 mg/kg Rabbit  
LD50 (Oral): 2737 mg/kg Rat  
LC50 (Inhalation vapours): 23,5 mg/l/8h Rat

**SKIN CORROSION / IRRITATION****Causes skin irritation**

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane The skin irritation of bisphenol F diglycidyl ether was determined to be mild to non-irritating based on the six Klimisch 1 and 2 studies conducted according to OECD guidelines.

In the experimental conditions used, only one product induced erythema and edema reactions above the significance threshold (score 2 for erythema or edema) and was classified as irritant according to EEC directive no. 83/467/1983. The other studies indicated mild irritation, but not sufficient to reach the classification threshold.

Two repeated dose cumulative irritation studies were performed and under the experimental conditions employed the test materials induced significant irritation after repeated application and a potential for cumulative skin irritation was found in albino rabbits. Effects on skin irritation/corrosion: slightly irritating.

**2,3-EPOXYPROPYL NEODECANOATE**

Species: rabbit  
Method: OECD 404  
Result: Primary Skin Irritation Index (PDII) = 0.7

**2-METHOXY-1-METHYLETHYL ACETATE**

Species: rabbit  
Result: non-irritating  
Method: OECD 404

**N-BUTYL ACETATE**

Species: rabbit  
Result: non-irritating  
Method: OECD 404

**XYLENE (MIXTURE OF ISOMERS)**

Causes irritation (redness, burning sensation), dryness and slight flaking of the skin

**SERIOUS EYE DAMAGE / IRRITATION****Causes serious eye irritation**

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane The ocular irritation of bisphenol F diglycidyl ether was determined to be non-irritating based on the four Klimisch 1 and 2 studies conducted according to OECD guidelines. In rabbit eye irritation tests, 0.1 ml of the test material caused no irritation and no initial pain response.

**SECTION 11. Toxicological information ... / >>**

2,3-EPOXYPROPYL NEODECANOATE  
Species: rabbit  
Method: OECD 405  
Result: Redness of the conjunctivae = 0.7

2-METHOXY-1-METHYLETHYL ACETATE  
Species: rabbit  
Result: non-irritating  
Method: OECD 405

N-BUTYL ACETATE  
Species: rabbit  
Result: non-irritating  
Method: OECD 405

XYLENE (MIXTURE OF ISOMERS)  
Irritating to eyes

RESPIRATORY OR SKIN SENSITISATION

## Sensitising for the skin

2-METHOXY-1-METHYLETHYL ACETATE  
Species: guinea pig  
Result: non-sensitizing  
Method: OECD 406

N-BUTYL ACETATE  
Species: guinea pig  
Result: non-sensitizing  
Method: OECD 406

MALEIC ANHYDRIDE  
Species: rabbit  
Result: skin sensitization  
Method: OECD 406

Skin sensitization

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane Bisphenol F diglycidyl ether (BPF DGE) tested positive for induction of skin sensitization in the mouse Local Lymph Node Assay (LLNA). Based on an EC3 value of 0.7%, BPF DGE is considered a strong skin sensitizer. According to ECHA guidelines, this EC3 value was converted to an EC3 value of 175 ug/cm2 and is considered the LOAEL for the induction of skin sensitization in the LLNA mouse for BPF DGE. From sensitization tests it can be concluded that BPF DGE is a sensitizer.

2,3-EPOXYPROPYL NEODECANOATE  
Species: Guinea pig  
Method: OECD 406  
Result: sensitizing

GERM CELL MUTAGENICITY

## Suspected of causing genetic defects

2,3-EPOXYPROPYL NEODECANOATE  
2,3-epoxypropyl neodecanoate induced a gene mutation in experimental Salmonella typhimurium strains TA 1535 and TA 100 in the presence of a metabolic activation preparation derived from rat liver S-9 in three independent studies. These data suggest that the test substance must be metabolized to the final mutagenic bacterial form. 2,3-epoxypropyl neodecanoate did not induce gene conversion in S-9 rat liver yeast cells. Furthermore, the test substance did not induce significant chromosomal damage in primary rat RL1 cells in culture. These rat liver-derived primary cells are capable of endogenous metabolic activation. Furthermore, 2,3-epoxypropyl neodecanoate did not induce transformed clones in hamster-derived BHK cells. In an in vivo study in rats, 2,3-epoxypropyl neodecanoate induced no evidence of DNA damage detectable by alkaline elution. The weight of evidence demonstrates that 2,3-epoxypropyl neodecanoate may not be genotoxic in vitro and is not genotoxic in vivo.

CARCINOGENICITY

Does not meet the classification criteria for this hazard class



**SECTION 11. Toxicological information** ... / >>**XYLENE (MIXTURE OF ISOMERS)**

Classified in Group 3 (not classifiable as a human carcinogen) by the International Agency for Research on Cancer (IARC).  
The US Environmental Protection Agency (EPA) affirms that "the data is inadequate for an assessment of the carcinogenic potential".

**ETHYLBENZENE**

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000).  
Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

**ETHYLBENZENE**

Classified in Group 2B (possible human carcinogen) by the International Agency for Research on Cancer (IARC) - (IARC, 2000).  
Classified in Group D (not classifiable as a human carcinogen) by the US Environmental Protection Agency (EPA) - (US EPA file on-line 2014).

**REPRODUCTIVE TOXICITY**

Suspected of damaging the unborn child

**STOT - SINGLE EXPOSURE**

Does not meet the classification criteria for this hazard class

**STOT - REPEATED EXPOSURE**

Does not meet the classification criteria for this hazard class

**Target organs****XYLENE (MIXTURE OF ISOMERS)**

May cause damage to organs (respiratory tract) through prolonged or repeated exposure.

**ETHYLBENZENE**

Test: STOT RE - Route: Inhalation. Auditory system, ears

**ETHYLBENZENE**

Test: STOT RE - Route: Inhalation. Auditory system, ears

**ASPIRATION HAZARD**

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

**SECTION 12. Ecological information**

This product is dangerous for the environment and is toxic for aquatic organisms. In the long term, it have negative effects on acquatic environment.

**12.1. Toxicity****2,3-epoxypropyl o-tolyl ether**

LC50 - for Fish	7,5 mg/l/96h <i>Oncorhynchus mykiss</i>
EC50 - for Crustacea	3,3 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	5,1 mg/l/72h <i>Selenastrum capricornutum</i>

**2-METHOXY-1-METHYLETHYL ACETATE**

LC50 - for Fish	> 100 mg/l/96h <i>Oncorhynchus mykiss</i>
EC50 - for Crustacea	> 500 mg/l/48h <i>Daphnia magna</i>
Chronic NOEC for Crustacea	> 100 mg/l <i>Daphnia magna</i>

**N-BUTYL ACETATE**

LC50 - for Fish	18 mg/l/96h <i>Pimephales promelas</i>
EC50 - for Crustacea	44 mg/l/48h <i>Daphnia magna</i>
Chronic NOEC for Crustacea	23 mg/l <i>Daphnia magna</i>

### SECTION 12. Ecological information ... / >>

**MALEIC ANHYDRIDE**  
 LC50 - for Fish 75 mg/l/96h Oncorhynchus mykiss  
 EC50 - for Crustacea 42,81 mg/l/48h Daphnia magna  
 EC50 - for Algae / Aquatic Plants 74,35 mg/l/72h Pseudokirchneriella subcapitata  
 Chronic NOEC for Crustacea 10 mg/l Daphnia magna

**2,3-EPOXYPROPYL NEODECANOATE**  
 LC50 - for Fish 9,6 mg/l/96h Oncorhynchus mykiss  
 EC50 - for Crustacea 4,8 mg/l/48h Daphnia magna  
 EC50 - for Algae / Aquatic Plants 3,5 mg/l/72h Algae

**4-HYDROXY-4-METHYLPENTAN-2-ONE**  
 LC50 - for Fish > 100 mg/l/96h Oryzia latipes  
 EC50 - for Crustacea > 1000 mg/l/48h Daphnia magna  
 EC50 - for Algae / Aquatic Plants > 1000 mg/l/72h Pseudokirchneriella subcapitata

Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane  
 LC50 - for Fish 2,54 mg/l/96h  
 EC50 - for Crustacea 2,55 mg/l/48h Daphnia Magna  
 EC50 - for Algae / Aquatic Plants 1,8 mg/l/72h

bis-[4-(2,3-epoxypropoxy)phenyl]propane  
 LC50 - for Fish 1,5 mg/l/96h Fish

#### 12.2. Persistence and degradability

**TITANIUM DIOXIDE**  
 Solubility in water < 0,001 mg/l  
 Degradability: information not available

**2-METHOXY-1-METHYLETHYL ACETATE**  
 Solubility in water > 10000 mg/l  
 Rapidly degradable 83% (28 d, OECD 301 F)

**ETHYLBENZENE**  
 Solubility in water 1000 - 10000 mg/l  
 Rapidly degradable

**1-METHOXY-2-PROPANOL**  
 Solubility in water 1000 - 10000 mg/l  
 Rapidly degradable

**ETHYL METHYL KETONE**  
 Solubility in water > 10000 mg/l  
 Rapidly degradable

**N-BUTYL ACETATE**  
 Solubility in water 1000 - 10000 mg/l  
 Rapidly degradable >90% (28 d)

**MALEIC ANHYDRIDE**  
 Solubility in water > 10000 mg/l  
 Entirely degradable

**2,3-EPOXYPROPYL NEODECANOATE**  
 Rapidly degradable

**MIXED XYLENES, ETHYLBENZENE**  
 Degradability: information not available

**4-HYDROXY-4-METHYLPENTAN-2-ONE**  
 Solubility in water 1000 - 10000 mg/l  
 Rapidly degradable

### SECTION 12. Ecological information ... / >>

XYLENE (MIXTURE OF ISOMERS)	
Solubility in water	100 - 1000 mg/l
Degradability: information not available	
 bis-[4-(2,3-epoxipropoxy)phenyl]propane	
Solubility in water	0,1 - 100 mg/l
NOT rapidly degradable	
 ETHYLBENZENE	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	

#### 12.3. Bioaccumulative potential

2,3-epoxypropyl o-tolyl ether	
Partition coefficient: n-octanol/water	2,16
 2-METHOXY-1-METHYLETHYL ACETATE	
Partition coefficient: n-octanol/water	1,2 Log Kow 20°C - OECD 117
 ETHYLBENZENE	
Partition coefficient: n-octanol/water	3,6
 1-METHOXY-2-PROPANOL	
Partition coefficient: n-octanol/water	< 1
 ETHYL METHYL KETONE	
Partition coefficient: n-octanol/water	0,3
 N-BUTYL ACETATE	
Partition coefficient: n-octanol/water	2,3 25°C - OECD 117
BCF	15,3
 MALEIC ANHYDRIDE	
Partition coefficient: n-octanol/water	-2,78
 2,3-EPOXYPROPYL NEODECANOATE	
Partition coefficient: n-octanol/water	4,4
 MIXED XYLENES, ETHYLBENZENE	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
 4-HYDROXY-4-METHYLPENTAN-2-ONE	
Partition coefficient: n-octanol/water	-0,09
 XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
 bis-[4-(2,3-epoxipropoxy)phenyl]propane	
Partition coefficient: n-octanol/water	> 2,918
BCF	31
 ETHYLBENZENE	
Partition coefficient: n-octanol/water	3,6

#### 12.4. Mobility in soil

N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3
 MIXED XYLENES, ETHYLBENZENE	
Partition coefficient: soil/water	2,73

**SECTION 12. Ecological information** ... / >>

XYLENE (MIXTURE OF ISOMERS) Partition coefficient: soil/water	2,73
bis-[4-(2,3-epoxipropoxy)phenyl]propane Partition coefficient: soil/water	2,65

**12.5. Results of PBT and vPvB assessment**

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

**SECTION 13. Disposal considerations****13.1. Waste treatment methods**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**SECTION 14. Transport information****14.1. UN number or ID number**

ADR / RID, IMDG, IATA:	3082
ADR / RID:	In accordance with Special Provision 375, this product, when is packed in receptacles of a capacity $\leq$ 5Kg or 5L, is not submitted to ADR provisions.
IMDG:	In accordance with Section 2.10.2.7 of IMDG Code, this product, when is packed in receptacles of a capacity $\leq$ 5Kg or 5L, is not submitted to IMDG Code provisions.
IATA:	In accordance with SP A197, this product, when is packed in receptacles of a capacity $\leq$ 5Kg or 5L, is not submitted to IATA dangerous goods regulations.

**14.2. UN proper shipping name**

ADR / RID:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane; Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane )
IMDG:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane; Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane )
IATA:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane; Reaction mass of 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]dioxirane and [2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl}oxirane and [2,2'-[methylenebis(2,1-phenyleneoxymethylene)]dioxirane )

### SECTION 14. Transport information ... / >>

#### 14.3. Transport hazard class(es)

ADR / RID:            Class: 9            Label: 9



IMDG:                Class: 9            Label: 9



IATA:                Class: 9            Label: 9



#### 14.4. Packing group

ADR / RID, IMDG, IATA:            III

#### 14.5. Environmental hazards

ADR / RID:            Environmentally Hazardous



IMDG:                Marine Pollutant



IATA:                Environmentally Hazardous



#### 14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 90	Limited Quantities: 5 L	Tunnel restriction code: (-)
	Special provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum quantity: 450 L	Packaging instructions: 964
	Passengers:	Maximum quantity: 450 L	Packaging instructions: 964
	Special provision:	A97, A158, A197, A215	

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

Information not relevant

### SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU:            E2

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3 - 40
<u>Contained substance</u>	
Point	75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors  
 not applicable

Substances in Candidate List (Art. 59 REACH)  
 On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.

Substances subject to authorisation (Annex XIV REACH)  
 None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

**SECTION 15. Regulatory information** ... / >>

None

Substances subject to the Rotterdam Convention:  
NoneSubstances subject to the Stockholm Convention:  
NoneHealthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

VOC (Directive 2004/42/EC) :

Two-pack reactive performance coatings for specific end use such as floors.

**15.2. Chemical safety assessment**

A chemical safety assessment has been performed for the following contained substances  
bis-[4-(2,3-epoxipropoxy)phenyl]propane  
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane  
2-METHOXY-1-METHYLETHYL ACETATE  
N-BUTYL ACETATE  
ETHYL METHYL KETONE

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Flam. Liq. 2</b>	Flammable liquid, category 2
<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Muta. 2</b>	Germ cell mutagenicity, category 2
<b>Repr. 2</b>	Reproductive toxicity, category 2
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 1</b>	Specific target organ toxicity - repeated exposure, category 1
<b>Asp. Tox. 1</b>	Aspiration hazard, category 1
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Skin Corr. 1B</b>	Skin corrosion, category 1B
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Resp. Sens. 1</b>	Respiratory sensitization, category 1
<b>Skin Sens. 1</b>	Skin sensitization, category 1
<b>Skin Sens. 1A</b>	Skin sensitization, category 1A
<b>Aquatic Chronic 2</b>	Hazardous to the aquatic environment, chronic toxicity, category 2
<b>Aquatic Chronic 3</b>	Hazardous to the aquatic environment, chronic toxicity, category 3
<b>H225</b>	Highly flammable liquid and vapour.
<b>H226</b>	Flammable liquid and vapour.
<b>H341</b>	Suspected of causing genetic defects.
<b>H361d</b>	Suspected of damaging the unborn child.
<b>H302</b>	Harmful if swallowed.
<b>H312</b>	Harmful in contact with skin.
<b>H332</b>	Harmful if inhaled.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H304</b>	May be fatal if swallowed and enters airways.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H334</b>	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
<b>H317</b>	May cause an allergic skin reaction.
<b>H336</b>	May cause drowsiness or dizziness.
<b>H411</b>	Toxic to aquatic life with long lasting effects.
<b>H412</b>	Harmful to aquatic life with long lasting effects.
<b>EUH066</b>	Repeated exposure may cause skin dryness or cracking.
<b>EUH071</b>	Corrosive to the respiratory tract.
<b>EUH205</b>	Contains epoxy constituents. May produce an allergic reaction.
<b>EUH212</b>	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

**SECTION 16. Other information** ... / >>**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)

- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the



**SECTION 16. Other information** ... / >>

suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

**CALCULATION METHODS FOR CLASSIFICATION**

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

02 / 03 / 04 / 08 / 09 / 10 / 11 / 12 / 14 / 15 / 16.