

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: **107**
Product name: **NORPHEN FONDO MA (A)**
UFI: **YG81-5063-R00K-CX0R**

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

Intended use: **Epoxy zinc primer**

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 Italia (TV)**
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:

Flammable liquid, category 2	H225	Highly flammable liquid and vapour.
Aspiration hazard, category 1	H304	May be fatal if swallowed and enters airways.
Serious eye damage, category 1	H318	Causes serious eye damage.
Skin irritation, category 2	H315	Causes skin irritation.
Specific target organ toxicity - single exposure, category 3	H335	May cause respiratory irritation.
Skin sensitization, category 1	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:



SECTION 2. Hazards identification ... / >>

Signal words: Danger

Hazard statements:

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
EUH205	Contains epoxy constituents. May produce an allergic reaction.

Precautionary statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P331	Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P280	Wear protective gloves/ protective clothing / eye protection / face protection.
P310	Immediately call a POISON CENTER / doctor.
P370+P378	In case of fire: use carbon anhydride, foam, nebulized water to extinguish.

Contains: Reaction mass of ethylbenzene and m-xylene and p-xylene
 ISO-BUTANOL
 phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-
 Reaction mass of ethylbenzene and xylene
 MALEIC ANHYDRIDE
 O-CRESYL GLYCIDYL 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 :	449,42
Limit value:	500,00
- Catalysed with :	15,38 % NORPHEN FONDO MA (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)
phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'- <i>INDEX</i>	$10 \leq x < 12$	Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317
<i>EC</i>		
<i>CAS</i> 25036-25-3		
Reaction mass of ethylbenzene and m-xylene and p-xylene <i>INDEX</i>	$8 \leq x < 10$	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
<i>EC</i> 905-562-9		
<i>CAS</i>		
<i>REACH Reg.</i> 01-2119555267-33		
ISO-BUTANOL <i>INDEX</i>	$4 \leq x < 8$	Flam. Liq. 3 H226, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, STOT SE 3 H336
<i>EC</i> 201-148-0		
<i>CAS</i> 78-83-1		

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

REACH Reg. 01-2119484609-23

TRIZINC BIS(ORTHOPHOSPHATE)

INDEX 030-011-00-6 2,5 ≤ x < 4

EC 231-944-3

CAS 7779-90-0

REACH Reg. 01-2119485044-40

Reaction mass of ethylbenzene and xylene

INDEX 1 ≤ x < 4

EC 905-588-0

CAS

REACH Reg. 01-2119488216-32

ETHYL METHYL KETONE

INDEX 606-002-00-3 1 ≤ x < 4

EC 201-159-0

CAS 78-93-3

REACH Reg. 01-2119457290-43

1-METHOXY-2-PROPANOL

INDEX 603-064-00-3 1 ≤ x < 4

EC 203-539-1

CAS 107-98-2

REACH Reg. 01-2119457435-35

TITANIUM DIOXIDE

INDEX 1 ≤ x < 4

EC 236-675-5

CAS 13463-67-7

REACH Reg. 01-2119489379-17

HYDROCARBONS, C9, AROMATICS

INDEX 1 ≤ x < 2,5

EC 918-668-5

CAS

REACH Reg. 01-2119455851-35

N-BUTYL ACETATE

INDEX 607-025-00-1 0 ≤ x < 1

EC 204-658-1

CAS 123-86-4

REACH Reg. 01-2119485493-29

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

INDEX 0 ≤ x < 1

EC 216-823-5

CAS 1675-54-3

REACH Reg. 01-2119456619-26

O-CRESYL GLYCIDYL ETHER

INDEX 603-056-00-X 0 ≤ x < 1

EC 218-645-3

CAS 2210-79-9

REACH Reg. 01-2119966907-18

2-METHOXY-1-METHYLETHYL ACETATE

INDEX 607-195-00-7 0 ≤ x < 1

EC 203-603-9

CAS 108-65-6

REACH Reg. 01-2119475791-29

ZINC OXIDE

INDEX 030-013-00-7 0 ≤ x < 0,25

EC 215-222-5

CAS 1314-13-2

REACH Reg. 01-2119463881-32

XYLENE (MIXTURE OF ISOMERS)

INDEX 601-022-00-9 0 ≤ x < 1

EC 215-535-7

CAS 1330-20-7

REACH Reg. 01-2119488216-32

Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

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
LD50 Dermal: 1100 mg/kg, LC50 Inhalation vapours: 11 mg/l/4h

Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066

Flam. Liq. 3 H226, STOT SE 3 H336

EUH212

Flam. Liq. 3 H226, Asp. Tox. 1 H304, STOT SE 3 H335, STOT SE 3 H336, Aquatic Chronic 2 H411, EUH066, Classification note according to Annex VI to the CLP Regulation: P

Flam. Liq. 3 H226, STOT SE 3 H336, EUH066

Eye Irrit. 2 H319, Skin Irrit. 2 H315, Skin Sens. 1 H317, Aquatic Chronic 2 H411
Skin Irrit. 2 H315: ≥ 5%, Eye Irrit. 2 H319: ≥ 5%

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

Flam. Liq. 3 H226, STOT SE 3 H336

Aquatic Acute 1 H400 M=1, Aquatic Chronic 1 H410 M=1

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

SECTION 3. Composition/information on ingredients ... / >>**ETHYLBENZENE**INDEX 601-023-00-4 $0 \leq x < 1$ EC 202-849-4
CAS 100-41-4
REACH Reg. 01-2119489370-35**Flam. Liq. 2 H225, Acute Tox. 4 H332, Asp. Tox. 1 H304, STOT RE 2 H373,
Aquatic Chronic 3 H412
LC50 Inhalation vapours: 17,2 mg/l/4h****MALEIC ANHYDRIDE**INDEX 607-096-00-9 $0 \leq x < 0,001$ EC 203-571-6
CAS 108-31-6
REACH Reg. 01-2119472428-31**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
Skin Sens. 1A H317: $\geq 0,001\%$
LD50 Oral: 1090 mg/kg****QUARTZ**INDEX 238-878-4 $0 \leq x < 1$ EC 238-878-4
CAS 14808-60-7**STOT RE 1 H372**

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. Rinse skin with a shower immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly 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

Information not available

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

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

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

Excess pressure may form in containers exposed to fire at a risk of explosion. 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.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

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

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

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. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. 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. Nariadení 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

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

HUN	Magyarország	την έκθεση σε καρκινογόνους ή μεταλλαξιγόνους παράγοντες κατά την εργασία» 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 opasnimkemičkim 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, eerste lid, en 4.16, eerste lid, van het Arbeidsomstandighedenbesluit
PRT	Portugal	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
	RCP TLV	ACGIH TLVs and BEIs – Appendix H

Reaction mass of ethylbenzene and m-xylene and p-xylene

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
VLEP	ITA	221	50	442	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				0,25	mg/l	
Normal value in marine water				0,25	mg/l	
Normal value for marine water sediment				14,33	mg/kg	
Normal value for the terrestrial compartment				2,41	mg/kg	

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

ISO-BUTANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
TLV	CZE	300	97,5	600	195	
AGW	DEU	310	100	310 (C)	100 (C)	
MAK	DEU	310	100	310	100	
VLA	ESP	154	50			
VLEP	FRA	150	50			
TLV	GRC	300	100	300	100	
GVI/KGVI	HRV	154	50	231	75	SKIN
TGG	NLD	150				
NDS/NDSch	POL	100		200		SKIN
TLV	ROU	100	33	200	66	
MV	SVN	310	100	310	100	
WEL	GBR	154	50	231	75	
TLV-ACGIH		152	50			

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,4	mg/l
Normal value in marine water	0,04	mg/l
Normal value for fresh water sediment	1,56	mg/kg
Normal value for marine water sediment	0,156	mg/kg
Normal value for water, intermittent release	11	mg/l
Normal value of STP microorganisms	10	mg/l
Normal value for the terrestrial compartment	0,076	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic		Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral			25					
			mg/kg/d					
Inhalation			55				310	
			mg/m ³				mg/m ³	

TRIZINC BIS(ORTHOPHOSPHATE)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
MAK	DEU	2		4		INHAL
MAK	DEU	0,1		0,4		RESP

Predicted no-effect concentration - PNEC

Normal value in fresh water	0,0206	mg/l
Normal value in marine water	0,0061	mg/l
Normal value for fresh water sediment	235,5	mg/kg
Normal value for marine water sediment	113	mg/kg
Normal value of STP microorganisms	0,052	mg/l
Normal value for the terrestrial compartment	106,8	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers		Chronic		Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral				0,83				
				mg/kg/d				
Inhalation				2,5				5
				mg/m ³				mg/m ³
Skin				83				83
				mg/kg/d				mg/kg/d

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

Reaction mass of ethylbenzene and xylene

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 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	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic	
	local	systemic	local	systemic	local	systemic	local	systemic	
Oral				12,5					
				mg/kg bw/d					
Inhalation				65,3					221
				mg/m3					mg/m3
Skin				125					212
				mg/kg bw/d					mg/kg bw/d

ETHYL METHYL KETONE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	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	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Oral				31				
				mg/kg bw/d				
Inhalation				106				600
				mg/m3				mg/m3
Skin				412				1161
				mg/kg bw/d				mg/kg bw/d

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1-METHOXY-2-PROPANOL

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	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
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	4,56	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Chronic systemic	Effects on workers			
	Acute local	Acute systemic	Chronic local		Acute local	Acute systemic	Chronic local	Chronic systemic
Oral								
Inhalation								369 mg/m3
Skin								183 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

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

HYDROCARBONS, C9, AROMATICS

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
RCP TLV		100	19			

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers				Effects on workers			
	Acute	Acute	Chronic	Chronic	Acute	Acute	Chronic	Chronic
	local	systemic	local	systemic	local	systemic	local	systemic
Inhalation								150 mg/m ³
Skin								25 mg/kg/d

N-BUTYL ACETATE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	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	
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	

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

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

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

O-CRESYL GLYCIDYL 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
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 ... / >>

ZINC OXIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
TLV	CZE	2		5		Jako Zn
MAK	DEU	2		4		INHAL
MAK	DEU	0,1		0,4		RESP
VLA	ESP	2		10		
VLEP	FRA	5				
TLV	GRC	5		10		
AK	HUN	5				
GVI/KGVI	HRV	2		10		RESP
NDS/NDSch	POL	5		10		INHAL Na Zn
TLV	ROU	5		10		Fumuri
MV	SVN	5		20		RESP
TLV-ACGIH		2		10		RESP

XYLENE (MIXTURE OF ISOMERS)

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	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
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/m ³	289 mg/m ³	289 mg/m ³		77 mg/m ³
Skin				108 mg/kg/d				180 mg/kg/d

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

ETHYLBENZENE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	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
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			

MALEIC ANHYDRIDE

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	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/m ³
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/m ³	0,2 mg/m ³	0,081 mg/m ³	0,081 mg/m ³

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

QUARTZ

Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	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

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 hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

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.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

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, wear a mask with a type AX filter, whose limit of use will be defined by the manufacturer (see standard EN 14387). In the presence of 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	liquid	
Colour	grey	
Odour	characteristic	
Melting point / freezing point	not available	
Initial boiling point	not available	
Flammability	not available	
Lower explosive limit	not available	
Upper explosive limit	not available	

SECTION 9. Physical and chemical properties ... / >>

Flash point	18 °C
Auto-ignition temperature	not available
Decomposition temperature	not available
pH	not available
Kinematic viscosity	not available
Solubility	not available
Partition coefficient: n-octanol/water	not available
Vapour pressure	29 mbar
Density and/or relative density	1,79 kg/l
Relative vapour density	not available
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) :	24,22 % - 433,47	g/litre
VOC (volatile carbon)	15,49 % - 277,22	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.

ETHYL METHYL KETONE

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

1-METHOXY-2-PROPANOL

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.

N-BUTYL ACETATE

Decomposes on contact with: water.

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.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

The vapours may also form explosive mixtures with the 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.

1-METHOXY-2-PROPANOL

May react dangerously with: strong oxidising agents, strong 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.

2-METHOXY-1-METHYLETHYL ACETATE

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

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.

ETHYLBENZENE

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

10.4. Conditions to avoid

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

SECTION 10. Stability and reactivity ... / >>**ETHYL METHYL KETONE**

Avoid exposure to: sources of heat.

1-METHOXY-2-PROPANOL

Avoid exposure to: air.

N-BUTYL ACETATE

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

10.5. Incompatible materials**ETHYL METHYL KETONE**

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

1-METHOXY-2-PROPANOL

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

N-BUTYL ACETATE

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

2-METHOXY-1-METHYLETHYL ACETATE

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

10.6. Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

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.

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

N-BUTYL ACETATE

WORKERS: inhalation; contact with the skin.

2-METHOXY-1-METHYLETHYL 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.

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**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.

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.

SECTION 11. Toxicological information ... / >>

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).

XYLENE (MIXTURE OF ISOMERS)

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

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 - vapours) of the mixture:	> 20 mg/l
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	>2000 mg/kg

phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-	
LD50 (Oral):	> 2000 mg/kg Rat

Reaction mass of ethylbenzene and m-xylene and p-xylene

LD50 (Dermal):	12126 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/l Rat
LC50 (Inhalation vapours):	27,124 mg/l/4h Rat
STA (Inhalation vapours):	11 mg/l estimate from table 3.1.2 of Annex I of the CLP (figure used for calculation of the acute toxicity estimate of the mixture)

ISO-BUTANOL

LD50 (Dermal):	2460 mg/kg Rabbit
LD50 (Oral):	2460 mg/kg Rat
LC50 (Inhalation vapours):	19,2 mg/l/4h Rat

TRIZINC BIS(ORTHOPHOSPHATE)

LD50 (Oral):	> 5000 mg/kg Rat - Wistar
LC50 (Inhalation mists/powders):	> 5,7 mg/l Rat

Reaction mass of ethylbenzene and xylene

LD50 (Dermal):	1100 mg/kg
LD50 (Oral):	3523 mg/kg Rat
LC50 (Inhalation vapours):	11 mg/l/4h

ETHYL METHYL KETONE

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

SECTION 11. Toxicological information ... / >>

1-METHOXY-2-PROPANOL	
LD50 (Dermal):	13000 mg/kg Rabbit
LD50 (Oral):	5300 mg/kg Rat
LC50 (Inhalation vapours):	54,6 mg/l/4h Rat
TITANIUM DIOXIDE	
LD50 (Oral):	> 10000 mg/kg Rat
HYDROCARBONS, C9, AROMATICS	
LD50 (Dermal):	3160 mg/kg Rabbit
LD50 (Oral):	3492 mg/kg Rat
LC50 (Inhalation vapours):	6193 mg/l/4h Rat
N-BUTYL ACETATE	
LD50 (Dermal):	> 5000 mg/kg Rabbit
LD50 (Oral):	> 6400 mg/kg Rat
LC50 (Inhalation vapours):	21,1 mg/l/4h Rat
O-CRESYL GLYCIDYL 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):	8530 mg/kg 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
ETHYLBENZENE	
LD50 (Dermal):	15354 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

SKIN CORROSION / IRRITATION

Causes skin irritation

SERIOUS EYE DAMAGE / IRRITATION

Causes serious eye damage

RESPIRATORY OR SKIN SENSITISATION

Sensitising for the skin

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

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).

SECTION 11. Toxicological information ... / >>

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

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

May cause respiratory irritation

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

ASPIRATION HAZARD

Toxic for aspiration

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 aquatic environment.

12.1. Toxicity

O-CRESYL GLYCIDYL 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>

MALEIC ANHYDRIDE

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

TRIZINC BIS(ORTHOPHOSPHATE)

LC50 - for Fish	< 2,6 mg/l/96h <i>Oncorhynchus mykiss</i>
EC50 - for Crustacea	0,413 mg/l/48h Crustaceans
EC50 - for Algae / Aquatic Plants	0,136 mg/l/72h Sel

ZINC OXIDE

LC50 - for Fish	1,1 mg/l/96h <i>Oncorhynchus mykiss</i>
EC50 - for Crustacea	1,7 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	0,14 mg/l/72h <i>Pseudokirchneriella subcapitata</i>
Chronic NOEC for Fish	0,53 mg/l
Chronic NOEC for Algae / Aquatic Plants	0,024 mg/l

Reaction mass of ethylbenzene and m-xylene and p-xylene

LC50 - for Fish	2,6 mg/l/96h p-xylene
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HYDROCARBONS, C9, AROMATICS

LC50 - for Fish	9,2 mg/l/96h <i>Onchorincus mykiss</i>
EC50 - for Crustacea	3,2 mg/l/48h <i>Daphnia magna</i>
EC50 - for Algae / Aquatic Plants	2,9 mg/l/72h <i>Pseudokirchneriella subcapitata</i>

2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane

LC50 - for Fish	1,5 mg/l/96h Fish
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phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'

LC50 - for Fish	> 100 mg/l/96h <i>leuciscus idus</i>
EC50 - for Crustacea	> 100 mg/l/48h <i>daphnia magna</i>

SECTION 12. Ecological information ... / >>

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	
ISO-BUTANOL	
Solubility in water	1000 - 10000 mg/l
Rapidly degradable	
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
MALEIC ANHYDRIDE	
Solubility in water	> 10000 mg/l
Entirely degradable	
TRIZINC BIS(ORTHOPHOSPHATE)	
Degradability: information not available	
ZINC OXIDE	
Solubility in water	2,9 mg/l
NOT rapidly degradable	
Reaction mass of ethylbenzene and m-xylene and p-xylene	
Rapidly degradable	
HYDROCARBONS, C9, AROMATICS	
Rapidly degradable	
XYLENE (MIXTURE OF ISOMERS)	
Solubility in water	100 - 1000 mg/l
Degradability: information not available	
2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	
Solubility in water	0,1 - 100 mg/l
NOT rapidly degradable	

12.3. Bioaccumulative potential

O-CRESYL GLYCIDYL ETHER	
Partition coefficient: n-octanol/water	2,16
2-METHOXY-1-METHYLETHYL ACETATE	
Partition coefficient: n-octanol/water	1,2
ISO-BUTANOL	
Partition coefficient: n-octanol/water	1

SECTION 12. Ecological information ... / >>

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
BCF	15,3
MALEIC ANHYDRIDE	
Partition coefficient: n-octanol/water	-2,78
ZINC OXIDE	
BCF	> 175
Reaction mass of ethylbenzene and m-xylene and p-xylene	
BCF	25,9
XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: n-octanol/water	3,12
BCF	25,9
2,2'-[[1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	
Partition coefficient: n-octanol/water	> 2,918
BCF	31

12.4. Mobility in soil

ISO-BUTANOL	
Partition coefficient: soil/water	0,31
N-BUTYL ACETATE	
Partition coefficient: soil/water	< 3
XYLENE (MIXTURE OF ISOMERS)	
Partition coefficient: soil/water	2,73
2,2'-[[1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bisoxirane	
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: 1263

14.2. UN proper shipping name

ADR / RID: PAINT or PAINT RELATED MATERIAL
IMDG: PAINT or PAINT RELATED MATERIAL
IATA: PAINT or PAINT RELATED MATERIAL

14.3. Transport hazard class(es)

ADR / RID: Class: 3 Label: 3



IMDG: Class: 3 Label: 3



IATA: Class: 3 Label: 3



14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID: Environmentally Hazardous



IMDG: Marine Pollutant



IATA: NO

For Air transport, environmentally hazardous mark is only mandatory for UN 3077 and UN 3082.

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 33	Limited Quantities: 5 L	Tunnel restriction code: (D/E)
	Special provision: 163, 367, 640D, 650		
IMDG:	EMS: F-E, S-E	Limited Quantities: 5 L	Packaging instructions: 364
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 353
	Passengers:	Maximum quantity: 5 L	
	Special provision:	A3, A72, A192	

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: P5c-E2

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

Product	
Point	3 - 40

SECTION 15. Regulatory information ... / >>

Contained substance
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:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare 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
ETHYL METHYL KETONE
N-BUTYL ACETATE

SECTION 16. Other information

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

Flam. Liq. 2	Flammable liquid, category 2
Flam. Liq. 3	Flammable liquid, category 3
Muta. 2	Germ cell mutagenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
Asp. Tox. 1	Aspiration hazard, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Skin Corr. 1B	Skin corrosion, category 1B
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
Skin Sens. 1A	Skin sensitization, category 1A
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic toxicity, category 3
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H341	Suspected of causing genetic defects.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H304	May be fatal if swallowed and enters airways.
H373	May cause damage to organs through prolonged or repeated exposure.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

SECTION 16. Other information ... / >>

H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.
EUH071	Corrosive to the respiratory tract.
EUH205	Contains epoxy constituents. May produce an allergic reaction.
EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.

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)

SECTION 16. Other information ... / >>

- 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 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:

01 / 02 / 03 / 07 / 08 / 09 / 11 / 12 / 14 / 15 / 16.