

Safety Data Sheet

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

FUGALITE (A)

Date of first edition: 5/12/2022

Safety Data Sheet dated 5/12/2022

version 8

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

1.1. Product identifier

Mixture identification:

Trade name: FUGALITE (A)

Trade code: B0088 .060

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

Recommended use: Grout

Uses advised against: Data not available.

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy - +39-0536-816511

Ireland

Poison information centre: 01 809 2166 (Daily 8am-10pm)

In case of emergency call 999 or 112

Malta

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

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Skin Irrit. 2 Causes skin irritation.

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 1B May cause an allergic skin reaction.

Aquatic Chronic 3 Harmful to aquatic life with long lasting effects.

DECL10 This titanium dioxide-containing product is not classified as carcinogen by inhalation because it does not meet the criteria stated in Note 10, Annex VI of Regulation (EC) 1272/2008.

Note 10: The classification as a carcinogen by inhalation applies only to mixtures in powder form containing 1 % or more of titanium dioxide which is in the form of or incorporated in particles with aerodynamic diameter $\leq 10 \mu\text{m}$.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

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

Pictograms and Signal Words



Warning

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P280	Wear protective gloves and eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH212	Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.
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Contains

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

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

1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

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

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: FUGALITE (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
10-19,9 %	bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411, M-Chronic:1 Specific Concentration Limits: C $\geq 5\%$: Eye Irrit. 2 H319 C $\geq 5\%$: Skin Irrit. 2 H315	01-2119456619-26
1-2,4 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317	01-2119485289-22
1-2,4 %	titanium dioxide	CAS:13463-67-7 EC:236-675-5 Index:022-006-00-2	Carc. 2, H351	
< 0,5 %	1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	CAS:1065336-91-5 EC:915-687-0	Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Repr. 2, H361fd, M-Chronic:1, M-Acute:1	
< 0,05 %	toluene	CAS:108-88-3 EC:203-625-9 Index:601-021-00-3	Flam. Liq. 2, H225; Repr. 2, H361d; Asp. Tox. 1, H304; STOT RE 2, H373; Skin Irrit. 2, H315; STOT SE 3, H336	01-2116471310-51
< 0,01 %	phosphoric acid	CAS:7664-38-2 EC:231-633-2 Index:015-011-00-6	Met. Corr. 1, H290; Skin Corr. 1B, H314; Eye Dam. 1, H318	01-2119485924-24

< 0,01 %	ethyl acrylate	CAS:140-88-5 EC:205-438-8 Index:607-032-00-X	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H335 Skin Irrit. 2, H315 Skin Sens. 1, H317 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332	01-2119459301-46
		Specific Concentration Limits: C ≥ 5%: Skin Irrit. 2 H315 C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: STOT SE 3 H335		

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

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

In case of eyes contact:

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

In case of Ingestion:

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

In case of Inhalation:

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

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

Eye irritation
Eye damages
Skin Irritation
Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

- Water.
- Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

- None in particular.

5.2. Special hazards arising from the substance or mixture

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.

5.3. Advice for firefighters

- Use suitable breathing apparatus .
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- Wear personal protection equipment.
- Remove persons to safety.
- See protective measures under point 7 and 8.

6.2. Environmental precautions

- Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
- Retain contaminated washing water and dispose it.
- In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
- Suitable material for taking up: absorbing material, organic, sand

6.3. Methods and material for containment and cleaning up

- Suitable material for taking up: absorbing material, organic, sand
- Wash with plenty of water.

6.4. Reference to other sections

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

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

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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

Component	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Notes
bis-[4-(2,3-epoxipropoxy)phenyl] propane	NATIONAL	NETHERLANDS		5.000				respirable fraction
	NATIONAL	NETHERLANDS		10.000				Inhalable fraction
titanium dioxide	NATIONAL	AUSTRALIA		10				
	NATIONAL	BELGIUM		10.000				
	NATIONAL	CANADA		10.000				Ontario
	NATIONAL	CANADA		10.000				Quebec
	NATIONAL	DENMARK		6.000		12.000		Long term and short term: total dust
	NATIONAL	FRANCE		11.000				Inhalable aerosol
	NATIONAL	GERMANY		0.300		2.400		DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density;
	NATIONAL	IRELAND		10.000				Inhalable fraction
	NATIONAL	IRELAND		8.000				Respirable fraction
	NATIONAL	JAPAN		0.300				JSOH; Nanoparticle, as Ti
	NATIONAL	LATVIA		10.000				
	NATIONAL	NEW ZEALAND		10000.000				The value for inhalable dust containing no asbestos and less than 1% free silica
	NATIONAL	CHINA		8.000				Inhalable fraction
	NATIONAL	POLAND		10.000		30.000		
	NATIONAL	ROMANIA		10.000		15.000		
	NATIONAL	SINGAPORE		10.000				
	NATIONAL	KOREA, REPUBLIC OF		10.000				
	NATIONAL	SPAIN		10.000				Inhalable aerosol
	NATIONAL	SWEDEN		5.000				Inhalable aerosol
	NATIONAL	SWITZERLAND		3.000				Respirable aerosol

silicon dioxide, chemically prepared		ND			
	NATIONAL	UNITED STATES OF AMERICA	15.000		OSHA; total dust
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000		Inhalable aerosol
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000		Respirable aerosol
	NATIONAL	ITALY	10.000		
	NATIONAL	ARGENTINA	10.000		
	NATIONAL	AUSTRIA	5.000	10.000	
	NATIONAL	BULGARIA	10.000		
	NATIONAL	CROATIA	10.000		total dust
	NATIONAL	CROATIA	4.000		respirable dust
	NATIONAL	GREECE	10.000		
	NATIONAL	GREECE	50.000		
	NATIONAL	GREECE	5.000		
	NATIONAL	INDONESIA	10.000		
	NATIONAL	LITHUANIA	5.000		
	NATIONAL	MALAYSIA	10.000		
	NATIONAL	MEXICO	10.000		
	NATIONAL	NORWAY	5.000		
	NATIONAL	PORTUGAL	10.000		
	NATIONAL	RUSSIAN FEDERATION	10.000		
	NATIONAL	SLOVAKIA	5.000		
	NATIONAL	SLOVENIA	6.000		
	NATIONAL	SOUTH SUDAN	10.000		Inhalable fraction
	NATIONAL	SOUTH SUDAN	5.000		Respirable fraction
	NATIONAL	TAIWAN, PROVINCE OF CHINA	10.000		
	ACGIH	NNN	10.000		A4 - LRT irr
	NATIONAL	AUSTRALIA	2.000		This value is for inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	AUSTRIA	4.000		Inhalable aerosol
	NATIONAL	BELGIUM	10.000		
	NATIONAL	CANADA	10.000		Ontario
	NATIONAL	CANADA	6.000		Quebec
	NATIONAL	DENMARK	2.000	4.000	Inhalable aerosol
	NATIONAL	FINLAND	5.000		
	NATIONAL	GERMANY	4.000		AGS; Inhalable aerosol
	NATIONAL	GERMANY	4.000		DFG; Inhalable aerosol
	NATIONAL	IRELAND	6.000		Inhalable fraction

Aluminium oxide	NATIONAL	IRELAND	2.400		Respirable fraction
	NATIONAL	LATVIA	1.000		
	NATIONAL	NEW ZEALAND	1.000		
	NATIONAL	CHINA	2.000		Inhalable fraction
	NATIONAL	SINGAPORE	10.000		
	NATIONAL	KOREA, REPUBLIC OF	10.000		
	NATIONAL	SWITZERLAND	4.000		Inhalable aerosol
	NATIONAL	UNITED STATES OF AMERICA	80.000		OSHA; 80/ % silica total dust (MG3)
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	6.000		Inhalable aerosol
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	2.400		Respirable aerosol
	NATIONAL	ESTONIA	2.000		
	NATIONAL	SLOVENIA	4.000		Inhalable fraction
	NATIONAL	SOUTH AFRICA	6.000		Inhalable particulate
	NATIONAL	SOUTH AFRICA	3.000		Respirable particulate
	NATIONAL	FRANCE	10.000		Respirable aerosol
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000		Inhalable aerosol
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000		Respirable aerosol
	NATIONAL	AUSTRALIA	10.000		Inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	AUSTRIA	10.000	20.000	Long term: inhalable fraction; Short term: inhalable fraction, 60 minutes average value
	NATIONAL	AUSTRIA	5.000	10.000	Long term: respirable fraction; Short term: respirable fraction, 60 minutes average value
	NATIONAL	CANADA	10.000		
	NATIONAL	DENMARK	5.000	10.000	Calculated as Al; Long term and Short term: inhalable aerosol

	NATIONAL	DENMARK	2.000		4.000		Calculated as AI; Long term and Short term: respirable aerosol
	NATIONAL	GERMANY	4.000				Inhalable aerosol
	NATIONAL	GERMANY	1.500				Respirable aerosol
	NATIONAL	HUNGARY	6.000				Respirable aerosol
	NATIONAL	IRELAND	10.000				Inhalable fraction
	NATIONAL	IRELAND	4.000				Respirable fraction
	NATIONAL	LATVIA	6.000				
	NATIONAL	NEW ZEALAND	10.000				The value for inhalable dust containing no asbestos and less than 1% free silica
	NATIONAL	POLAND	2.500		16.000		Aluminium trioxide as AI fume; Long term: total dust fume
	NATIONAL	POLAND	1.200				Aluminium trioxide as AI fume; Long term: respirable dust
	NATIONAL	ROMANIA	2.000	0.500	5.000	1.200	Long term and short term: aerosol
	NATIONAL	SINGAPORE	10.000				
	NATIONAL	KOREA, REPUBLIC OF	10.000				
	NATIONAL	SPAIN	10.000				Inhalable aerosol
	NATIONAL	SPAIN	5.000				Respirable aerosol
	NATIONAL	SWEDEN	5.000				Inhalable aerosol
	NATIONAL	SWEDEN	2.000				Respirable aerosol
	NATIONAL	SWITZERLAND	3.000				Respirable aerosol
	NATIONAL	UNITED STATES OF AMERICA	15.000				OSHA; Total dust
	NATIONAL	UNITED STATES OF AMERICA	5.000				OSHA; Inhalable dust
toluene	EU	NNN	192	50	384	100	Skin
	NATIONAL	AUSTRIA	190.000	50.000	380.000	100.000	
	NATIONAL	BELGIUM	77.000	20.000	384.000	100.000	
	NATIONAL	CANADA		20.000			Ontario
	NATIONAL	CANADA	188.000	50.000			Quebec
	NATIONAL	DENMARK	94.000	25.000	188.000	50.000	
	NATIONAL	FINLAND	81.000	25.000	380.000	100.000	
	NATIONAL	FRANCE	76.800	20.000	384.000	100.000	
	NATIONAL	GERMANY	190.000	50.000	760.000	200.000	AGS;
	NATIONAL	GERMANY	190.000	50.000	760.000	200.000	DFG
	NATIONAL	HUNGARY	190.000		380.000		
	NATIONAL	IRELAND	192.000	50.000	384.000	100.000	
	NATIONAL	ISRAEL	188.000	50.000			
	NATIONAL	ITALY	192.000	50.000			
	NATIONAL	JAPAN		20.000			MHLW
	NATIONAL	JAPAN	188.000	50.000			JSOH
	NATIONAL	LATVIA	50.000	14.000	150.000	40.000	
	NATIONAL	NEW ZEALAND	188.000	50.000			
	NATIONAL	CHINA	50.000		100.000		
	NATIONAL	POLAND	100.000		200.000		

phosphoric acid	NATIONAL	ROMANIA	192.000	50.000	384.000	100.000	
	NATIONAL	SINGAPORE	188.000	50.000			
	NATIONAL	KOREA, REPUBLIC OF	188.000	50.000	560.000	150.000	
	NATIONAL	SPAIN	191.000	50.000	384.000	100.000	
	NATIONAL	SWEDEN	192.000	50.000	384.000	100.000	
	NATIONAL	SWITZERLA ND	190.000	50.000	760.000	200.000	
	NATIONAL	NETHERLA NDS	150.000		384.000		
	NATIONAL	TURKEY	192.000	50.000	384.000	100.000	
	NATIONAL	UNITED STATES OF AMERICA	375.000	100.000	560.000	150.000	NIOSH
	NATIONAL	UNITED STATES OF AMERICA	375.000	100.000	560.000	150.000	NIOSH
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	191.000	50.000	384.000	100.000	
	NATIONAL	ARGENTINA		50.000			
	NATIONAL	BULGARIA	192.000	50.000	384.000	100.000	
	NATIONAL	CZECHIA	200.000		500.000		
	NATIONAL	CHILE	328.000	87.000	560.000	160.000	
	NATIONAL	CROATIA	192.000	50.000	384.000	100.000	
	NATIONAL	ESTONIA	192.000	50.000	384.000	100.000	
	NATIONAL	GREECE	192.000	50.000	384.000	100.000	
	NATIONAL	INDONESIA		20.000			
	NATIONAL	ICELAND	94.000	25.000	188.000	50.000	
	NATIONAL	LITHUANIA	192.000	50.000	384.000	100.000	
	NATIONAL	MALAYSIA	188.000	50.000			
	NATIONAL	MEXICO		20.000			
	NATIONAL	NORWAY	94.000	25.000			
	NATIONAL	PORTUGAL		20.000			
	NATIONAL	RUSSIAN FEDERATIO N	50.000		150.000		
	NATIONAL	SLOVAKIA	192.000	50.000	384.000	100.000	
	NATIONAL	SLOVENIA	192.000	50.000	384.000	100.000	
	NATIONAL	SOUTH AFRICA	188.000	50.000	560.000	150.000	
	NATIONAL	SOUTH AFRICA	188.000	50.000	560.000	150.000	
	ACGIH	NNN		20			A4, BEI - Visual impair, female repro, pregnancy loss
	EU	NNN	192	50	384	100	Skin
	EU	NNN	1		2		
	NATIONAL	AUSTRIA	1.000		2.000		
	NATIONAL	BELGIUM	1.000		2.000		
	NATIONAL	CANADA	1.000		3.000		Ontario
	NATIONAL	CANADA	1.000		3.000		Quebec
	NATIONAL	DENMARK	1.000		2.000		

NATIONAL	FINLAND	1.000		2.000		
NATIONAL	FRANCE	1.000	0.200	2.000	0.500	Italic type: Indicative statutory limit values
NATIONAL	GERMANY	2.000		4.000		ASG; Long term and short term: inhalable aerosol
NATIONAL	GERMANY	2.000		4.000		DFG; Long term and short term: inhalable aerosol
NATIONAL	HUNGARY	1.000		2.000		
NATIONAL	IRELAND	1.000		2.000		
NATIONAL	ITALY	1.000		2.000		
NATIONAL	JAPAN	1.000				JSOH
NATIONAL	NEW ZEALAND	1.000				
NATIONAL	LATVIA	1.000		2.000		
NATIONAL	CHINA	1.000		3.000		
NATIONAL	POLAND	1.000		2.000		
NATIONAL	ROMANIA	1.000		2.000		
NATIONAL	SINGAPORE	1.000				
NATIONAL	KOREA, REPUBLIC OF	1.000		3.000		
NATIONAL	SPAIN	1.000		2.000		
NATIONAL	SWEDEN	1.000		2.000		
NATIONAL	SWITZERLAND	2.000		4.000		Long term and short term: inhalable fraction
NATIONAL	NETHERLANDS	1.000		2.000		
NATIONAL	TURKEY	1.000		2.000		
NATIONAL	UNITED STATES OF AMERICA	1.000		3.000		NIOSH
NATIONAL	UNITED STATES OF AMERICA	1.000				OSHA
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	1.000		2.000		
NATIONAL	ARGENTINA	1.000		3.000		
NATIONAL	BULGARIA	1.000		2.000		
NATIONAL	CZECHIA	1.000		2.000		
NATIONAL	CROATIA	1.000		2.000		
NATIONAL	ESTONIA	1.000		2.000		
NATIONAL	GREECE	1.000		3.000		
NATIONAL	INDONESIA	1.000		3.000		
NATIONAL	ICELAND	1.000		2.000		
NATIONAL	LITHUANIA	1.000		2.000		
NATIONAL	MALAYSIA	1.000				
NATIONAL	MEXICO	1.000		3.000		
NATIONAL	NORWAY	1.000				
NATIONAL	PORTUGAL	1.000		3.000		
NATIONAL	SLOVAKIA	1.000		2.000		
NATIONAL	SLOVENIA	1.000		2.000		

ethyl acrylate	NATIONAL	SOUTH AFRICA	1.000		3.000		
	NATIONAL	TAIWAN, PROVINCE OF CHINA	1.000				
	ACGIH	NNN	1		3		URT, eye and skin irr
	EU	NNN	1		2		
	EU	NNN	21	5	42	10	
	NATIONAL	AUSTRIA	20.000	5.000	40.000	10.000	
	NATIONAL	BELGIUM	21.000	5.000	42.000	10.000	
	NATIONAL	CANADA		5.000		15.000	Ontario
	NATIONAL	CANADA	20.000	5.000	61.000	15.000	Québec
	NATIONAL	DENMARK	20.000	5.000	40.000	10.000	
	NATIONAL	FINLAND	21.000	5.000	42.000	10.000	
	NATIONAL	FRANCE	21.000	5.000	42.000	10.000	
	NATIONAL	GERMANY	8.300	2.000	16.600	4.000	AGS
	NATIONAL	GERMANY	8.300	2.000	16.600	4.000	DFG
	NATIONAL	HUNGARY	21.000		42.000		
	NATIONAL	IRELAND	20.000	5.000	41.000	10.000	
	NATIONAL	ITALY	21.000	5.000	42.000	10.000	
	NATIONAL	LATVIA		5.000			
	NATIONAL	NEW ZEALAND			20.000	5.000	
	NATIONAL	POLAND	20.000		40.000		
	NATIONAL	ROMANIA	21.000	5.000	42.000	10.000	
	NATIONAL	SINGAPORE	20.000	5.000	61.000	15.000	
	NATIONAL	KOREA, REPUBLIC OF	20.000	5.000			
	NATIONAL	SPAIN	21.000	5.000	62.000	15.000	
	NATIONAL	SWITZERLAND	10.000	2.500	42.000	10.000	
	NATIONAL	NETHERLANDS	21.000		42.000		
	NATIONAL	TURKEY	21.000	5.000	42.000	10.000	
	NATIONAL	UNITED STATES OF AMERICA	100.000	25.000			OSHA
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	24.000	5.000	42.000	10.000	
	NATIONAL	ARGENTINA		5.000		15.000	
	NATIONAL	BULGARIA	25.000	5.000	42.000	10.000	
	NATIONAL	CZECHIA	20.000		40.000		
	NATIONAL	CROATIA	21.000	5.000	42.000	10.000	
	NATIONAL	ESTONIA	21.000	5.000	42.000	10.000	
	NATIONAL	GREECE	21.000	5.000	42.000	10.000	
	NATIONAL	ICELAND	21.000	5.000	42.000	10.000	
	NATIONAL	LITHUANIA	21.000	5.000	42.000	10.000	
	NATIONAL	MALAYSIA	20.000	5.000			
	NATIONAL	MEXICO		5.000		15.000	
	NATIONAL	NORWAY	21.000	5.000	42.000	10.000	

NATIONAL	PORTUGAL		5.000		15.000	
NATIONAL	PORTUGAL		5.000		15.000	
NATIONAL	SLOVAKIA	21.000	5.000	42.000	10.000	
NATIONAL	SLOVENIA	21.000	5.000	42.000	10.000	
NATIONAL	SOUTH AFRICA	20.000	5.000	60.000	15.000	
NATIONAL	TAIWAN, PROVINCE OF CHINA	102.000	25.000			
ACGIH	NNN		5		15	A4 - URT, eye, and GI irr, CNS impair, skin sens
EU	NNN	21	5	42	10	

Biological limit values

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
108-88-3	toluene	600	µg/L	Blood	Toluene in blood	End of turn
		2	g/g	Urine	Hippuric acid in urine	End of turn; End of working week
		0,5	mg/L	Urine	o-Cresol in urine	End of turn; End of working week

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
bis-[4-(2,3-epoxipropoxy)phenyl] propane	1675-54-3	0.006 mg/l	Freshwater	
		600.000 ng/L	Marine water	
		0.996 mg/kg	Freshwater sediments	
		0.099 mg/kg	Marine water sediments	
		0.196 mg/kg	Soil	
		10.000 mg/l	Microorganisms in sewage treatments	
		0.018 mg/l	Intermittent releases (freshwater)	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2	0.007 mg/l	Freshwater	
		0.072 µg/l	Marine water	
		10.000 mg/l	Microorganisms in sewage treatments	
		66.770 mg/kg	Freshwater sediments	
		6.677 mg/kg	Marine water sediments	
		80.120 mg/kg	Soil	
		0.072 mg/l	Intermittent releases (freshwater)	
titanium dioxide	13463-67-7	0.184 mg/l	Freshwater	
		0.018 mg/l	Marine water	
		1.000 mg/kg	Intermittent releases (freshwater)	
		100.000 mg/kg	Intermittent releases (marine water)	
		100.000 mg/kg	Microorganisms in sewage treatments	
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl 91-5 decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	1065336-91-5	2.200 µg/l	Freshwater	
		9.000 µg/l	Intermittent releases (freshwater)	

toluene	108-88-3	220.000 ng/L	Marine water
		1.000 mg/l	Microorganisms in sewage treatments
		1.050 mg/kg	Freshwater sediments
		110.000 µg/kg	Marine water sediments
		210.000 µg/kg	Soil
ethyl acrylate	140-88-5	680.000 µg/l	Freshwater
		680.000 µg/l	Intermittent releases (freshwater)
		680.000 µg/l	Marine water
		13.610 µg/l	Microorganisms in sewage treatments
		16.390 mg/kg	Freshwater sediments
		16.390 mg/kg	Marine water sediments
		2.890 mg/kg	Soil
		2.720 µg/l	Freshwater
		11.000 µg/l	Intermittent releases (freshwater)
		270.000 ng/L	Marine water
		10.000 mg/l	Microorganisms in sewage treatments
		21.300 µg/kg	Freshwater sediments
		21.300 µg/kg	Marine water sediments
		1.000 mg/kg	Soil
		10.000 mg/kg	Secondary poisoning

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
bis-[4-(2,3-epoxipropoxy)phenyl] propane	1675-54-3		0.750 mg/kg		Human Oral	Long Term, local effects
			0.750 mg/kg		Human Oral	Long Term, systemic effects
			3.571 mg/kg		Human Dermal	Long Term, systemic effects
			3.571 mg/kg		Human Dermal	Long Term, local effects
			12.250 mg/m ³		Human Inhalation	Long Term, systemic effects
			12.250 mg/m ³		Human Inhalation	Long Term, local effects
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	68609-97-2		17.000 mg/kg	10.000 mg/kg	Human Dermal	Short Term, systemic effects
			29.000 mg/m ³	7.600 mg/m ³	Human Inhalation	Short Term, systemic effects
				1219.000 mg/kg	Human Oral	Short Term, systemic effects
			68.000 mg/kg	40.000 mg/kg	Human Dermal	Short Term, local effects
			9.800 mg/m ³	2.900 mg/m ³	Human Inhalation	Short Term, local effects
			3.900 mg/kg	2.350 mg/kg	Human Dermal	Long Term, systemic effects

			13.800 mg/m ³	4.100 mg/m ³	Human Inhalation	Long Term, systemic effects
				1.000 mg/kg	Human Oral	Long Term, systemic effects
			1.700 mg/kg	1.000 mg/kg	Human Dermal	Long Term, local effects
			0.980 mg/kg	1.460 mg/kg	Human Inhalation	Long Term, local effects
titanium dioxide	13463-67-7		10.000 mg/m ³		Human Inhalation	Long Term, local effects
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	1065336-91-5		680.000 µg/m ³	170.000 µg/m ³	Human Inhalation	Long Term, systemic effects
			500.000 µg/kg	250.000 µg/kg	Human Dermal	Long Term, systemic effects
				50.000 µg/kg	Human Oral	Long Term, systemic effects
			192.000 mg/m ³	56.500 mg/m ³	Human Inhalation	Long Term, systemic effects
toluene	108-88-3		384.000 mg/m ³	226.000 mg/m ³	Human Inhalation	Short Term, systemic effects
			192.000 mg/m ³	56.500 mg/m ³	Human Inhalation	Long Term, local effects
			384.000 mg/m ³	226.000 mg/m ³	Human Inhalation	Short Term, local effects
			384.000 mg/kg	226.000 mg/kg	Human Dermal	Long Term, systemic effects
				8.130 mg/kg	Human Oral	Long Term, systemic effects
phosphoric acid	7664-38-2		10.700 mg/m ³	4.570 mg/m ³	Human Inhalation	Long Term, systemic effects
			1.000 mg/m ³	360.000 µg/m ³	Human Inhalation	Long Term, local effects
			2.000 mg/m ³		Human Inhalation	Short Term, local effects
				100.000 µg/kg	Human Oral	Long Term, systemic effects
ethyl acrylate	140-88-5		21.000 mg/m ³	2.500 mg/m ³	Human Inhalation	Long Term, local effects
			0.920 mg/cm ²	0.920 mg/cm ²	Human Dermal	Short Term, local effects

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Solid

Color: In compliance with the product description

Odour: Light

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: > 200 °C (392 °F) (ASTM-E537)

Flash point: Not Applicable

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.72 g/cm³ (ISO 2811)

Solubility in water: N.A.

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 0.02 % ; 0.36 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Miscibility: N.A.

Conductivity: N.A.

Evaporation rate: N.A. No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

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

	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

bis-[4-(2,3-epoxipropoxy)phenyl]propane	a) acute toxicity	LD50 Oral Rabbit = 19800.00000 mg/kg	
		LD50 Skin Rabbit > 20.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	epoxy resin with an average molecular mass ≤ 700 d irritate skin of rabbits
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Oral Rat = 15.00000 mg/kg Carcinogenicity Skin Rat = 1.00000 mg/kg	Mouse, oral NOAEL NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750.00000 mg/kg	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	a) acute toxicity	LD50 Oral Rat = 26800.00000 mg/kg	
		LC50 Inhalation Rat > 0.20600 mg/l 4h LD50 Skin Rabbit > 4.50000 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Yes	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 200.00000 mg/kg	
titanium dioxide	a) acute toxicity	LD50 Oral Rat > 5000.00 mg/kg LC50 Inhalation > 6.82 mg/l	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	
	i) STOT-repeated exposure	No Observed Adverse Effect Level 1000.00	
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	a) acute toxicity	LD50 Oral Rat = 3230.00 mg/kg	
		LD50 Skin Rat > 3170.00 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	

	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 30.00 mg/kg	
toluene	a) acute toxicity	LD50 Oral Rat = 5580.00 mg/kg LC50 Inhalation of aerosol Rat > 20.00 mg/l 4h LD50 Skin Rabbit > 5000.00 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Rat Negative	Intraperitoneal route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 2261.00 mg/m ³	
phosphoric acid	a) acute toxicity	LD50 Oral Rat = 2600.00000 mg/kg LC50 Inhalation Rat = 3846.00000 mg/m ³ 1h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat >= 500.00000 mg/kg	
ethyl acrylate	a) acute toxicity	LD50 Oral Rat = 1120.00 ml/Kg LC50 Inhalation Vapour Rat < 9.13 mg/l 4h LD50 Skin Rat = 3049.00 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 72h	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse intraperitoneal route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 110.00 mg/kg	

11.2 Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> = 2.00000 mg/L 96h a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 1.80000 mg/L 48h a) Aquatic acute toxicity : EC50 Algae <i>Scenedesmus capricornutum</i> =

		11.00000 mg/L 72h EPA-660/3-75-009
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS: 68609-97-2 - EINECS: 271-846-8 - INDEX: 603-103-00-4	<p>c) Bacteria toxicity : EC50 Sludge activated sludge = 100.00000 mg/L 3h</p> <p>a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 5000.00000 mg/L 96h</p> <p>a) Aquatic acute toxicity : NOEC Algae Pseudokirchneriella subcapitata = 500.00000 mg/L 72h „OECD Guideline 201 (Alga, Growth Inhibition Test)</p> <p>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 843.00000 mg/L 72h</p>
titanium dioxide	CAS: 13463-67-7 - EINECS: 236-675-5 - INDEX: 022-006-00-2	<p>c) Bacteria toxicity : EC50 Sludge > 100.00000 mg/L</p> <p>a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (Cavedano americano) > 1000.00 mg/L 96h</p> <p>a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata (alghe cloroficee) > 100.00 mg/L 72h</p> <p>a) Aquatic acute toxicity : NOEC Algae = 5600.00 mg/L</p> <p>a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna (Pulce d'acqua grande) > 100.00 mg/L 48h</p>
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	CAS: 1065336-91-5 - EINECS: 915-687-0	<p>a) Aquatic acute toxicity : LC50 Fish Danio rerio = 0.90 mg/L 96h OECD Guideline 203</p> <p>b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 1.00 mg/L OECD guideline 211</p> <p>a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 1.68 mg/L 72h OECD Guideline 201</p> <p>a) Aquatic acute toxicity : EC20 Sludge activated sludge >= 100.00 mg/L 3h OECD guideline 209</p>
toluene	CAS: 108-88-3 - EINECS: 203-625-9 - INDEX: 601-021-00-3	<p>a) Aquatic acute toxicity : LC50 Fish Coho Salmon = 5.50 mg/L 96h</p> <p>b) Aquatic chronic toxicity : NOEC Fish Coho Salmon = 1.40 mg/L - 40days</p> <p>a) Aquatic acute toxicity : LC50 freshwater invertebrates = 3.78 mg/L 48h</p> <p>b) Aquatic chronic toxicity : NOEC freshwater invertebrates = 0.74 mg/L - 7days</p> <p>a) Aquatic acute toxicity : EC50 Algae freshwater algae = 134.00 mg/L 3h</p> <p>a) Aquatic acute toxicity : NOEC Algae freshwater algae = 10.00 mg/L 72h</p> <p>c) Bacteria toxicity : EC50 microorganisms = 84.00 mg/L 24h</p> <p>d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 32.50 mg/kg - 28days</p>
phosphoric acid	CAS: 7664-38-2 - EINECS: 231-633-2 - INDEX: 015-011-00-6	<p>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna > 100.00000 mg/L 48h „OECD TG 202, static, Klimisch reliability 1</p> <p>a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus > 100.00000 mg/L 72h „OECD TG 201, static, Klimisch reliability 1</p> <p>a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000.00000 mg/L 3h „OECD TG 209, static, Klimisch reliability 1</p>
ethyl acrylate	CAS: 140-88-5 - EINECS: 205-438-8 - INDEX: 607-032-00-X	<p>a) Aquatic acute toxicity : LC50 Fish Salmo gairdneri = 4.60 mg/L 96h EPA OTS 797.1400</p> <p>a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 7.90 mg/L 48h EPA OTS 797.1300</p>

b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 0.19 mg/L EPA OTS 797.1330

a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 4.50 mg/L 72h OECD TG 201

a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100.00 mg/L

12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Non-readily biodegradable	Oxygen consumption		OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Readily biodegradable	Oxygen consumption	87.000	%; OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	Non-readily biodegradable		38.000	28days
toluene	Readily biodegradable			
ethyl acrylate	Readily biodegradable	Biochemical oxygen demand	100.000	

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Bioaccumulative	BCF - Bioconcentration factor	31.000	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Bioaccumulative	BCF - Bioconcentration factor	160.000	
1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate	Not bioaccumulative			
toluene	Bioaccumulative	BCF - Bioconcentration factor	90.000	3days
ethyl acrylate	Bioaccumulative	BCF - Bioconcentration factor	2.000	

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

HP 4: Irritant — skin irritation and eye damage; HP 13: Sensitising; HP 14: Ecotoxic

SECTION 14: Transport information

14.1. UN number or ID number

N/A

14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

14.3. Transport hazard class(es)

ADR-Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: N/A

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code): N/A

ADR Limited Quantities: N/A

ADR Excepted Quantities: N/A

Air (IATA) :

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisioning: N/A

Sea (IMDG) :

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisioning: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: None

Restrictions related to the substances contained: 40, 48, 75

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

N.A.

Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

Class 1: slightly hazardous for water.

SVHC Substances:

No data available

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer if inhaled.
H361d	Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
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.

Code	Hazard class and hazard category	Description
2.16/1	Met. Corr. 1	Substance or mixture corrosive to metals, Category 1
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1

3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.6/2	Carc. 2	Carcinogenicity, Category 2
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
--	---------------------------------

3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1B	Calculation method
4.1/C3	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep Away From Heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Exposure Scenario

1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate
bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate

Exposure Scenario, 20/04/2022

Substance identity	
	1-Methyl 1,2,2,6,6-pentamethylpiperidin-4-yl decanedioate bis(1,2,2,6,6-pentamethylpiperidin-4-yl) decanedioate
CAS No.	1065336-91-5
EINECS No.	915-687-0

Table of contents

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

1. ES 1		Widespread use by professional workers; Various products (PC9a, PC9b)	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks - Use in rigid foams, coatings, adhesives and sealants		
Date - Version	20/04/2022 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	Coatings and paints, thinners, paint removers (PC9a) - Fillers, putties, plasters, modelling clay (PC9b)		
Environment Contributing Scenario			
CS1	ERC8c		
Worker Contributing Scenario			
CS2 Material transfers	PROC8a		
CS3 Rolling, Brushing	PROC10		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8c)			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Vapour pressure: Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Emission days: 365 days per year			
<i>Technical and organisational conditions and measures</i>			
Control measures to prevent releases			
		Air - minimum efficiency of: 15 % Water - minimum efficiency of: 1 %	
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant Water - minimum efficiency of: = 88.9 %			
STP effluent (m³/day): 2000			
<i>Other conditions affecting environmental exposure</i>			
Local marine water dilution factor: 100 Local freshwater dilution factor: 10 Receiving surface water flow: 18000 m³/day Indoor use			
1.2. CS2: Worker Contributing Scenario: Material transfers (PROC8a)			

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)	
<i>Product (article) characteristics</i>		
Physical form of product: Liquid		
Vapour pressure: Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 5 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to 480 min		
Frequency: Covers use up to 5 days per week		
<i>Technical and organisational conditions and measures</i>		
Technical and organisational measures Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Ensure operatives are trained to minimise exposures.		
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>		
Personal protection		
Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.		Dermal - minimum efficiency of: = 90 %
Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin.		
<i>Other conditions affecting worker exposure</i>		
Indoor use Professional use		
<i>Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.</i>		
Additional Good Practice Advice: Ensure no splashing occurs during transfer.		
1.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)		
Process Categories	Roller application or brushing (PROC10)	
<i>Product (article) characteristics</i>		
Physical form of product: Liquid		
Vapour pressure: Vapour pressure < 0.01 Pa at standard temperature and pressure 0.0001 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 5 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to 480 min		
Frequency: Covers use up to 5 days per week		
<i>Technical and organisational conditions and measures</i>		
Technical and organisational measures		

Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Ensure operatives are trained to minimise exposures.

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.	Dermal - minimum efficiency of: = 90 %
Wear suitable face shield. Wear suitable coveralls to prevent exposure to the skin.	

Other conditions affecting worker exposure

Indoor use
Professional use

Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.

Additional Good Practice Advice:

Ensure no splashing occurs during transfer.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
soil	N/A	ECETOC TRA environment v2.0	0.0579

Additional information on exposure estimation:

Risk from environmental exposure is driven by soil.

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.2743 mg/kg bw/day	ECETOC TRA worker v3	= 0.137143
inhalative, systemic, long-term	= 0.4233 mg/m ³	ECETOC TRA worker v3	= 0.119924

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.5486 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286
inhalative, systemic, long-term	= 0.274286 mg/m ³	ECETOC TRA worker v3	= 0.097

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

Guidance to check compliance with the exposure scenario:

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

Exposure Scenario

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

Exposure Scenario, 07/06/2021

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

Table of contents

1. **ES 1** Widespread use by professional workers; ESC2_0000001

1. ES 1		Widespread use by professional workers; ESC2_0000001	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks - Etching agent - Resins (prepolymers) - Adhesion promotor		
Date - Version	27/05/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	ESC2_0000001		
Article Category(ies)	Other articles made of stone, plaster, cement, glass or ceramic (AC4g)		
Environment Contributing Scenario			
CS1	ERC8c - ERC8f		
Worker Contributing Scenario			
CS2 Material transfers	PROC8a		
CS3 Rolling, Brushing	PROC10		
CS4 Roller, spreader, flow application	PROC11		
CS5 Mixing operations - Manual	PROC19		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP			
Concentration of substance in product: Covers percentage substance in the product up to 100 %.			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Amounts used: Daily amount per site = 175 kg/day			
Release type: Continuous release			
Emission days: 365 days per year			
<i>Technical and organisational conditions and measures</i>			
Control measures to prevent releases Provide onsite wastewater removal efficiency of ³ (%):			
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant			
STP effluent (m³/day): 2			
<i>Conditions and measures related to treatment of waste (including article waste)</i>			
Waste treatment Dispose of waste cans and containers according to local regulations.			
<i>Other conditions affecting environmental exposure</i>			

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Covers indoor and outdoor use

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

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

Other conditions affecting worker exposure

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

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

Process Categories	Roller application or brushing (PROC10)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

Other conditions affecting worker exposure

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

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

Process Categories	Non industrial spraying (PROC11)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

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

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

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

Wear suitable face shield.

Wear an impervious suit.

Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

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

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

Manual activities involving hand contact (PROC19)

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

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

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

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

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

Other conditions affecting worker exposure

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

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

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

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

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

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

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

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

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

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

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

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

Guidance to check compliance with the exposure scenario:

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

Exposure Scenario

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

Exposure Scenario, 08/06/2021

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

Table of contents

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

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

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

Personal protection Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use Temperature: Covers use at ambient temperatures.															
1.2. CS5: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC19)															
Process Categories		Manual activities involving hand contact (PROC19)													
<i>Product (article) characteristics</i>															
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP															
Concentration of substance in product: Covers percentage substance in the product up to 25 %.															
<i>Amount used, frequency and duration of use/exposure</i>															
Duration: Covers daily exposures up to 8 hours															
Frequency: For each use, avoid using for more than < 1 h/event															
<i>Technical and organisational conditions and measures</i>															
Technical and organisational measures Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers.															
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>															
Personal protection Wear suitable gloves tested to EN374.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use Temperature: Covers use at ambient temperatures.															
1.3 Exposure estimation and reference to its source															
1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC5)															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> <tr> <td>inhalative, systemic, long-term</td> <td>= 9.3 mg/m³</td> <td>ECETOC TRA worker v2.0</td> <td>= 0.674</td> </tr> <tr> <td>dermal, systemic, long-term</td> <td>= 0.007 mg/kg bw/day</td> <td>ECETOC TRA worker v2.0</td> <td>= 0.002</td> </tr> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)	inhalative, systemic, long-term	= 9.3 mg/m ³	ECETOC TRA worker v2.0	= 0.674	dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												
inhalative, systemic, long-term	= 9.3 mg/m ³	ECETOC TRA worker v2.0	= 0.674												
dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002												
Additional information on exposure estimation: If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.															
1.3. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)								
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												

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

Additional information on exposure estimation:

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

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

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

Additional information on exposure estimation:

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

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

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

Additional information on exposure estimation:

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

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

Guidance to check compliance with the exposure scenario:

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

Safety Data Sheet

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

FUGALITE (B)

Date of first edition: 7/8/2021

Safety Data Sheet dated 10/8/2021

version 9

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

1.1. Product identifier

Mixture identification:

Trade name: FUGALITE (B)

Trade code: B0160 .061

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

Recommended use: hardener

Uses advised against: Data not available.

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy - +39-0536-816511

Ireland

Poison information centre: 01 809 2166 (Daily 8am-10pm)

In case of emergency call 999 or 112

Malta

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

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Acute Tox. 4	Harmful if swallowed.
Skin Corr. 1B	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
Skin Sens. 1A	May cause an allergic skin reaction.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

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

Pictograms and Signal Words



Danger

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P260 Do not breathe vapours.

P280 Wear protective gloves and eye protection.

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P501 Dispose of contents/container in accordance with applicable regulations.

Contains

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction

Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

benzyl alcohol

M-phenylenebis(methylamine)

Phenol, styrenated

3,6,9,12-tetra-azatetradecamethylenediamine; pentacthylenhexamine

2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine

Amines, polyethylenepoly-, triethylenetetramine fraction

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

None

2.3. Other hazards

No PBT, vPvB or endocrine disruptor substances present in concentration $\geq 0.1\%$.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: FUGALITE (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
25-50 %	benzyl alcohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302; Acute Tox. 4, H332; Eye Irrit. 2, H319	01-2119492630-38
25-50 %	3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS:2855-13-2 EC:220-666-8 Index:612-067-00-9	Skin Corr. 1B, H314; Aquatic Chronic 3, H412; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1A, H317	01-2119514687-32
5-9,9 %	Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	EC:701-046-0	Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317; Aquatic Chronic 2, H411, M-Chronic:1	01-2119972321-42
5-9,9 %	Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	CAS:68082-29-1 EC:500-191-5	Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Sens. 1A, H317, M-Chronic:1	01-2119972320-44
2,5-4,9 %	M-phenylenebis(methylamine)	CAS:1477-55-0 EC:216-032-5	Acute Tox. 4, H302; Acute Tox. 4, H332; Aquatic Chronic 3, H412; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1B, H314, EUH071	01-2119480150-50
1-2,4 %	Alcohols, C12-15, branched and linear, ethoxylated	CAS:106232-83-1	Acute Tox. 4, H302; Eye Dam. 1, H318; Aquatic Chronic 3, H412	

1-2,4 %	Phenol, styrenated	CAS:61788-44-1 EC:262-975-0	Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411; Eye Irrit. 2, H319, M-Chronic:1
1-2,4 %	Amines, polyethylenepoly-, tetraethylenepentamine fraction	CAS:90640-66-7 EC:292-587-7	Acute Tox. 4, H302; Acute Tox. 4, 01-2119487290-37 H312; Skin Corr. 1B, H314; Aquatic Chronic 2, H411, M-Chronic:0
1-2,4 %	3,6,9,12-tetra-azatetradecamethylenediamine; pentacthylenhexamine	CAS:4067-16-7 EC:223-775-9 Index:612-064-00-2	Skin Corr. 1B, H314; Acute Tox. 4, 01-2119485826-22 H312; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Eye Dam. 1, H318
1-2,4 %	2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	CAS:25513-64-8 EC:247-063-2	Acute Tox. 4, H302; Skin Corr. 1A, 01-2119560598-25 H314; Eye Dam. 1, H318; Skin Sens. 1A, H317
1-2,4 %	Polyoxpropylenediamine	CAS:9046-10-0 EC:618-561-0	Skin Corr. 1C, H314; Eye Dam. 1, 01-2119557899-12 H318; Aquatic Chronic 3, H412
1-2,4 %	Salicylic acid	CAS:69-72-7 EC:200-712-3	Acute Tox. 4, H302; Eye Dam. 1, 01-2119486984-17 H318; Repr. 2, H361d
1-2,4 %	benzyl dimethylamine	CAS:103-83-3 EC:203-149-1 Index:612-074-00-7	Flam. Liq. 3, H226; Skin Corr. 1B, 01-2119529232-48 H314; Aquatic Chronic 3, H412; Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Dam. 1, H318; Acute Tox. 3, H331
1-2,4 %	Amines, polyethylenepoly-, triethylenetetramine fraction	CAS:90640-67-8 EC:292-588-2 Index:612-059-00-5	Acute Tox. 4, H312; Acute Tox. 4, 01-2119487919-13 H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Chronic 3, H412

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

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

In case of eyes contact:

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

In case of Ingestion:

- Give nothing to eat or drink.

In case of Inhalation:

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

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

Eye irritation
Eye damages
Skin Irritation
Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

- Water.
- Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

- None in particular.

5.2. Special hazards arising from the substance or mixture

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes
benzyl alcohol	NATIONAL	FINLAND		45.000	10.000			
	NATIONAL	GERMANY		22.000	5.000	44.000	10.000	AGS; Long term and short term: inhalable fraction
	NATIONAL	GERMANY		22.000	5.000	44.000	10.000	DFG; Long term and short term: inhalable fraction
	NATIONAL	LATVIA		5.000				
	NATIONAL	SWITZERLAND		5.000	22.000			
	NATIONAL	BULGARIA		5.000				
	NATIONAL	CZECHIA		40.000		80.000		
	NATIONAL	LITHUANIA		5.000				
	NATIONAL	POLAND		240.000				
	NATIONAL	RUSSIAN					5.000	

		FEDERATIO N					
	NATIONAL	SLOVENIA	22.000	5.000	44.000	10.000	
	NATIONAL	UNITED STATES OF AMERICA		10.000			
M- phenylenebis (methylamine)	NATIONAL	AUSTRALIA C			0.100		
	NATIONAL	AUSTRIA	0.100				
	NATIONAL	BELGIUM C			0.100		
	NATIONAL	CANADA C			0.100		Ontario
	NATIONAL	CANADA C			0.100		Quebec
	NATIONAL	DENMARK	0.100	0.020	0.100	0.020	
	NATIONAL	FINLAND C			0.100		
	NATIONAL	FRANCE			0.100		
	NATIONAL	NEW ZEALAND C				0.100	
	NATIONAL	SINGAPORE			0.100		
	NATIONAL	KOREA, REPUBLIC OF C	0.100				
	NATIONAL	SWITZERLA ND	0.100				
	NATIONAL	UNITED STATES OF AMERICA C			0.100		
	NATIONAL	ITALY C			0.100		
	NATIONAL	ARGENTINA C			0.100		
	NATIONAL	INDONESIA C			0.100		
	NATIONAL	IRELAND	0.100				
	NATIONAL	ICELAND			0.100	0.020	
	NATIONAL	MEXICO C			0.100		
	NATIONAL	NORWAY C			0.100		
	NATIONAL	PORTUGAL	0.100		0.100		
	NATIONAL	PORTUGAL C			0.100		
	NATIONAL	SLOVENIA	0.100				
	ACGIH	NNN C				0.018	Skin - Eye, skin, and GI irr
2,2',2''- nitrilotriethanol	ACGIH	NNN	5				Eye and skin irr
benzyltrimethylamine	NATIONAL	BULGARIA	5.000				
	NATIONAL	LATVIA	5.000				
	NATIONAL	ROMANIA	5.000	0.900	10.000	1.800	
	NATIONAL	RUSSIAN FEDERATIO N			5.000		
2,2'-iminodiethanol; diethanolamine	NATIONAL	AUSTRALIA	13.000	3.000			
	NATIONAL	AUSTRIA	2.000	0.460			
	NATIONAL	BELGIUM	1.000	0.200			Inhalable fraction and vapour
	NATIONAL	CANADA	1.000				Ontario; Inhalable aerosol and vapour
	NATIONAL	CANADA	13.000	3.000			Québec; Inhalable aerosol and vapour
	NATIONAL	DENMARK	2.000	0.460	4.000	0.920	

NATIONAL	FINLAND	2.000	0.460			
NATIONAL	FRANCE	15.000	3.000			
NATIONAL	GERMANY	0.500	0.110	0.500	0.110	AGS; long term and short term: inhalable fraction and vapour; The reaction with nitrosating agents may lead to the formation of the corresponding carcinogenic N-nitrosoamines
NATIONAL	GERMANY	1.000		1.000		DFG; Long term and short term: inhalable fraction and vapour
NATIONAL	IRELAND	1.000				
NATIONAL	NEW ZEALAND	13.000	3.000			
NATIONAL	POLAND	9.000				
NATIONAL	SINGAPORE	2.000	0.460			
NATIONAL	KOREA, REPUBLIC OF	2.000	0.460			
NATIONAL	SPAIN	2.000	0.460			
NATIONAL	SWEDEN	5.000	3.000	30.000	6.000	
NATIONAL	SWITZERLAND	1.000		1.000		Long term and short term: inhalable aerosol
NATIONAL	UNITED STATES OF AMERICA	15.000	3.000			NIOSH
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	13.000	3.000			
ACGIH	NNN	1				(IFV), Skin, A3 - Liver and kidney dam

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
benzyl alcohol	100-51-6	1.000 mg/l	Freshwater	
		0.100 mg/l	Marine water	
		5.270 mg/kg	Freshwater sediments	
		0.527 mg/kg	Marine water sediments	
		2.300 mg/l	Intermittent releases (freshwater)	
		39.000 mg/l	Microorganisms in sewage treatments	
		0.456 mg/kg	Soil	
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2	60.000 µg/l	Freshwater	
		6.000 µg/l	Marine water	
		5.784 mg/kg	Freshwater sediments	
		578.000 µg/kg	Marine water sediments	
		1.121 mg/kg	Soil (agricultural)	
		0.230 mg/l	Intermittent releases (freshwater)	
		3.180 mg/l	Microorganisms in sewage treatments	
Reaction product of fatty		2.630 µg/l	Freshwater	

acids, C18 alkyl with
amines, polyethylenepoly-
tetraethylenepentamine
fraction

26.300 µg/l Intermittent releases
(freshwater)

263.000 ng/L Marine water
7.210 mg/l Microorganisms in sewage
treatments

263.010 mg/kg Freshwater sediments
26.301 mg/kg Marine water sediments
58.580 mg/kg Soil

Fatty acids, c18-unsatd.,
dimers, oligomeric
reaction products with
tall-oil fatty acids and
triethylenetetramine

68082-29-1 4.340 µg/l Freshwater

43.400 µg/l Intermittent releases
(freshwater)

434.000 ng/L Marine water
3.840 mg/l Microorganisms in sewage
treatments

434.020 mg/kg Freshwater sediments
43.400 mg/kg Marine water sediments
86.780 mg/kg Soil

M-
phenylenebis
(methylamine)

1477-55-0 94.000 µg/l Freshwater

152.000 µg/l Intermittent releases
(freshwater)

9.400 µg/l Marine water
10.000 mg/l Microorganisms in sewage
treatments

430.000 µg/kg Freshwater sediments
43.000 µg/kg Marine water sediments
45.000 µg/kg Soil

Phenol, styrenated

61788-44-1 30.000 µg/l Freshwater
46.000 µg/l Intermittent releases
(freshwater)

3.000 µg/l Marine water
4.600 µg/l Intermittent releases
(marine water)

36.200 mg/l Microorganisms in sewage
treatments

1.860 mg/kg Freshwater sediments
186.000 µg/kg Marine water sediments
355.000 µg/kg Soil

Amines,
polyethylenepoly-,
tetraethylenepentamine
fraction

90640-66-7 6.800 µg/l Freshwater

68.000 µg/l Intermittent releases
(freshwater)

680.000 ng/L Marine water
4.600 mg/l Microorganisms in sewage
treatments

		341.000 µg/kg	Freshwater sediments
		764.000 µg/kg	Marine water sediments
		274.000 µg/kg	Soil
		230.000 µg/kg	Secondary poisoning
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	25513-64-8	102.000 µg/l	Freshwater
Polyoxpropylenediamine	9046-10-0	315.000 µg/l	Intermittent releases (freshwater)
		10.200 µg/l	Marine water
		72.000 mg/l	Microorganisms in sewage treatments
		622.000 µg/kg	Freshwater sediments
		62.000 µg/kg	Marine water sediments
		10.000 mg/kg	Soil
		15.000 µg/l	Freshwater
		150.000 µg/l	Intermittent releases (freshwater)
Salicylic acid	69-72-7	14.200 µg/l	Marine water
		7.500 mg/l	Microorganisms in sewage treatments
		132.000 µg/kg	Freshwater sediments
		125.000 µg/kg	Marine water sediments
		17.600 µg/kg	Soil
		6.930 mg/kg	Secondary poisoning
		200.000 µg/l	Freshwater
		1.000 mg/l	Intermittent releases (freshwater)
benzyltrimethylamine	103-83-3	20.000 µg/l	Marine water
		162.000 mg/l	Microorganisms in sewage treatments
		1.420 mg/kg	Freshwater sediments
		142.000 µg/kg	Marine water sediments
		166.000 µg/kg	Soil
		4.800 µg/l	Freshwater
		13.400 µg/l	Intermittent releases (freshwater)
		480.000 ng/L	Marine water
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	534.000 mg/l	Microorganisms in sewage treatments
		71.000 µg/kg	Freshwater sediments
		7.100 µg/kg	Marine water sediments
		11.400 µg/kg	Soil
		26.800 µg/l	Freshwater
		200.000 µg/l	Intermittent releases (freshwater)
		2.680 µg/l	Marine water
		20.000 µg/l	Intermittent releases (marine water)
		130.000 µg/l	Microorganisms in sewage treatments
		8.572 mg/kg	Freshwater sediments

857.200 µg/kg Marine water sediments
1.250 mg/kg Soil

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
benzyl alcohol	100-51-6		22.000 mg/m ³	8.100 mg/m ³	Human Inhalation	Long Term, systemic effects
			450.000 mg/m ³	40.500 mg/m ³	Human Inhalation	Short Term, systemic effects
			9.500 mg/kg	5.700 mg/kg	Human Dermal	Long Term, systemic effects
			47.000 mg/kg	28.500 mg/kg	Human Dermal	Short Term, systemic effects
				5.000 mg/kg	Human Oral	Long Term, systemic effects
3-aminomethyl-3,5,5-trimethylcyclohexylamine	2855-13-2			25.000 mg/kg	Human Oral	Short Term, systemic effects
			20.100 mg/m ³		Human Inhalation	Short Term, systemic effects
			20.100 mg/m ³		Human Inhalation	Short Term, local effects
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction				526.000 µg/kg	Human Oral	Long Term, systemic effects
			3.900 mg/m ³	970.000 µg/m ³	Human Inhalation	Long Term, systemic effects
			1.100 mg/kg	560.000 µg/kg	Human Dermal	Long Term, systemic effects
				560.000 µg/kg	Human Oral	Long Term, systemic effects
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	68082-29-1		3.900 mg/m ³	970.000 µg/m ³	Human Inhalation	Long Term, systemic effects
			1.100 mg/kg	560.000 µg/kg	Human Dermal	Long Term, systemic effects
				560.000 µg/kg	Human Oral	Long Term, systemic effects
M-phenylenebis (methylamine)	1477-55-0		1.200 mg/m ³		Human Inhalation	Long Term, systemic effects
			200.000 µg/m ³		Human Inhalation	Long Term, local effects
			330.000 µg/kg		Human Dermal	Long Term, systemic effects
Phenol, styrenated	61788-44-1		7.400 mg/m ³	1.310 mg/m ³	Human Inhalation	Long Term, systemic effects
			2.100 mg/kg	750.000 µg/kg	Human Dermal	Long Term, systemic effects
				750.000 µg/kg	Human Oral	Long Term, systemic effects
Amines, polyethylenepoly-, tetraethylenepentamine	90640-66-7		1.290 mg/m ³	380.000 µg/m ³	Human Inhalation	Long Term, systemic effects

fraction

		6940.000 mg/m ³	2071.000 mg/m ³	Human Inhalation	Short Term, systemic effects
		740.000 µg/kg	320.000 µg/kg	Human Dermal	Long Term, systemic effects
			10.000 mg/kg	Human Dermal	Short Term, systemic effects
		0.036 mg/cm ²	0.560 mg/cm ²	Human Dermal	Long Term, local effects
			1.290 mg/cm ²	Human Dermal	Short Term, systemic effects
			530.000 µg/kg	Human Oral	Long Term, systemic effects
			26.000 mg/kg	Human Oral	Short Term, systemic effects
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	25513-64-8		50.000 µg/kg	Human Oral	Long Term, systemic effects
Polyoxpropylenediamine	9046-10-0	1.360 mg/m ³		Human Inhalation	Long Term, systemic effects
		2.500 mg/kg		Human Dermal	Long Term, systemic effects
Salicylic acid	69-72-7	16.000 mg/m ³	4.000 mg/m ³	Human Inhalation	Long Term, systemic effects
			0.200 mg/m ³	Human Inhalation	Long Term, local effects
		2.000 mg/kg	1.000 mg/kg	Human Dermal	Long Term, systemic effects
			1.000 mg/kg	Human Oral	Long Term, systemic effects
			4.000 mg/kg	Human Oral	Short Term, systemic effects
benzyltrimethylamine	103-83-3	14.600 mg/m ³	43.700 mg/m ³	Human Inhalation	Long Term, systemic effects
		2.300 mg/kg	1.250 mg/kg	Human Dermal	Long Term, systemic effects
			1.250 mg/kg	Human Oral	Long Term, systemic effects
		1.000 mg/m ³		Human Inhalation	Long Term, local effects
Amines, polyethylenepoly-, triethylenetetramine fraction	90640-67-8	540.000 µg/m ³	96.000 µg/m ³	Human Inhalation	Long Term, systemic effects
			140.000 µg/kg	Human Oral	Long Term, systemic effects

8.2. Exposure controls

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Liquid

Color: Yellow

Odour: Like: Amines

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: 92 °C (198 °F)

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.01 g/cm³

Solubility in water: Soluble

Solubility in oil: N.A.

Partition coefficient (n-octanol/water): N.A.

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 35.97 % ; 359.7 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Miscibility: N.A.

Conductivity: N.A.

Evaporation rate: N.A.

Viscosity: 400.00 cPo

No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

- | | |
|--------------------------------------|--|
| a) acute toxicity | The product is classified: Acute Tox. 4(H302) |
| b) skin corrosion/irritation | The product is classified: Skin Corr. 1B(H314) |
| c) serious eye damage/irritation | The product is classified: Eye Dam. 1(H318) |
| d) respiratory or skin sensitisation | The product is classified: Skin Sens. 1A(H317) |
| e) germ cell mutagenicity | Not classified |

Based on available data, the classification criteria are not met

f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

benzyl alcohol	a) acute toxicity	LD50 Oral Rat = 1620.00 mg/kg LC50 Inhalation of aerosol Rat > 4178.00000 mg/m ³ 4h LD50 Skin Rabbit > 2000.00000 mg/kg 24h LC50 Inhalation Mist Rat = 4.18 mg/l 4h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	Mouse
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Oral Rat Negative	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 200.00000 mg/kg	Mouse
3-aminomethyl-3,5,5-trimethylcyclohexylamine	a) acute toxicity	LD50 Oral Rat = 1030.00000 mg/kg LC50 Inhalation of aerosol Rat > 5.01000 mg/l 4h LD50 Skin Rat > 2000.00000 mg/kg	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Negative	Mouse, oral route
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	a) acute toxicity	LD50 Oral Rat > 2000.00000 mg/kg LD50 Skin Rat > 2000.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Negative	
	c) serious eye damage/irritation	Eye Corrosive Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000.00000 mg/kg	
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and	a) acute toxicity	LD50 Oral Rat > 2000.00000 mg/kg	

triethylenetetramine

LD50 Skin Rat > 2000.00000 mg/kg 24h

c) serious eye
damage/irritation

Eye Irritant Yes 1h

Eye Corrosive Rabbit Positive

d) respiratory or skin
sensitisation

Skin Sensitization Positive

Mouse

g) reproductive toxicity

No Observed Adverse Effect Level Oral Rat =
1000.00000 mg/kg

M-
phenylenebis
(methylaniline)

a) acute toxicity

LD50 Oral Rat = 1001.00 mg/kg

LC50 Inhalation Mist Rat = 1.34 mg/l 4h

LD50 Skin Rat > 3100.00000 mg/kg

b) skin corrosion/irritation

Skin Irritant Rat Positive 4h

d) respiratory or skin
sensitisation

Skin Sensitization Positive

Mouse

f) carcinogenicity

Genotoxicity Negative

Mouse

g) reproductive toxicity

No Observed Effect Level Oral Rat = 450.00000
mg/kg

Alcohols, C12-15,
branched and linear,
ethoxylated

a) acute toxicity

LD50 Oral > 300.00 mg/kg

Phenol, styrenated

a) acute toxicity

LD50 Oral Rat >= 2000.00000 mg/kg

LC50 Inhalation of aerosol Rat > 4.92000 mg/l 4h

LD50 Skin Rat > 2000.00000 mg/kg 24h

b) skin corrosion/irritation

Skin Irritant Rabbit Positive

c) serious eye
damage/irritation

Eye Irritant Rabbit No 24h

d) respiratory or skin
sensitisation

Skin Sensitization Positive

Mouse

f) carcinogenicity

Genotoxicity Negative

Mouse oral route

g) reproductive toxicity

No Observed Adverse Effect Level Oral Rat =
124.00000 mg/kg

Amines,
polyethylenepoly-,
tetraethylenepentamine
fraction

a) acute toxicity

LD50 Oral Rat = 1861.90000 mg/kg

LD50 Skin Rabbit = 1465.40000 mg/kg 24h

b) skin corrosion/irritation

Skin Corrosive Rabbit Positive

c) serious eye
damage/irritation

Eye Irritant Rabbit Yes

d) respiratory or skin
sensitisation

Skin Sensitization Guinea pig Positive

f) carcinogenicity

Genotoxicity Negative

Mouse intraperitoneal route

g) reproductive toxicity

Reproductive Toxicity Oral Rat Negative

2,2,4(or 2,4,4)-
trimethylhexane-1,6-
diamine

a) acute toxicity

LD50 Oral Rat = 910.00000 mg/kg

b) skin corrosion/irritation

Skin Corrosive Rabbit Positive

	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 10.00000 mg/kg	
Polyoxpropylenediamine	a) acute toxicity	LD50 Oral Rat = 2885.00000 mg/kg LC50 Inhalation Vapour Rat > 0.74000 mg/l 8h LD50 Skin Rabbit = 2980.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 30.00000 mg/kg	
Salicylic acid	a) acute toxicity	LD50 Oral Rat = 891.00000 mg/kg LD50 Skin Rat > 2000.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Oral Rat Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 75.00000 mg/kg	
benzyl dimethylamine	a) acute toxicity	LD50 Oral Rat = 0.65000 ml/Kg LC50 Inhalation Rat = 373.00000 Ppm 4h LD50 Skin Rabbit = 1.66000 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 150.00000 mg/kg	
Amines, polyethylenepoly-, triethylenetetramine fraction	a) acute toxicity	LD50 Oral Rat = 1716.20000 mg/kg LD50 Skin Rabbit = 1465.40000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Skin = 50.00000 mg/kg	Mouse intraperitoneal route Mouse NOAEL

11.2 Information on other hazards

Endocrine disrupting properties:

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

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
benzyl alcohol	CAS: 100-51-6 - EINECS: 202- 859-9 - INDEX: 603-057-00-5	a) Aquatic acute toxicity : LC50 Fish <i>Oryzias latipes</i> = 460.00000 mg/L 96h OECD SIDS (2001) b) Aquatic chronic toxicity : NOEC Fish = 48.89700 mg/L ECOSAR QSAR a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 230.00000 mg/L 48h OECD SIDS (2001) b) Aquatic chronic toxicity : NOEC <i>Daphnia magna</i> = 51.00000 mg/L OECD Guideline 211 a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchnerella subcapitata</i> = 770.00000 mg/L 72h OECD SIDS on Benzoates (2001) c) Bacteria toxicity : EC50 <i>Nitrosomonas</i> = 390.00000 mg/L
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS: 2855-13-2 - EINECS: 220- 666-8 - INDEX: 612-067-00-9	a) Aquatic acute toxicity : LC50 Fish <i>Leuciscus idus</i> = 110.00000 mg/L 96h „according to 84/449/EEC, C.1, 1984 a) Aquatic acute toxicity : EC50 <i>Daphnia magna</i> = 23.00000 mg/L 48h OECD 202 a) Aquatic acute toxicity : EC50 Algae <i>Scenedesmus subspicatus</i> > 50.00 mg/L 72h b) Aquatic chronic toxicity : NOEC <i>Daphnia</i> = 3.00000 mg/L 504h c) Bacteria toxicity : EC10 <i>Pseudomonas putida</i> = 1120.00 mg/L 18h
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	EINECS: 701- 046-0	a) Aquatic acute toxicity : LC50 Fish Zebrafish = 7.07000 mg/L 96h OECD 203 a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 5.18000 mg/L 48h OECD 202 a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> = 2.63000 mg/L 72h OECD 201 a) Aquatic acute toxicity : EC50 Sludge Activated sludge = 721.00000 mg/L 3h OECD 209 c) Bacteria toxicity : NOEC 1.41000 mg/L
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	CAS: 68082-29- 1 - EINECS: 500-191-5	a) Aquatic acute toxicity : LC50 Fish = 10.00 mg/L 96h a) Aquatic acute toxicity : EC100 <i>Daphnia</i> = 10.00 mg/L 24h a) Aquatic acute toxicity : EC50 Algae = 4.34 mL/L 72h
M-phenylenebis(methylamine)	CAS: 1477-55-0 - EINECS: 216- 032-5	a) Aquatic acute toxicity : LC50 Fish <i>Oryzias latipes</i> = 87.60000 mg/L 96h OECD 203 a) Aquatic acute toxicity : EC50 <i>Daphnia magna</i> = 15.20000 mg/L 48h OECD 202

		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 4.70000 mg/L OECD 211 - 21days
		a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 32.10000 mg/L 72h OECD 201
		a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000.00000 mg/L OECD 209
Alcohols, C12-15, branched and linear, ethoxylated	CAS: 106232-83-1	a) Aquatic acute toxicity : LC50 Fish Carassius Auratus < 10.00 mg/L 96h CESIO
Phenol, styrenated	CAS: 61788-44-1 - EINECS: 262-975-0	a) Aquatic acute toxicity : EC50 Honeybees Daphnie < 10.00 mg/L 48h CESIO a) Aquatic acute toxicity : LC50 Fish Danio rerio = 24.00000 mg/L 96h „OECD Guideline 203 (Fish, Acute Toxicity Test)
		b) Aquatic chronic toxicity : NOEC Fish 3.80000 mg/L - 14days a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 4.60000 mg/L 48h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 1.50000 mg/L - 21days a) Aquatic acute toxicity : EL50 Algae Chlorella vulgaris = 3.14000 72h „OECD Guideline 201 (Alga, Growth Inhibition Test)
		a) Aquatic acute toxicity : EC50 Sludge activated sludge = 360.00000 mg/L 3h ISO 8192 (Water quality - Test for inhibition of oxygen consumption by activated sludge for carbonaceous and ammonium oxidation)
Amines, polyethylenepoly-, tetraethylenepentamine fraction	CAS: 90640-66-7 - EINECS: 292-587-7	a) Aquatic acute toxicity : LC50 Fish freshwater fish = 420.00000 mg/L a) Aquatic acute toxicity : LC50 freshwater invertebrates = 24.10000 mg/L a) Aquatic acute toxicity : EC50 Algae freshwater algae = 6.80000 mg/L a) Aquatic acute toxicity : EC50 microorganisms = 97.30000 mg/L a) Aquatic acute toxicity : NOEC Algae = 0.50000 mg/L
3,6,9,12-tetra-azatetradecamethylenediamine; pentactylenhexamine	CAS: 4067-16-7 - EINECS: 223-775-9 - INDEX: 612-064-00-2	a) Aquatic acute toxicity : EC50 Algae = 0.70000 mg/L 72h a) Aquatic acute toxicity : EC50 Daphnia = 17.50000 mg/L 48h a) Aquatic acute toxicity : LC50 Fish = 180.00000 mg/L 96h b) Aquatic chronic toxicity : NOEC Daphnia = 0.80000 mg/L - 336h
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	CAS: 25513-64-8 - EINECS: 247-063-2	a) Aquatic acute toxicity : LC50 Fish Leuciscus idus melanotus = 174.00000 mg/L 48h „DIN 38412, part 15 b) Aquatic chronic toxicity : NOEC Fish Danio rerio = 10.00000 mg/L OECD 210 a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 31.50000 mg/L „DIN 38412, part II b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 1.02000 mg/L OECD 211 - 21days a) Aquatic acute toxicity : EC50 Algae Scendesmus subspicatus = 43.50 mg/L 72h UBA 1984 c) Bacteria toxicity : EC50 Pseudomonas putida 89.00000 mg/L „DIN 38412, part 8 - 16 hours d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 1000.00000 mg/kg OECD Guideline 222 d) Terrestrial toxicity : NOEC soil microorganisms = 1000.00000 mg/kg OECD Guideline 216 (2000)
Polyoxpropylenediamine	CAS: 9046-10-0 - EINECS: 618-561-0	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 15.00000 mg/L 96h OECD Guideline 203

		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 80.00000 mg/L 48h OECD Guideline 202
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 15.00000 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : NOEC Algae Pseudokirchneriella subcapitata = 1.40000 mg/L 72h OECD Guideline 201
		a) Aquatic acute toxicity : EC50 Sludge Activated Sludge = 750.00000 mg/L 3h OECD Guideline 209
		a) Aquatic acute toxicity : NOEC Sludge Activated Sludge = 310.00000 mg/L 3h OECD Guideline 209
Salicylic acid	CAS: 69-72-7 - EINECS: 200-712-3	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 1380.00000 mg/L 96h a) Aquatic acute toxicity : LC50 Daphnia freshwater invertebrates = 870.00000 mg/L 48h „Kamaya et al., 2005 b) Aquatic chronic toxicity : NOEC Daphnia = 10.00000 mg/L OECD guideline 202 - 21days a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus > 100.00000 mg/L 72h OECD guideline 201 c) Bacteria toxicity : EC50 Pseudomonas putida = 380.00000 mg/L
benzyl dimethylamine	CAS: 103-83-3 - EINECS: 203-149-1 - INDEX: 612-074-00-7	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 37.80000 mg/L 96h a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna > 100.00000 mg/L 48h EU method C.2 'Acute Toxicity for Daphnia' (2008) a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 1.34000 mg/L 72h EU method C.3 'Alga Inhibition Test' (2009)
Amines, polyethylenepoly-, triethylenetetramine fraction	CAS: 90640-67-8 - EINECS: 292-588-2 - INDEX: 612-059-00-5	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 330.00000 mg/L 96h „U.S EPA- TSCA, 40 CFR Part 797 1400 a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 31.10000 mg/L 48h EU Method C.2 (Acute Toxicity for Daphnia) a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 20.00000 mg/L 72h OECD 201 d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 62.50000 mg/kg OECD Guideline 222 (Earthworm Reproduction Test (Eisenia fetida/Eisenia andrei)) - 56days a) Aquatic acute toxicity : NOEC Algae soil microorganisms = 72.00000 mg/L

12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Duration	Value	Notes
benzyl alcohol	Readily biodegradable	Dissolved organic carbon		96.000	%; OECD Guideline 301A
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Non-readily biodegradable	Dissolved organic carbon		8.000	%; EU-method C.4-A
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	Non-readily biodegradable				
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Non-readily biodegradable				OECD 301 D
M-phenylenebis(methylamine)	Non-readily biodegradable	Oxygen consumption			OECD 301B
Alcohols, C12-15, branched and	Readily biodegradable		28d		>70%

linear, ethoxylated

Phenol, styrenated	Non-readily biodegradable			
Amines, polyethylenepoly-, tetraethylenepentamine fraction	Non-readily biodegradable			
2,2,4(or 2,4,4)-trimethylhexane-1,6-diamine	Non-readily biodegradable	Dissolved organic carbon	7.000	%; EU-Method C.4 -A
Polyoxpropylenediamine	Non-readily biodegradable	CO2 production	9.800	%; OECD Guideline 301B
Salicylic acid	Readily biodegradable	Biochemical oxygen demand	88.100	%; OECD guideline 301C
benzyl dimethylamine	Non-readily biodegradable			
Amines, polyethylenepoly-, triethylenetetramine fraction	Non-readily biodegradable			OECD 301D

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes
benzyl alcohol	Bioaccumulative	BCF - Bioconcentration factor	1.000	L/kg ww
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	Bioaccumulative	BCF - Bioconcentration factor	138.000	L/kg ww
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Bioaccumulative	BCF - Bioconcentration factor	77.400	L/kg ww; QSAR
M-phenylenebis(methylamine)	Not bioaccumulative	BCF - Bioconcentration factor		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Phenol, styrenated	Bioaccumulative	BCF - Bioconcentration factor	14.430	L/kg ww
benzyl dimethylamine	Not bioaccumulative			

12.4. Mobility in soil

Component	Mobility in soil
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Not mobile

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting properties

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

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

HP 13: Sensitising; HP 14: Ecotoxic; HP 8: Corrosive; HP 6: Acute Toxicity

SECTION 14: Transport information

14.1. UN number or ID number

2735

14.2. UN proper shipping name

ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - M-phenylenebis(methylamine))

IATA-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - M-phenylenebis(methylamine))

IMDG-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - M-phenylenebis(methylamine))

14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Toxic Component most present: 3,6,9,12-tetra-azatetradecamethylenediamine;
pentachthylenhexamine

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-B

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR exempt: No

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

ADR-Transport category (Tunnel restriction code): 2 (E)

ADR Limited Quantities: 1 L

ADR Excepted Quantities: E2

Air (IATA) :

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisioning: A3 A803

Sea (IMDG) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 274

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2016/1179 (ATP 9 CLP)
 Regulation (EU) n. 2017/776 (ATP 10 CLP)
 Regulation (EU) n. 2018/669 (ATP 11 CLP)
 Regulation (EU) n. 2018/1480 (ATP 13 CLP)
 Regulation (EU) n. 2019/521 (ATP 12 CLP)
 Regulation (EU) n. 2020/217 (ATP 14 CLP)
 Regulation (EU) n. 2020/1182 (ATP 15 CLP)
 Regulation (EU) n. 2021/643 (ATP 16 CLP)
 Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: 3

Restrictions related to the substances contained: 40, 75

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

Seveso III category according to Annex 1, part 1

Product belongs to category: E2 200 500

Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

Class 3: extremely hazardous.

SVHC Substances:

No data available

15.2. Chemical safety assessment

A Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
EUH071	Corrosive to the respiratory tract.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
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.

Code	Hazard class and hazard category	Description
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/3/Inhal	Acute Tox. 3	Acute toxicity (inhalation), Category 3
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1A	Skin Corr. 1A	Skin corrosion, Category 1A
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
3.2/2	Skin Irrit. 2	Skin irritation, Category 2

3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.7/2	Repr. 2	Reproductive toxicity, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
--	---------------------------------

3.1/4/Oral	Calculation method
3.2/1B	Calculation method
3.3/1	Calculation method
3.4.2/1A	Calculation method
4.1/C2	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).
IMDG: International Maritime Code for Dangerous Goods.
INCI: International Nomenclature of Cosmetic Ingredients.
IRCCS: Scientific Institute for Research, Hospitalization and Health Care
KAFH: Keep Away From Heat
KSt: Explosion coefficient.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
LDLo: Leathal Dose Low
N.A.: Not Applicable
N/A: Not Applicable
N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 13. DISPOSAL CONSIDERATIONS
- 15. REGULATORY INFORMATION



Exposure Scenario

Benzyl alcohol

Exposure Scenario, 30/06/2021

Substance identity	
	Benzyl alcohol
CAS No.	100-51-6
INDEX No.	603-057-00-5
EINECS No.	202-859-9
Registration number	01-2119492630-38

Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC9a, PC1, PC15); Building and construction work (SU19)

1. ES 1		Widespread use by professional workers; Various products (PC9b, PC9a, PC1, PC15); Building and construction work (SU19)	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks - Use in rigid foams, coatings, adhesives and sealants		
Date - Version	30/06/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22) - Building and construction work (SU19)		
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Non-metal surface treatment products (PC15)		
Environment Contributing Scenario			
CS1	ERC8a - ERC8d		
Worker Contributing Scenario			
CS2	PROC8a - PROC10		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)			
Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid, vapour pressure < 10 Pa (Standard Temperature and Pressure)			
Vapour pressure: = 7 Pa			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Amounts used: Annual site tonnage = 1000 t(tonnes)/year			
Release type: Continuous release			
Emission days: 365 days per year			
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant Water - minimum efficiency of: = 87.36 %			
STP effluent (m³/day): 2000			
<i>Conditions and measures related to treatment of waste (including article waste)</i>			
Waste treatment Product residual disposal complies with applicable regulations.			
1.2. CS2: Worker Contributing Scenario (PROC8a, PROC10)			
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing (PROC8a, PROC10)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			

Vapour pressure:

< 7 Pa

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

Covers use up to = 8 h/day

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

Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.
Provide a basic standard of general ventilation (1 to 3 air changes per hour).

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

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 90 %
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Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

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

Assumes that potential dermal contact is limited to hands.

1.3 Exposure estimation and reference to its source**1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	N/A	EUSES v2.1	< 0.01
freshwater sediment	N/A	EUSES v2.1	< 0.01
marine water	N/A	EUSES v2.1	< 0.01
marine sediment	N/A	EUSES v2.1	< 0.01
soil	N/A	EUSES v2.1	= 0.019
Man via environment - Inhalation	N/A	EUSES v2.1	< 0.01
Man via environment - Oral	N/A	EUSES v2.1	< 0.01

1.3. CS2: Worker Contributing Scenario (PROC8a, PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
combined routes, systemic, long-term	N/A	ECETOC TRA worker v3	0.977

1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES**Guidance to check compliance with the exposure scenario:**

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



Exposure Scenario

Polyoxpropylenediamine

Exposure Scenario, 17/06/2021

Substance identity	
	Polyoxpropylenediamine
CAS No.	9046-10-0
EINECS No.	618-561-0
Registration number	01-2119557899-12

Table of contents

1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC32)

1. ES 1		Widespread use by professional workers; Various products (PC9b, PC32)	
1.1 TITLE SECTION			
Exposure Scenario name	Use in coatings - Use in rigid foams, coatings, adhesives and sealants - Waterproofing agent		
Date - Version	17/06/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Polymer preparations and compounds (PC32)		
Environment Contributing Scenario			
CS1	ERC8c		
Worker Contributing Scenario			
CS2 Rolling, Brushing	PROC10		
CS3 Mixing operations - Manual	PROC19		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8c)			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Vapour pressure: = 90 Pa			
Concentration of substance in product: Covers percentage substance in the product up to 25 %.			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Emission days: 365 days per year			
<i>Technical and organisational conditions and measures</i>			
Control measures to prevent releases			
Municipal sewage treatment plant is assumed.		Water - minimum efficiency of: = 1.5 %	
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant			
STP effluent (m³/day): 2000			
<i>Other conditions affecting environmental exposure</i>			
Local marine water dilution factor: 100 Local freshwater dilution factor: 10 Receiving surface water flow: 18000 m³/day Indoor use			
1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)			

Process Categories	Roller application or brushing (PROC10)	
<i>Product (article) characteristics</i>		
Physical form of product: Liquid		
Vapour pressure: = 90 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 25 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to = 480 min		
Frequency: Covers use up to = 5 days per week		
<i>Technical and organisational conditions and measures</i>		
Technical and organisational measures Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Avoid direct eye contact with product, also via contamination on hands.		
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>		
Personal protection		
Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training. Wear respiratory protection when its use is identified for certain contributing scenarios. Wear suitable respiratory protection. Wear suitable face shield.		Dermal - minimum efficiency of: = 90 %
<i>Other conditions affecting worker exposure</i>		
Indoor use Professional use Temperature: Assumes use at not more than 20 °C above ambient temperature.		
1.2. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)		
Process Categories	Manual activities involving hand contact (PROC19)	
<i>Product (article) characteristics</i>		
Physical form of product: Liquid		
Vapour pressure: = 90 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 25 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to = 240 min		
Frequency: Covers use up to = 5 days per week		
<i>Technical and organisational conditions and measures</i>		
Technical and organisational measures Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed. Avoid direct eye contact with product, also via contamination on hands.		
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>		

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.
Wear respiratory protection when its use is identified for certain contributing scenarios.
Wear suitable respiratory protection.
Wear suitable face shield.

Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Indoor use

Professional use

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

1.3 Exposure estimation and reference to its source

1.3. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 0.6857 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286

1.3. CS3: Worker Contributing Scenario: Mixing operations - Manual (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 1.7697 mg/kg bw/day	ECETOC TRA worker v3	= 0.707143

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

Guidance to check compliance with the exposure scenario:

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



Exposure Scenario

Polyoxpropylenediamine

Exposure Scenario, 17/06/2021

Substance identity	
	Polyoxpropylenediamine
CAS No.	9046-10-0
EINECS No.	618-561-0
Registration number	01-2119557899-12

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Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Polymer preparations and compounds (PC32)		
Environment Contributing Scenario			
CS1	ERC8c		
Worker Contributing Scenario			
CS2 Rolling, Brushing	PROC10		
CS3 Mixing operations - Manual	PROC19		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (ERC8c)			
Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Vapour pressure: = 90 Pa			
Concentration of substance in product: Covers percentage substance in the product up to 25 %.			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Emission days: 365 days per year			
<i>Technical and organisational conditions and measures</i>			
Control measures to prevent releases			
Municipal sewage treatment plant is assumed.		Water - minimum efficiency of: = 1.5 %	
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant			
STP effluent (m³/day): 2000			
<i>Other conditions affecting environmental exposure</i>			
Local marine water dilution factor: 100 Local freshwater dilution factor: 10 Receiving surface water flow: 18000 m³/day Indoor use			
1.2. CS2: Worker Contributing Scenario: Rolling, Brushing (PROC10)			

Process Categories	Roller application or brushing (PROC10)	
<i>Product (article) characteristics</i>		
Physical form of product: Liquid		
Vapour pressure: = 90 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 25 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to = 480 min		
Frequency: Covers use up to = 5 days per week		
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<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>		
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<i>Other conditions affecting worker exposure</i>		
Indoor use Professional use Temperature: Assumes use at not more than 20 °C above ambient temperature.		
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Process Categories	Manual activities involving hand contact (PROC19)	
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Physical form of product: Liquid		
Vapour pressure: = 90 Pa		
Concentration of substance in product: Covers percentage substance in the product up to 25 %.		
<i>Amount used, frequency and duration of use/exposure</i>		
Duration: Covers use up to = 240 min		
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Wear suitable respiratory protection.
Wear suitable face shield.

Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Indoor use

Professional use

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

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