Safety Data Sheet
Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878
METRIC EPOCOAT (A)
Date of first edition: 4/29/2021
Safety Data Sheet dated 24/01/2025
version 10

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

1.1. Product identifier

Mixture identification:

Trade name: METRIC EPOCOAT (A)

Trade code: S100B0258 .020

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

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

Uses advised against: All uses other than recommended ones

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.
Via dell'Artigianato, 9
41049 Sassuolo (MODENA) - ITALY
Tel.+39 0536 816511 Fax. +39 0536816581
safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

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

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1	May cause an allergic skin reaction.
Aquatic Chronic 2	Toxic to aquatic life with long lasting effects.
Repr. 1B	May damage fertility.
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 ≤ 10 µm.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

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

Hazard pictograms and Signal Word

Danger

Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P202	Do not handle until all safety precautions have been read and understood.
P273	Avoid release to the environment.
P280	Wear protective gloves/clothing and eye/face protection.
P280	Wear protective gloves and eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P501	Dispose of contents/container in accordance with applicable regulations.

Contains

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

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

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

4-morpholinecarbaldehyde

Dir. 2004/42/EC (VOC directive)

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

EU limit value for this product (cat. A/j): 500 g/l

This product contains max 124.8 g/l VOC.

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

None.

2.3. Other hazards

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

Other Hazards: Crystalline silica in breathable fraction present in the product does not contribute to the hazard classification according to the criteria laid down by the EC Regulation 1272/2008 (CLP) by virtue of the physical state of the product itself (liquid/solid paste) as it is marketed and reasonably be expected to be used. (Position IMA-Europe, Classification of mixtures in liquid form containing crystalline silica (May 2020)). The liquid/solid paste mixture, due to hardening or exposure to heat, can lose its liquid content (water and other liquid components) and appear in a solid state; in case of handling of the solid mixture for disposal (non-compliant product) it is necessary to apply the appropriate preventive measures referred to in section 13.

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: METRIC EPOCOAT (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥20-<50 %	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis (oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis (oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411, M-Chronic:1	01-2119454392-40
≥20-<50 %	bis-[4-(2,3-epoxipropoxi)phenyl]propane	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411, M-Chronic:1	01-2119456619-26

			Specific Concentration Limits: C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: Skin Irrit. 2 H315	
≥5-<10 %	Titanium dioxide	CAS:13463-67-7 EC:236-675-5	Not classified as hazardous	
≥3-<5 %	Quartz	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	
≥1-<3 %	Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	CAS:933999-84-9 EC:618-939-5	Skin Irrit. 2, H315; Skin Sens. 1, H317; Eye Irrit. 2, H319; Repr. 1B, H360F; Aquatic Chronic 3, H412	01-2119463471-41
≥0.3-<0.5 %	4-morpholinecarbaldehyde	CAS:4394-85-8 EC:224-518-3	Skin Sens. 1B, H317	01-2119987993-12
<0.01 %	phosphoric acid	CAS:7664-38-2 EC:231-633-2 Index:015-011-00-6	Skin Corr. 1B, H314 Specific Concentration Limits: 10% ≤ C < 25%: Eye Irrit. 2 H319 10% ≤ C < 25%: Skin Irrit. 2 H315 C ≥ 25%: Skin Corr. 1B H314	01-2119485924-24
<0.0015 %	methanol	CAS:67-56-1 EC:200-659-6 Index:603-001-00-X	Flam. Liq. 2, H225 STOT SE 1, H370 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Specific Concentration Limits: C ≥ 10%: STOT SE 1 H370 3% ≤ C < 10%: STOT SE 2 H371	01-2119433307-44

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

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Remove contaminated clothing immediatley 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 opthalmologist 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 (CO_2).

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

For non emergency personnel:

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Exercise the greatest care when handling or opening the container.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

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)

	OEL Type	Country	Occupational Exposure Limit
Barium sulfate CAS: 7727-43-7	NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h)
	ACGIH		Long Term: 5 mg/m3 (8h) I, E - Pneumoconiosis
	NATIONAL	BELGIUM	Long Term: 5 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m3 R

			Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 5 mg/m3 Source: 2021 Code of Practice
	NATIONAL	SPAIN	Long Term: 10 mg/m3 e Source: LEP 2022
	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SLOVAKIA	Long Term: 1.5 mg/m3 11) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), Formel / Formal Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Quartz CAS: 14808-60-7	ACGIH		Long Term: 0.025 mg/m3 (8h) R, A2 - Pulm fibrosis, lung cancer
	NATIONAL	AUSTRALIA	Long Term: 0.05 mg/m3 Respirable fraction
	NATIONAL	HUNGARY	Long Term: 0.1 mg/m3 Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	INDIA	Long Term: 10 mg/m3 (8h)
	NATIONAL	IRELAND	Long Term: 0.1 mg/m3 Respirable fraction Source: 2021 Code of Practice
	NATIONAL	ITALY	Long Term: 0.1 mg/m3 Polvere di silice cristallina respirabile (frazione inalabile). Rif:D.Lgs 81/2008 Source: D.lgs. 81/2008, Allegato XXXVIII
	NATIONAL	SPAIN	Long Term: 0.05 mg/m3 Respirable fraction Source: LEP 2022
	NATIONAL	CROATIA	Long Term: 0.1 mg/m3 Source: NN 1/2021
	NATIONAL	AUSTRIA	Long Term: 0.05 mg/m3 MAK, III C, A Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 0.1 mg/m3 C Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK	Long Term: 0.3 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	DENMARK	Long Term: 0.1 mg/m3 EK Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 0.1 mg/m3 1, C

			Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 0.05 mg/m3 alveolijae, liite 3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 0.1 mg/m3 La VLEP s'applique à la fraction alvéolaire. Forme de silice cristalline. Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL	LITHUANIA	Long Term: 0.1 mg/m3 Žiūrėti 1 priedo 3 punktą. Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NETHERLANDS	Long Term: 0.075 mg/m3 (2) Source: Arbeidsomstandighedenregeling - Lijst B1
	NATIONAL	NORWAY	Long Term: 0.3 mg/m3 K 7 Source: FOR-2021-06-28-2248
	NATIONAL	NORWAY	Long Term: 0.05 mg/m3 K G 7 21 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 0.1 mg/m3 6) Source: Dz.U. 2018 poz. 1286
	NATIONAL	SWEDEN	Long Term: 0.1 mg/m3 C, M, 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 0.15 mg/m3 TWA mg/m3: (a), C1A, SSC, P, Cancpulm Silicose / Lugenkrebs Silikose, HSE NIOSH OSHA Source: suva.ch/valeurs-limites
Titanium dioxide CAS: 13463-67-7	ACGIH		Long Term: 2.5 mg/m3 (8h) Finescale particles; R ; A3 - LRT irr, pneumoconiosis
	NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h)
	NATIONAL	GERMANY	Long Term: 0.3 mg/m3; Short Term: 2.4 mg/m3 DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density; Source: TRGS900
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 4 mg/m3 Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Long Term: 10 mg/m3; Short Term: 15 mg/m3 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Source: LEP 2022
	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	DENMARK	Long Term: 6 mg/m3 K

			Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FRANCE	Long Term: 10 mg/m3 Cancérogène de catégorie 2 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 5 mg/m3 αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	LATVIA	Long Term: 10 mg/m3 Source: KN325P1
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NORWAY	Long Term: 5 mg/m3 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 10 mg/m3 4), 7) Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVAKIA	Long Term: 5 mg/m3 Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SWEDEN	Long Term: 5 mg/m3 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), SSC, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Quartz CAS: 14808-60-7	EU		Long Term: 0.1 mg/m3 Polvere di silice cristallina respirabile, frazione inalabile. (R), A2 - Pulm fibrosis, lung cancer. Directive 2017/2398
	ACGIH		Long Term: 0.025 mg/m3 (8h) R, A2 - Pulm fibrosis, lung cancer
	NATIONAL	AUSTRALIA	Long Term: 0.05 mg/m3 (8h) Respirable fraction
	NATIONAL	HUNGARY	Long Term: 0.1 mg/m3 (8h) Respirable aerosol Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	INDIA	Long Term: 10 mg/m3
	NATIONAL	IRELAND	Long Term: 0.1 mg/m3 (8h) Respirable fraction Source: 2021 Code of Practice
	NATIONAL	ITALY	Long Term: 0.1 mg/m3 (8h) Polvere di silice cristallina respirabile (frazione inalabile). D.Lgs 81/2008 Source: D.lgs. 81/2008, Allegato XXXVIII
	NATIONAL	SPAIN	Long Term: 0.05 mg/m3 (8h) Respirable fraction Source: LEP 2022
	NATIONAL	CROATIA	Long Term: 0.1 mg/m3 Source: NN 1/2021
	NATIONAL	AUSTRIA	Long Term: 0.05 mg/m3 MAK, III C, A

			Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 0.1 mg/m3 C Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK	Long Term: 0.3 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	DENMARK	Long Term: 0.1 mg/m3 EK Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 0.1 mg/m3 1, C Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 0.05 mg/m3 alveolijae, liite 3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 0.1 mg/m3 La VLEP s'applique à la fraction alvéolaire. Forme de silice cristalline. Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL	LITHUANIA	Long Term: 0.1 mg/m3 Žiūrėti 1 priedo 3 punktą. Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	NETHERLANDS	Long Term: 0.075 mg/m3 (2) Source: Arbeidsomstandighedenregeling - Lijst B1
	NATIONAL	NORWAY	Long Term: 0.3 mg/m3 K 7 Source: FOR-2021-06-28-2248
	NATIONAL	NORWAY	Long Term: 0.05 mg/m3 K G 7 21 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 0.1 mg/m3 6) Source: Dz.U. 2018 poz. 1286
	NATIONAL	SWEDEN	Long Term: 0.1 mg/m3 C, M, 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 0.15 mg/m3 TWA mg/m3: (a), C1A, SSC, P, Cancpulm Silicose / Lugenkrebs Silikose, HSE NIOSH OSHA Source: suva.ch/valeurs-limites
silicon dioxide, chemically prepared CAS: 7631-86-9	NATIONAL	AUSTRALIA	Long Term: 2 mg/m3 This value is for inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	IRELAND	Long Term: 6 mg/m3 Inhalable fraction Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 2.4 mg/m3 Respirable fraction Source: 2021 Code of Practice
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 6 mg/m3 Inhalable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND	Long Term: 2.4 mg/m3 Respirable aerosol Source: EH40/2005 Workplace exposure limits

		NORTHERN IRELAND	
	NATIONAL	GERMANY	Long Term: 4 mg/m3 DFG, 2, Y, E Source: TRGS 900
	NATIONAL	SLOVENIA	Long Term: 4 mg/m3 Y, (I) Source: UL št. 72, 11. 5. 2021
	NATIONAL	AUSTRIA	MAK Source: BGBl. II Nr. 156/2021
	NATIONAL	ESTONIA	Long Term: 2 mg/m3 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	LATVIA	Long Term: 1 mg/m3 Source: KN325P1
	SUVA	SWITZERLAND	SSC, Fibpulm / Lungenfibrose, Des VMEs se trouvent sous les substances associées / MAK-Werte finden sich unter den zugeordneten Stoffen Source: suva.ch/valeurs-limites
	SUVA	SWITZERLAND	Long Term: 4 mg/m3 TWA mg/m3: (i), SSC, Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites
Aluminium oxide CAS: 1344-28-1	NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h) Inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	BELGIUM	Long Term: 1 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m3 U Source: NN 1/2021
	NATIONAL	CROATIA	Long Term: 4 mg/m3 R Source: NN 1/2021
	NATIONAL	ROMANIA	Long Term: 2 mg/m3; Short Term: 5 mg/m3 (Aerosoli) Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 véase Capítulo 9 Source: LEP 2022
	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 60(Miw), 2x, MAK, A Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	DENMARK	Long Term: 5 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 4 mg/m3 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 10 mg/m3 εισπν Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 5 mg/m3 αναπν Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 5 mg/m3 N Source: 5/2020. (II. 6.) ITM rendelet

	NATIONAL	HUNGARY	Long Term: 2 mg/m3 resp, N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
	NATIONAL	LATVIA	Long Term: 4 mg/m3 Source: KN325P1
	NATIONAL	NORWAY	Long Term: 10 mg/m3 1 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 2.5 mg/m3 4) Source: Dz.U. 2018 poz. 1286
	NATIONAL	POLAND	Long Term: 1.2 mg/m3 6) Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), B, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
	SUVA	SWITZERLAND	Long Term: 3 mg/m3; Short Term: 24 mg/m3 TWA mg/m3: (a), Fimétal / Metallrauch, NIOSH Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
strontium oxide CAS: 1314-11-0	NATIONAL	LITHUANIA	Long Term: 1 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
phosphoric acid CAS: 7664-38-2	ACGIH		Long Term: 1 mg/m3 (8h); Short Term: 3 mg/m3 URT, eye and skin irr
	EU		Long Term: 1 mg/m3 (8h); Short Term: 2 mg/m3
	NATIONAL	AUSTRIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 15(Miw), 4x, MAK Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 1 mg/m3; Short Term: Ceiling - 2 mg/m3 Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	DENMARK	Long Term: 1 mg/m3 E Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 1 mg/m3 - 0.2 ppm; Short Term: 2 mg/m3 - 0.5 ppm Source: INRS outil65, arrêté du 30-06-2004 modifié
	NATIONAL	GREECE	Long Term: 1 mg/m3; Short Term: 3 mg/m3 Source: ΦΕΚ 94/Α` 13.5.1999

NATIONAL	HUNGARY	Long Term: 1 mg/m3; Short Term: 2 mg/m3 m, EU1, N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LITHUANIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 1 mg/m3 E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 2 mg/m3; Short Term: 4 mg/m3 TWA mg/m3: (i), SSC, Poumons VRS Peau Yeux / Lunge OAW Haut Auge, NIOSH OSHA Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: 2000/39/EZ
NATIONAL	CYPRUS	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 2 mg/m3 DFG, EU, AGS, Y, E, 2(I) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 1 mg/m3; Short Term: 2 mg/m3 IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Dir. 2000/39 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 1 mg/m3; Short Term: 2 mg/m3 Y, EU1, (I) Source: UL št. 72, 11. 5. 2021
NATIONAL	SPAIN	Long Term: 1 mg/m3; Short Term: 2 mg/m3 VLI, s Source: LEP 2022

2,6-di-tert-butyl-p-cresol CAS: 128-37-0	ACGIH		Long Term: 2 mg/m3 (8h) IFV, A4 - URT irr
	NATIONAL	AUSTRALIA	Long Term: 10 mg/m3 (8h)
	NATIONAL	BELGIUM	Long Term: 2 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 10 mg/m3 Source: NN 1/2021
	NATIONAL	GERMANY	Long Term: 10 mg/m3 DFG, Y, 11, E, 4 (II) Source: TRGS 900
	NATIONAL	IRELAND	Long Term: 2 mg/m3 Source: 2021 Code of Practice
	NATIONAL	SLOVENIA	Long Term: 10 mg/m3; Short Term: 40 mg/m3 Y, (I) Source: UL št. 72, 11. 5. 2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Source: LEP 2022
	NATIONAL	AUSTRIA	Long Term: 10 mg/m3 MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 10 mg/m3; Short Term: 50 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	DENMARK	Long Term: 10 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Long Term: 10 mg/m3; Short Term: 20 mg/m3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 10 mg/m3 Source: ΦΕΚ 94/Α` 13.5.1999
	SUVA	SWITZERLAND	Long Term: 10 mg/m3; Short Term: 40 mg/m3 TWA mg/m3: (i), C1#B, SSC, Foie / Leber, Pas de risque accru de cancer si la VME est respectée. La substance peut être présente sous forme de vapeur et d'aérosol en même temps / Kein erhöhtes Krebsrisiko bei Einhalten des MAK-Werts. Der Stoff kann gleichzeitig als Dampf und Aerosol vorliegen. Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Carbon black CAS: 1333-86-4	ACGIH		Long Term: 3 mg/m3 (8h) I, A3 - Bronchitis
	NATIONAL	AUSTRALIA	Long Term: 3 mg/m3
	NATIONAL	SWEDEN	Long Term: 3 mg/m3 Source: AFS 2021:3
	NATIONAL	BELGIUM	Long Term: 3 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 3 mg/m3 I Source: 2021 Code of Practice
	NATIONAL	SPAIN	Long Term: 3.5 mg/m3 Source: LEP 2022
	NATIONAL	DENMARK	Long Term: 3.5 mg/m3 K

			Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 3.5 mg/m3 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 3 mg/m3 belélegezhető koncentráció Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	NORWAY	Long Term: 3.5 mg/m3 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 4 mg/m3 4) Source: Dz.U. 2018 poz. 1286
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 3.5 mg/m3; Short Term: 7 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
Talc (Mg3H2(SiO3)4) CAS: 14807-96-6	ACGIH		Long Term: 2 mg/m3 (8h) Containing no asbestos fibers$ E,R, A4 - Pulm fibrosis, pulm func
	NATIONAL	AUSTRALIA	Long Term: 2.5 mg/m3 (8h)
	NATIONAL	HUNGARY	Long Term: 2 mg/m3 Respirable aerosol Source: 5/2020. (II. 6.) ITM
	NATIONAL	LATVIA	Long Term: 4 mg/m3 Source: KN325P1
	NATIONAL	BELGIUM	Long Term: 2 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	CROATIA	Long Term: 1 mg/m3 R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice
	NATIONAL	IRELAND	Long Term: 0.8 mg/m3 Source: 2021 Code of Practice
	NATIONAL	ROMANIA	Long Term: 2 mg/m3 fracțiune respirabilă Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SPAIN	Long Term: 2 mg/m3 d, e Source: LEP 2022
	NATIONAL	AUSTRIA	Long Term: 2 mg/m3 MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL	DENMARK	0, 3 fiber/cm3, K Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	8h: 0.5 kuitua/cm3 Source: HTP-ARVOT 2020
	NATIONAL	FINLAND	Long Term: 2 mg/m3 hengittyvä pöly Source: HTP-ARVOT 2020
	NATIONAL	FINLAND	Long Term: 1 mg/m3 alveolijae Source: HTP-ARVOT 2020
	NATIONAL	GREECE	Long Term: 10 mg/m3

			εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	GREECE	Long Term: 2 mg/m3 αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	NETHERLANDS	Long Term: 0.25 mg/m3 Source: Arbeidsomstandighedenregeling - Lijst A
	NATIONAL	POLAND	Long Term: 4 mg/m3 4) Source: Dz.U. 2018 poz. 1286
	NATIONAL	POLAND	Long Term: 1 mg/m3 6), 18) Source: Dz.U. 2018 poz. 1286
	NATIONAL	SWEDEN	Long Term: 2 mg/m3 3 Source: AFS 2021:3
	NATIONAL	SWEDEN	Long Term: 1 mg/m3 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 TWA mg/m3: (a), SSC, Formel / Formal, OSHA Source: suva.ch/valeurs-limites
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1 mg/m3 Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
methanol CAS: 67-56-1	ACGIH		Long Term: 200 ppm (8h); Short Term: 250 ppm Skin, BEI - Headache, eye dam, dizziness, nausea
	EU		Long Term: 260 mg/m3 - 200 ppm (8h) Skin
	NATIONAL	AUSTRIA	Long Term: 260 mg/m3 - 200 ppm; Short Term: 1040 mg/m3 - 800 ppm 15(Miw), 4x, MAK, H Source: BGBl. II Nr. 156/2021
	NATIONAL	BULGARIA	Long Term: 260 mg/m3 - 200 ppm Кожа Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 250 mg/m3; Short Term: Ceiling - 1000 mg/m3 D, B Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	DENMARK	Long Term: 260 mg/m3 - 200 ppm EH Source: BEK nr 2203 af 29/11/2021
	NATIONAL	ESTONIA	Long Term: 250 mg/m3 - 200 ppm; Short Term: 350 mg/m3 - 250 ppm A Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FINLAND	Long Term: 270 mg/m3 - 200 ppm; Short Term: 330 mg/m3 - 250 ppm iho Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Long Term: 260 mg/m3 - 200 ppm; Short Term: 1300 mg/m3 - 1000 ppm Risque de pénétration percutanée Source: INRS outil65, article R. 4412-149 du Code du travail
	NATIONAL	GREECE	Long Term: 260 mg/m3 - 200 ppm; Short Term: 325 mg/m3 - 250 ppm Δ Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 260 mg/m3 b, i, BEM, EU2, R+T Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LITHUANIA	Long Term: 260 mg/m3 - 200 ppm

		O Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
NATIONAL	NETHERLANDS	Long Term: 133 mg/m3 H Source: Arbeidsomstandighedenregeling - Lijst A
NATIONAL	NORWAY	Long Term: 130 mg/m3 - 100 ppm H E Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 100 mg/m3; Short Term: 300 mg/m3 skóra Source: Dz.U. 2018 poz. 1286
NATIONAL	SLOVAKIA	Long Term: 260 mg/m3 - 200 ppm K, 7) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
NATIONAL	SWEDEN	Long Term: 250 mg/m3 - 200 ppm; Short Term: 350 mg/m3 - 250 ppm H, V Source: AFS 2021:3
SUVA	SWITZERLAND	Long Term: 260 mg/m3 - 200 ppm; Short Term: 520 mg/m3 - 400 ppm R/H, SSC, B, SNC / ZNS, INRS NIOSH Source: suva.ch/valeurs-limites
WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 266 mg/m3 - 200 ppm; Short Term: 333 mg/m3 - 250 ppm Sk Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
NATIONAL	BELGIUM	Long Term: 266 mg/m3 - 200 ppm; Short Term: 333 mg/m3 - 250 ppm D Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	CROATIA	Long Term: 260 mg/m3 - 200 ppm koža Source: 2006/15/EZ
NATIONAL	CYPRUS	Long Term: 260 mg/m3 - 200 ppm δέρμα Source: Οι περί Ασφάλειας και Υγείας στην Εργασία (Χημικοί Παράγοντες) Κανονισμοί του 2001 έως 2021
NATIONAL	GERMANY	Long Term: 130 mg/m3 - 100 ppm DFG, EU, H, Y, 2(II) Source: TRGS 900
NATIONAL	IRELAND	Long Term: 260 mg/m3 - 200 ppm Sk, IOELV Source: 2021 Code of Practice
NATIONAL	ITALY	Long Term: 260 mg/m3 - 200 ppm Cute Source: D.lgs. 81/2008, Allegato XXXVIII
NATIONAL	LATVIA	Long Term: 260 mg/m3 - 200 ppm Āda Source: KN325P1
NATIONAL	LUXEMBOURG	Long Term: 260 mg/m3 - 200 ppm Peau Source: Mémorial A n.226 du 22 mars 2021
NATIONAL	MALTA	Long Term: 260 mg/m3 - 200 ppm skin Source: S.L.424.24
NATIONAL	PORTUGAL	Long Term: 260 mg/m3 - 200 ppm Cutânea Source: Decreto-Lei n.º 1/2021
NATIONAL	ROMANIA	Long Term: 260 mg/m3 - 200 ppm P, Dir. 2006/15 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVENIA	Long Term: 260 mg/m3 - 200 ppm; Short Term: 1040 mg/m3 - 800 ppm

		K, Y, BAT, EU2 Source: UL št. 72, 11. 5. 2021
	NATIONAL SPAIN	Long Term: 266 mg/m3 - 200 ppm vía dérmica, VLB®, VLI, r Source: LEP 2022

Biological limit values

methanol CAS: 67-56-1	Biological Indicator: Methyl alcohol; Sampling Period: End of turn; End of working week Value: 30 mg/L; Medium: Urine

Predicted No Effect Concentration (PNEC) values

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy}methyl)oxirane	Exposure Route: Fresh Water; PNEC Limit: 3 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 25.4 µg/l
	Exposure Route: Marine water; PNEC Limit: 300 ng/L
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 294 µg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 29.4 µg/kg
	Exposure Route: Soil; PNEC Limit: 237 µg/kg
bis-[4-(2,3-epoxipropoxi)phenyl] propane CAS: 1675-54-3	Exposure Route: Fresh Water; PNEC Limit: 0.006 mg/l
	Exposure Route: Marine water; PNEC Limit: 600 ng/L
	Exposure Route: Freshwater sediments; PNEC Limit: 0.996 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.099 mg/kg
	Exposure Route: Soil; PNEC Limit: 0.196 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.018 mg/l
Titanium dioxide CAS: 13463-67-7	Exposure Route: Fresh Water; PNEC Limit: 0.184 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.018 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/kg
	Exposure Route: Intermittent releases (marine water); PNEC Limit: 100 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/kg
4-morpholinecarbaldehyde CAS: 4394-85-8	Exposure Route: Fresh Water; PNEC Limit: 500 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 5 mg/l
	Exposure Route: Marine water; PNEC Limit: 50 µg/l
	Exposure Route: Marine water; PNEC Limit: 2000 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 2.69 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 269 µg/kg
	Exposure Route: Soil; PNEC Limit: 244 µg/kg
methanol CAS: 67-56-1	Exposure Route: Fresh Water; PNEC Limit: 20.8 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1540 mg/l
	Exposure Route: Marine water; PNEC Limit: 2.08 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 77 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 7.7 mg/kg

	Exposure Route: Soil; PNEC Limit: 100 mg/kg

Derived No Effect Level (DNEL) values

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy}methyl)oxirane	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 29.39 mg/m³; Consumer: 8.7 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 104.15 mg/kg; Consumer: 62.5 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 6.25 mg/kg
bis-[4-(2,3-epoxipropoxi)phenyl] propane CAS: 1675-54-3	Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects Worker Professional: 0.75 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Worker Professional: 0.75 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 3.571 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects Worker Professional: 3.571 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 12.25 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 12.25 mg/m³
Titanium dioxide CAS: 13463-67-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 10 mg/m³
4-morpholinecarbaldehyde CAS: 4394-85-8	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 98 mg/m³; Consumer: 29 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 1.7 mg/m³; Consumer: 840 µg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 14 mg/kg; Consumer: 8 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects Worker Professional: 0.293 mg/cm²; Consumer: 176 mg/cm²
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 8 mg/kg
phosphoric acid CAS: 7664-38-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 10.7 mg/m³; Consumer: 4.57 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 1 mg/m³; Consumer: 360 µg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 2 mg/m³
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 100 µg/kg
methanol CAS: 67-56-1	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 130 mg/m³; Consumer: 26 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 130 mg/m³; Consumer: 26 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 130 mg/m³; Consumer: 26 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 130 mg/m³; Consumer: 26 mg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 20 mg/kg; Consumer: 4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Professional: 20 mg/kg; Consumer: 4 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 4 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 4 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

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

Nitrile rubber - NBR: thickness ≥0,4mm; breakthrough time ≥480min.

Butyl rubber - IIR: thickness ≥0,4mm; breakthrough time ≥480min.

Respiratory protection:

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

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: Liquid

Colour: 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.

Boiling point or initial boiling point and boiling range: > 200 °C (392 °F)

Flash point: 100 °C (212 °F) (ISO 3679)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 1.78 g/cm3 (ISO 2811)

Solubility in water: N.A.

Solubility in oil: N.A.

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

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 0.00 % ; 0.01 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Viscosity: 1,000.00 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	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. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	The product is classified: Repr. 1B(H360)
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl] phenoxy}methyl)oxirane	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LD50 Skin Rat > 2000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Hamster oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 750 mg/kg	
bis-[4-(2,3-epoxipropoxi)phenyl] propane	a) acute toxicity	LD50 Oral Rabbit = 19800 mg/kg	
		LD50 Skin Rabbit > 20 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	epoxy resin with an avera 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	Mouse, oral
		Carcinogenicity Oral Rat = 15 mg/kg	NOAEL
		Carcinogenicity Skin Rat = 1 mg/kg	NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750 mg/kg	
Titanium dioxide	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg	
		LC50 Inhalation > 6.82 mg/l	
		LD50 Skin Rat > 2000 mg/kg	
	c) serious eye damage/irritation	Eye Corrosive Negative	
		Eye Irritant No	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	
	i) STOT-repeated exposure	No Observed Adverse Effect Level 1000	
Quartz	a) acute toxicity	LD50 Oral > 2000 mg/kg	
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	a) acute toxicity	LD50 Oral Rat = 3010 mg/kg	
4-morpholinecarbaldehyde	a) acute toxicity	LD50 Oral Rat > 7360 mg/kg	
		LC50 Inhalation of aerosol Rat > 5.3 mg/l 4h	
		LD50 Skin Rabbit > 18400 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg	
phosphoric acid	a) acute toxicity	LD50 Oral Rat = 2600 mg/kg	
		LC50 Inhalation Rat = 3846 mg/m3 1h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat >= 500 mg/kg	
methanol	a) acute toxicity	LD50 Oral Rat >= 2528 mg/kg	
		LC50 Inhalation = 43.68 mg/l 6h	Cat
		LD50 Skin Rabbit = 17100 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	

f) carcinogenicity	Genotoxicity Negative	Mouse intraperitoneal rout
	Carcinogenicity Rat Negative	
g) reproductive toxicity	Lowest Observed Adverse Effect Level Oral = 1000 mg/kg	Mouse

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:

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
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis (oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis (oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane	EINECS: 701-263-0	a) Aquatic acute toxicity : LC50 Fish Leuciscus idus = 2.54 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 2.55 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 0.3 mg/L - 21days
		a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 1.8 mg/L 72h
		a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L 3h
bis-[4-(2,3-epoxipropoxi)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 2 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1.8 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae Scenedesmus capricornutum = 11 mg/L 72h EPA-660/3-75-009
		c) Bacteria toxicity : EC50 Sludge activated sludge = 100 mg/L 3h
Titanium dioxide	CAS: 13463-67-7 - EINECS: 236-675-5	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas (Cavedano americano) > 1000 mg/L 96h
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata (alghe cloroficee) > 100 mg/L 72h
		a) Aquatic acute toxicity : NOEC Algae = 5600 mg/L
		a) Aquatic acute toxicity : EC50 Daphnia |Daphnia magna (Pulce d'acqua grande) > 100 mg/L 48h
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	CAS: 933999-84-9 - EINECS: 618-939-5	a) Aquatic acute toxicity : LC50 Fish rainbow trout = 30 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 47 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae = 23.1 mg/L 72h
4-morpholinecarbaldehyde	CAS: 4394-85-8 - EINECS: 224-518-3	a) Aquatic acute toxicity : LC50 Fish Leuciscus idus > 500 mg/L 96h ,,German Industrial Standard DIN 38412, Part 15
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna > 500 mg/L 48h EEC

		Directive 79/831/EEC
		a) Aquatic acute toxicity : EC50 Algae German Industrial Standard guideline DIN 38412, part 9 = 23.8 g/L 72h ,,German Industrial Standard guideline DIN 38412, part 9
		c) Bacteria toxicity : EC10 Pseudomonas putida > 2000 mg/L ,,German Industrial Standard guideline DIN 38412, part 8 an EC10
phosphoric acid	CAS: 7664-38-2 - EINECS: 231-633-2 - INDEX: 015-011-00-6	a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna > 100 mg/L 48h ,,OECD TG 202, static, Klimisch reliability 1
		a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus > 100 mg/L 72h ,,OECD TG 201, static, Klimisch reliabilty 1
		a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000 mg/L 3h ,,OECD TG 209, static, Klimisch reliability 1
methanol	CAS: 67-56-1 - EINECS: 200-659-6 - INDEX: 603-001-00-X	a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 15400 mg/L 96h
		b) Aquatic chronic toxicity : NOEC Fish = 450 mg/L
		a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 22200 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 208 mg/L
		a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 22000 mg/L 96h OECD 201 Guideline.
		d) Terrestrial toxicity : NOEC Worm Eisenia andrei = 10000 mg/kg
		d) Terrestrial toxicity : NOEC Folsomia candida = 1000 mg/kg OECD Guideline 232

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis (oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis (oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane	Non-readily biodegradable		16.000	28days
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Non-readily biodegradable	Oxygen consumption		OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	Non-readily biodegradable			
4-morpholinecarbaldehyde	Readily biodegradable	Dissolved organic carbon	96.000	%; OECD 301 A
methanol	Readily biodegradable			

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis (oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis (oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy} methyl)oxirane	Bioaccumulative	BCF - Bioconcentrantion factor	150.000	
bis-[4-(2,3-epoxipropoxi)phenyl]propane	Bioaccumulative	BCF - Bioconcentrantion factor	31.000	

Reaction products of hexane-1,6-diol with 2-(chloromethyl)oxirane (1:2)	Bioaccumulative	BCF - Bioconcentrantion factor	3.570
4-morpholinecarbaldehyde	Bioaccumulative	BCF - Bioconcentrantion factor	1.900
methanol	Not bioaccumulative	BCF - Bioconcentrantion factor	< 10

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 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. Disposal through discharge into wastewater is not permitted

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

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

SECTION 14: Transport information

14.1. UN number or ID number

3082

14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane - bis-[4-(2,3-epoxipropoxi)phenyl]propane)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane - bis-[4-(2,3-epoxipropoxi)phenyl]propane)

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane - bis-[4-(2,3-epoxipropoxi)phenyl]propane)

14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

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

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-F

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 375 601

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 964

IATA-Cargo Aircraft: 964

IATA-Label: 9

IATA-Subsidiary hazards: -

IATA-Erg: 9L

IATA-Special Provisions: A97 A158 A197 A215

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274 335 969

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: 3

Restrictions related to the substances contained: 40, 69, 75

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

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: E2	200	500

Explosives precursors – Regulation 2019/1148

No substances listed

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

No substances listed

German Water Hazard Class.

3: Severe hazard to waters

German Lagerklasse according to TRGS 510:

LGK 10

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

Dir. 2004/42/EC (VOC directive)

(ready to use)

Volatile Organic compounds - VOCs = 8.00 %

Volatile Organic compounds - VOCs = 124.80 g/L

METRIC EPOCOAT (A) (not ready to use)

Volatile Organic compounds - VOCs = 0.00 %

Volatile Organic compounds - VOCs = 0.01 g/L

15.2. Chemical safety assessment

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

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

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

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

SECTION 16: Other information

Code	Description
H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H360F	May damage fertility.
H370	Causes damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
3.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
3.1/3/Inhal	Acute Tox. 3	Acute toxicity (inhalation), Category 3
3.1/3/Oral	Acute Tox. 3	Acute toxicity (oral), Category 3
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
3.8/1	STOT SE 1	Specific target organ toxicity — single exposure, Category 1
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, 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
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

Repr. 1B, H360F	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

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

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

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

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

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

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: Keep Away From Heat

KSt: Explosion coefficient.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction

PNEC: Predicted No Effect Concentration.

PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 11: Toxicological information
- SECTION 16: Other information

Exposure Scenario

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

Exposure Scenario, 07/06/2021

Substance identity	
	bis-[4-(2,3-epoxipropoxi)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

1.1 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)

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 (or from service life)

Amounts used:

Daily amount per site = 175 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Provide onsite wastewater removal efficiency of [3] (%):

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

STP effluent (m^3/day): 2

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Dispose of waste cans and containers according to local regulations.

Other conditions affecting environmental exposure

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)

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)

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)

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/m³	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/m³	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/m³	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/m³	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

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

Exposure Scenario, 23/07/2021

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

Table of contents

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

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	23/07/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22) - Building and construction work (SU19)
Product Categories	Adhesives, sealants (PC1) - Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario

CS1	ERC8c - ERC8f

Worker Contributing Scenario

CS2 Mixing operations - Rolling, Brushing - Roller, spreader, flow application - Material transfers	PROC8a - PROC10 - PROC11 - 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)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 10 %

Conditions and measures related to treatment of waste (including article waste)

Waste treatment

Dispose of this material and its container at hazardous or special waste collection point.
Hazardous waste incineration

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

Additional Good Practice Advice:

Prevent leaks and prevent soil / water pollution caused by leaks.

1.2. CS2: Worker Contributing Scenario: Mixing operations - Rolling, Brushing - Roller, spreader, flow application - Material transfers (PROC8a, PROC10, PROC11, PROC19)

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing - Non industrial spraying - Manual activities involving hand contact (PROC8a, PROC10, PROC11, PROC19)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Frequency:

Use frequency 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

1.3 Exposure estimation and reference to its source

N/A

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

Guidance to check compliance with the exposure scenario:

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

Safety Data Sheet

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

METRIC EPOCOAT (B)

Date of first edition: 4/29/2021

Safety Data Sheet dated 02/11/2023

version 8

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

1.1. Product identifier

Mixture identification:

Trade name: METRIC EPOCOAT (B)

Trade code: B0257 .020

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

Recommended use: Products for the polymerisation of resins and foams (includes curing agents, hardeners, cross-linkers)

Uses advised against: All uses other than recommended ones

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. 1	May cause an allergic skin reaction.
Repr. 2	Suspected of damaging fertility or the unborn child.
STOT RE 2	May cause damage to organs (kidneys) through prolonged or repeated exposure if inhaled.
Aquatic Chronic 3	Harmful 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):

Hazard pictograms and Signal Word

Danger

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H361	Suspected of damaging fertility or the unborn child.

H373	May cause damage to organs (kidneys) through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P260	Do not breathe vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye/face 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.

Contains

benzyl alcohol

Copolymer of benzenamine and formaldehyde, hydrogenated

M-phenylenebis(methylamine)

Salicylic acid

Dir. 2004/42/EC (VOC directive)

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

EU limit value for this product (cat. A/j): 500 g/l

This product contains max 120 g/l VOC.

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

None.

2.3. Other hazards

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

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: METRIC EPOCOAT (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
40-50 %	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
40-50 %	Copolymer of benzenamine and formaldehyde, hydrogenated	CAS:135108-88-2 EC:603-894-6	Acute Tox. 4, H302; Skin Corr. 1C, H314; Eye Dam. 1, H318; Skin Sens. 1, H317; STOT RE 2, H373; Aquatic Chronic 3, H412	01-2119983522-33
15-20 %	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
3-5 %	Salicylic acid	CAS:69-72-7 EC:200-712-3	Acute Tox. 4, H302; Eye Dam. 1, H318; Repr. 2, H361d	01-2119486984-17

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 immediatley 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 opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Give nothing to eat or drink.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

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 (CO_2).

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

For non emergency personnel:

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Use localized ventilation system.

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.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

7.2. Conditions for safe storage, including any incompatibilities

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)

	OEL Type	Country	Occupational Exposure Limit
benzyl alcohol CAS: 100-51-6	NATIONAL	BULGARIA	Long Term: 5 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г. НАРЕДБА № 10 ОТ 26 СЕПТЕМВРИ 2003
	NATIONAL	CZECHIA	Long Term: 40 mg/m3; Short Term: Ceiling - 80 mg/m3 Source: Narízení vlády c. 361-2007 Sb
	NATIONAL	FINLAND	Long Term: 45 mg/m3 - 10 ppm Source: HTP-ARVOT 2020
	NATIONAL	LATVIA	Long Term: 5 mg/m3 Source: KN325P1
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 O U Source: 2011 m. rugsejo 1 d. Nr. V-824/A1-389
	NATIONAL	POLAND	Long Term: 240 mg/m3 Source: Dz.U. 2018 poz. 1286
	NATIONAL	GERMANY	Long Term: 22 mg/m3 DFG, H, Y, 11, 2 (I) Source: TRGS 900
	NATIONAL	SLOVENIA	Long Term: 22 mg/m3 - 5 ppm; Short Term: 44 mg/m3 - 10 ppm K, Y Source: UL št. 72, 11. 5. 2021
M-phenylenebis(methylamine) CAS: 1477-55-0	ACGIH		Short Term: Ceiling - 0.018 ppm Skin - Eye, skin, and GI irr
	NATIONAL	AUSTRALIA	Short Term: Ceiling - 0.1 mg/m3
	NATIONAL	AUSTRIA	Long Term: 0.1 mg/m3; Short Term: Ceiling - 0.1 mg/m3 Mow, MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Short Term: 0.1 mg/m3 D, M Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK	Short Term: Ceiling - 0.1 mg/m3 - 0.02 ppm LH Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Short Term: Ceiling - 0.1 mg/m3 kattoarvo, iho Source: HTP-ARVOT 2020
	NATIONAL	FRANCE	Short Term: 0.1 mg/m3 Source: INRS outil65
	NATIONAL	IRELAND	Long Term: 0.1 mg/m3 Source: 2021 Code of Practice

	NATION AL	NORWAY	Short Term: Ceiling - 0.1 mg/m3 T Source: FOR-2021-06-28-2248

Predicted No Effect Concentration (PNEC) values

benzyl alcohol CAS: 100-51-6	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.1 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 5.27 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 0.527 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 2.3 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 39 mg/l
	Exposure Route: Soil; PNEC Limit: 0.456 mg/kg
Copolymer of benzenamine and formaldehyde, hydrogenated CAS: 135108-88-2	Exposure Route: Fresh Water; PNEC Limit: 15 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 150 µg/l
	Exposure Route: Marine water; PNEC Limit: 1.5 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1.9 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 15 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 1.5 mg/kg
	Exposure Route: Soil; PNEC Limit: 1.8 mg/kg
M-phenylenebis (methylamine) CAS: 1477-55-0	Exposure Route: Fresh Water; PNEC Limit: 94 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 152 µg/l
	Exposure Route: Marine water; PNEC Limit: 9.4 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 430 µg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 43 µg/kg
	Exposure Route: Soil; PNEC Limit: 45 µg/kg
Salicylic acid CAS: 69-72-7	Exposure Route: Fresh Water; PNEC Limit: 200 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/l
	Exposure Route: Marine water; PNEC Limit: 20 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 162 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 1.42 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 142 µg/kg
	Exposure Route: Soil; PNEC Limit: 166 µg/kg

Derived No Effect Level (DNEL) values

benzyl alcohol CAS: 100-51-6	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 22 mg/m³; Consumer: 8.1 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 450 mg/m³; Consumer: 40.5 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 9.5 mg/kg; Consumer: 5.7 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Professional: 47 mg/kg; Consumer: 28.5 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 5 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 25 mg/kg

Copolymer of benzenamine and formaldehyde, hydrogenated CAS: 135108-88-2	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 200 µg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 2 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 2 mg/kg
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Professional: 6 mg/kg
M-phenylenebis (methylamine) CAS: 1477-55-0	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 1.2 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 200 µg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 330 µg/kg
Salicylic acid CAS: 69-72-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 16 mg/m³; Consumer: 4 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Consumer: 0.2 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 2 mg/kg; Consumer: 1 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 1 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 4 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.

Protection for skin:

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

Protection for hands:

Neoprene, Nitrile rubber.

Respiratory protection:

Gas filter type A .

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: Amber

Odour: Like: Amines

Odour threshold: N.A.

pH: =11.20 (OECD 122)

Kinematic viscosity: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: > 180 °C (356 °F) (ASTM-E537)

Flash point: > 93°C

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.06 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 = 40 % ; 424 g/l
Particle characteristics:
Particle size: N.A.

9.2. Other information

Not Relevant

Viscosity: 140.00 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. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	The product is classified: Repr. 2(H361)
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	The product is classified: STOT RE 2(H373)
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 mg/kg	
		LC50 Inhalation of aerosol Rat > 4178 mg/m3 4h	
		LD50 Skin Rabbit > 2000 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	Mouse

		Carcinogenicity Oral Rat Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 200 mg/kg	Mouse
Copolymer of benzenamine and formaldehyde, hydrogenated	a) acute toxicity	LD50 Oral Rat > 50 mg/kg	< 300 mg/kg
		LD50 Skin Rabbit > 700 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat > 280 mg/kg	
M-phenylenebis (methylamine)	a) acute toxicity	LD50 Oral Rat = 1001 mg/kg	
		LC50 Inhalation Mist Rat = 1.34 mg/l 4h	
		LD50 Skin Rat > 3100 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 mg/kg	
Salicylic acid	a) acute toxicity	LD50 Oral Rat = 891 mg/kg	
		LD50 Skin Rat > 2000 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 Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
		Carcinogenicity Oral Rat Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 75 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
benzyl alcohol	CAS: 100-51-6 - EINECS: 202-859-9 - INDEX: 603-057-00-5	a) Aquatic acute toxicity : LC50 Fish Oryzias latipes = 460 mg/L 96h OECD SIDS (2001)
		b) Aquatic chronic toxicity : NOEC Fish = 48.897 mg/L ECOSAR QSAR
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 230 mg/L 48h

		OECD SIDS (2001) b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 51 mg/L OECD Guideline 211 a) Aquatic acute toxicity : EC50 Algae Pseudokirchnerella subcapitata = 770 mg/L 72h OECD SIDS on Benzoates (2001) c) Bacteria toxicity : EC50 Nitrosomonas = 390 mg/L
Copolymer of benzenamine and formaldehyde, hydrogenated	CAS: 135108-88-2 - EINECS: 603-894-6	a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 63 mg/L 96h ,,OECD Guideline 203 (Fish, Acute Toxicity Test) a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 15.4 mg/L 48h OECD Test Guideline 202 a) Aquatic acute toxicity : EC50 Algae Desmodesmus subspicatus = 43.9 mg/L 72h EU Method C.3 a) Aquatic acute toxicity : EC50 Sludge activated sludge = 187 mg/L 3h EC method C.11
M-phenylenebis(methylamine)	CAS: 1477-55-0 - EINECS: 216-032-5	a) Aquatic acute toxicity : LC50 Fish Oryzias latipes = 87.6 mg/L 96h OECD 203 a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 15.2 mg/L 48h OECD 202 b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 4.7 mg/L OECD 211 - 21days a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 32.1 mg/L 72h OECD 201 a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000 mg/L OECD 209
Salicylic acid	CAS: 69-72-7 - EINECS: 200-712-3	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 1380 mg/L 96h a) Aquatic acute toxicity : LC50 Daphnia freshwater invertebrates = 870 mg/L 48h ,,Kamaya et al., 2005 b) Aquatic chronic toxicity : NOEC Daphnia = 10 mg/L OECD guideline 202 - 21days a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus > 100 mg/L 72h OECD guideline 201 c) Bacteria toxicity : EC50 Pseudomonas putida = 380 mg/L

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
benzyl alcohol	Readily biodegradable	Dissolved organic carbon	96.000	%; OECD Guideline 301A
Copolymer of benzenamine and formaldehyde, hydrogenated	Non-readily biodegradable			
M-phenylenebis(methylamine)	Non-readily biodegradable	Oxygen consumption		OECD 301B
Salicylic acid	Readily biodegradable	Biochemical oxigen demand	88.100	%; OECD guideline 301C

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
benzyl alcohol	Bioaccumulative	BCF - Bioconcentrantion factor	1.000	L/kg ww
Copolymer of benzenamine and formaldehyde, hydrogenated	Bioaccumulative	BCF - Bioconcentrantion factor	20.000	
M-phenylenebis(methylamine)	Not bioaccumulative	BCF - Bioconcentrantion factor		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

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

12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 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 the European List of Wastes (LoW) 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):

N.A.

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. (Copolymer of benzenamine and formaldehyde, hydrogenated - M-phenylenebis(methylamine))

IATA-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (Copolymer of benzenamine and formaldehyde, hydrogenated - M-phenylenebis(methylamine))

IMDG-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (Copolymer of benzenamine and formaldehyde, hydrogenated - 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: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Marine pollutant: No

Environmental Pollutant: No

IMDG-EMS: F-A, S-B

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 852

IATA-Cargo Aircraft: 856

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage Code: Category A

IMDG-Stowage Note: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 223 274

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. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 CLP)
Regulation (EU) n. 2020/878
Regulation (EC) nr 648/2004 (Detergents).

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

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

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

N.A.

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

No substances listed

German Water Hazard Class.

3: Severe hazard to waters

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

Dir. 2004/42/EC (VOC directive)

(ready to use)

Volatile Organic compounds - VOCs = 8.00 %

Volatile Organic compounds - VOCs = 120.00 g/L

METRIC EPOCOAT (B) (not ready to use)

Volatile Organic compounds - VOCs = 40.00 %

Volatile Organic compounds - VOCs = 424.00 g/L

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
EUH071	Corrosive to the respiratory tract.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs (kidneys) through prolonged or repeated exposure if inhaled.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
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
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, 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
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Repr. 2, H361	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

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

Paragraphs modified from the previous revision:

- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 7: Handling and storage
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 13: Disposal considerations
- SECTION 14: Transport information
- SECTION 15: Regulatory information
- SECTION 16: Other information

Exposure Scenario
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)

1.1 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)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 10 Pa (Standard Temperature and Pressure)

Vapour pressure:
= 7 Pa

Amount used, frequency and duration of use (or from service life)

Amounts used:
Annual site tonnage = 1000 t(onnes)/year

Release type: Continuous release

Emission days: 365 days per year

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 87.36 %

STP effluent (m³/day): 2000

Conditions and measures related to treatment of waste (including article waste)

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)

Product (article) characteristics

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 %

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.