Safety Data Sheet

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

SUPERFLEX (A)

Date of first edition: 5/4/2021

Safety Data Sheet dated 19/11/2026 version 13

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

1.1. Product identifier

Mixture identification:

Trade name: SUPERFLEX (A)

Trade code: S100B0038 40

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

Recommended use: Adhesives, sealants; 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 Emergency medical information: (seven days) contact National Poisons Information Centre, Beaumont Hospital, Dublin 9 DOV2NO, Ireland.

Members of the public Number (8 am-10 pm): +353 (0)1 809 2166

Healthcare professional telephone Number (24hrs): +353 (0)1 809 2566

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

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
Repr. 1B	May damage fertility.
Aquatic Chronic 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

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P280	Wear protective gloves and eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P501	Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH208 Contains bis-[4-(2,3-epoxipropoxi)phenyl]propane. May produce an allergic reaction.

Contains

Cashew, nutshell liq.

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

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: SUPERFLEX (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥5-<10 %	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 Specific Concentration Limits: C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: Skin Irrit. 2 H315	01-2119456619-26
≥3-<5 %	propylene carbonate	CAS:108-32-7 EC:203-572-1 Index:607-194-00-1	Eye Irrit. 2, H319	01-2119537232-48
≥1-<3 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Repr. 1B, H360F	01-2119485289-22
≥0.5-<1 %	Cashew, nutshell liq.	CAS:8007-24-7 EC:232-355-4	Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Dam. 1, H318; Skin Irrit. 2, H315; Skin Sens. 1A, H317; Aquatic Chronic 3, H412	01-2119502450-57

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.

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)

Calcium carbonate

CAS: 471-34-1	NATIONAL	FRANCE	Long Term: 10 mg/m3 Source: INRS outil65
	NATIONAL	CROATIA	Long Term: 10 mg/m3 Notes: U Source: NN 1/2021
			Long Term: 4 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	HUNGARY	Long Term: 10 mg/m3 Notes: inhalable aerosol Source: 5/2020. (II. 6.) ITM
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Notes: Inhalable fraction Source: 2021 Code of Practice
			Long Term: 4 mg/m3 Notes: Respirable fraction Source: 2021 Code of Practice
	NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
	NATIONAL	POLAND	Long Term: 10 mg/m3 Notes: 4) Source: Dz.U. 2018 poz. 1286
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), Formel / Formal, NIOSH Source: suva.ch/valeurs-limites

Limestone

CAS: 1317-65-3	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	SWITZERLAND	Long Term: 3 mg/m3 Notes: (1) respirable aerosol Source: suva.ch/valeurs-limites
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Notes: (1) inhalable aerosol Source: LEP 2022
	NATIONAL	ESTONIA	Long Term: 10 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
			Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	GREECE	Long Term: 10 mg/m3 Notes: εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
			Long Term: 5 mg/m3 Notes: αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	HUNGARY	Long Term: 10 mg/m3 Notes: N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice

			Long Term: 4 mg/m3 Source: 2021 Code of Practice
propylene carbonate			
CAS: 108-32-7	NATIONAL	GERMANY	Long Term: 8.5 mg/m3 - 2 ppm Notes: DFG, Y, 11, 1 (I) Source: TRGS 900
	NATIONAL	LITHUANIA	Long Term: 7 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	LATVIA	Long Term: 2 mg/m3 Source: KN325P1
	SUVA	SWITZERLAND	Long Term: 25.5 mg/m3 - 6 ppm; Short Term: 25.5 mg/m3 - 6 ppm Notes: SSC, Yeux / Auge Source: suva.ch/valeurs-limites
Titanium dioxide			
CAS: 13463-67-7	ACGIH		Long Term: 2.5 mg/m3 (8h) Notes: Finescale particles; R ; A3 - LRT irr, pneumoconiosis
	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	GERMANY	Long Term: 0.3 mg/m3; Short Term: 2.4 mg/m3 Notes: DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density; Source: TRGS900
	NATIONAL	DENMARK	Long Term: 6 mg/m3 Notes: K Source: BEK nr 2203 af 29/11/2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Source: LEP 2022
	NATIONAL	ESTONIA	Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FRANCE	Long Term: 10 mg/m3 Notes: Cancérogène de catégorie 2 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 10 mg/m3 Notes: εισπν. Source: ΦΕΚ 94/Α` 13.5.1999
			Long Term: 5 mg/m3 Notes: αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	CROATIA	Long Term: 10 mg/m3 Notes: U Source: NN 1/2021
			Long Term: 4 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice
			Long Term: 4 mg/m3 Source: 2021 Code of Practice
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	LATVIA	Long Term: 10 mg/m3 Source: KN325P1

	NATIONAL	NORWAY	Long Term: 5 mg/m3 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 10 mg/m3 Notes: 4), 7) Source: Dz.U. 2018 poz. 1286
	NATIONAL	ROMANIA	Long Term: 10 mg/m3; Short Term: 15 mg/m3 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVAKIA	Long Term: 5 mg/m3 Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	NATIONAL	SWEDEN	Long Term: 5 mg/m3 Notes: 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), SSC, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites

silicon dioxide, chemically prepared

CAS: 7631-86-9	NATIONAL	AUSTRIA	Notes: MAK Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	GERMANY	Long Term: 4 mg/m3 Notes: DFG, 2, Y, E Source: TRGS 900
	NATIONAL	ESTONIA	Long Term: 2 mg/m3 Notes: 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 6 mg/m3 Notes: Inhalable aerosol Source: EH40/2005 Workplace exposure limits
			Long Term: 2.4 mg/m3 Notes: Respirable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL	IRELAND	Long Term: 6 mg/m3 Notes: Inhalable fraction Source: 2021 Code of Practice
			Long Term: 2.4 mg/m3 Notes: Respirable fraction Source: 2021 Code of Practice
	NATIONAL	LATVIA	Long Term: 1 mg/m3 Source: KN325P1
	NATIONAL	SLOVENIA	Long Term: 4 mg/m3 Notes: Y, (I) Source: UL št. 72, 11. 5. 2021
	SUVA	SWITZERLAND	Notes: SSC, Fibpulm / Lungenfibrose, Des VMEs se trouvent sous les substances associées / MAK-Werte finden sich unter den zugeordneten Stoffen Source: suva.ch/valeurs-limites
			Long Term: 4 mg/m3 Notes: TWA mg/m3: (i), SSC, Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites

Aluminium oxide

CAS: 1344-28-1	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
			Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, MAK, A Source: GKV, BGBl. II Nr. 156/2021

NATIONAL	BELGIUM	Long Term: 1 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
NATIONAL	DENMARK	Long Term: 5 mg/m3 Source: BEK nr 2203 af 29/11/2021
NATIONAL	SPAIN	Long Term: 10 mg/m3 Notes: véase Capítulo 9 Source: LEP 2022
NATIONAL	ESTONIA	Long Term: 4 mg/m3 Notes: 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 Notes: εισην Source: ΦΕΚ 94/Α` 13.5.1999  Long Term: 5 mg/m3 Notes: αναην Source: ΦΕΚ 94/Α` 13.5.1999
NATIONAL	CROATIA	Long Term: 10 mg/m3 Notes: U Source: NN 1/2021 Long Term: 4 mg/m3 Notes: R Source: NN 1/2021
NATIONAL	HUNGARY	Long Term: 5 mg/m3 Notes: N Source: 5/2020. (II. 6.) ITM rendelet Long Term: 2 mg/m3 Notes: resp, N Source: 5/2020. (II. 6.) ITM rendelet
NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1 Long Term: 4 mg/m3 Source: KN325P1
NATIONAL	NORWAY	Long Term: 10 mg/m3 Notes: 1 Source: FOR-2021-06-28-2248
NATIONAL	POLAND	Long Term: 2.5 mg/m3 Notes: 4) Source: Dz.U. 2018 poz. 1286 Long Term: 1.2 mg/m3 Notes: 6) Source: Dz.U. 2018 poz. 1286
NATIONAL	ROMANIA	Long Term: 2 mg/m3; Short Term: 5 mg/m3 Notes: (Aerosoli) Source: Republicarea 1 - nr. 743 din 29 iulie 2021
NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 Notes: 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), B, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites Long Term: 3 mg/m3; Short Term: 24 mg/m3 Notes: TWA mg/m3: (a), Fimétal / Metallrauch, NIOSH Source: suva.ch/valeurs-limites

Propylidynetrimethanol

CAS: 77-99-6	NATIONAL	LITHUANIA Short Term: Ceiling - 5 ppm Notes: Ū Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389

	NATIONAL	SWEDEN Long Term: 5 mg/m3 Source: AFS 2021:3

Kaolin

CAS: 1332-58-7	ACGIH	Long Term: 2 mg/m3 (8h) Notes: E,R, A4 - Pneumoconiosis
	NATIONAL	BELGIUM Long Term: 2 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK Long Term: 2 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND Long Term: 2 mg/m3 Notes: alveolijae Source: HTP-ARVOT 2020
	NATIONAL	CROATIA Long Term: 2 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	IRELAND Long Term: 2 mg/m3 Source: 2021 Code of Practice
	NATIONAL	POLAND Long Term: 10 mg/m3 Notes: 4), 7) Source: Dz.U. 2018 poz. 1286
	SUVA	SWITZERLAND Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites

Predicted No Effect Concentration (PNEC) values

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

propylene carbonate

CAS: 108-32-7	Exposure Route: Fresh Water; PNEC Limit: 900 mg/m3
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 9 mg/l
	Exposure Route: Marine water; PNEC Limit: 90 mg/m3
	Exposure Route: Intermittent releases (marine water); PNEC Limit: 900 mg/m3
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 7400 mg/l
	Exposure Route: Soil; PNEC Limit: 810 µg/kg

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

CAS: 68609-97-2	Exposure Route: Fresh Water; PNEC Limit: 0.007 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.072 mg/m3
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 66.77 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 6.677 mg/kg
	Exposure Route: Soil; PNEC Limit: 80.12 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.072 mg/l

Cashew, nutshell liq.

CAS: 8007-24-7	Exposure Route: Fresh Water; PNEC Limit: 0.003 mg/l
	Exposure Route: Marine water sediments; PNEC Limit: 0.088 mg/kg
	Exposure Route: Freshwater sediments; PNEC Limit: 0.97 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.03 mg/l
	Exposure Route: Soil; PNEC Limit: 6.71 mg/kg

Derived No Effect Level (DNEL) values

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/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 12.25 mg/kg/day

propylene carbonate

CAS: 108-32-7 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 70.53 mg/kg/day; Consumer: 17.4 mg/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 20 mg/kg/day; Consumer: 10 mg/kg/day

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Professional: 20 mg/kg; Consumer: 10 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 10 mg/kg

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

CAS: 68609-97-2 Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Worker Professional: 17 mg/kg; Consumer: 10 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 29 mg/kg/day; Consumer: 7.6 mg/kg/day

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

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

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 9.8 mg/kg/day; Consumer: 2.9 mg/kg/day

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 13.8 mg/kg/day; Consumer: 4.1 mg/kg/day

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

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

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

Cashew, nutshell liq.

CAS: 8007-24-7 Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Professional: 0.5 mg/kg; Consumer: 0.25 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Worker Professional: 0.88 mg/kg/day; Consumer: 0.2 mg/kg/day

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects
Consumer: 0.25 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:

Not expected if used as intended

Environmental exposure controls:

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	White
Odour:	N.A.
pH:	Not Relevant
Kinematic viscosity:	<= 20,5 mm2/s (40 °C)
Melting point/freezing point:	N.A.
Boiling point or initial boiling point and boiling range:	N.A.
Flash point:	> 93°C
Lower and upper explosion limit:	N.A.
Relative vapour density:	N.A.
Vapour pressure:	N.A.
Density and/or relative density:	1.46 g/cm3
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 =	4.20%; 61.32g/L

Particle characteristics:

Particle size:	N.A.

9.2. Other information

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

Toxicological information on main components of the mixture:

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

CAS: 1675-54-3	a) acute toxicity	LD50 Oral Rabbit = 19800 mg/kg
		LD50 Skin Rabbit > 20 mg/kg 24h
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Positive
	f) carcinogenicity	Genotoxicity Negative
		Carcinogenicity Oral Rat = 15 mg/kg
		Carcinogenicity Skin Rat = 1 mg/kg
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750 mg/kg

propylene carbonate

CAS: 108-32-7	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LC50 Inhalation Vapour Rat Negative 8h
		LD50 Skin Rabbit >= 2000 mg/kg 24h
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 24h
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Negative
	f) carcinogenicity	Genotoxicity Negative
		Carcinogenicity Negative
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 10100 mg/kg

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

CAS: 68609-97-2	a) acute toxicity	LD50 Oral Rat = 26800 mg/kg

		LC50 Inhalation Rat > 0.206 mg/l 4h
		LD50 Skin Rabbit > 4.5 ml/Kg 24h
	b) skin corrosion/irritation	Skin Irritant Rabbit Yes
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 200 mg/kg

Cashew, nutshell liq.

CAS: 8007-24-7	a) acute toxicity	LD50 Oral Rat = 2000 mg/kg
		LD50 Skin Rat > 2000 mg/kg 24h
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Positive

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

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

CAS: 1675-54-3	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
	c) Bacteria toxicity: EC50 Sludge activated sludge = 100 mg/L 3h

propylene carbonate

CAS: 108-32-7	a) Aquatic acute toxicity: LC50 Fish Cyprinus carpio > 1000 mg/L 96h
	a) Aquatic acute toxicity: LC50 Daphnia Daphnia magna > 1000 mg/L 48h
	a) Aquatic acute toxicity: EC50 Algae freshwater algae > 900 mg/L 72h
	c) Bacteria toxicity: NOEC Pseudomonas putida = 7400 mg/L

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

CAS: 68609-97-2	a) Aquatic acute toxicity: LC50 Fish Oncorhynchus mykiss > 5000 mg/L 96h
	a) Aquatic acute toxicity: NOEC Algae Pseudokirchneriella subcapitata = 500 mg/L 72h
	a) Aquatic acute toxicity: EC50 Algae Pseudokirchneriella subcapitata = 843 mg/L 72h
	c) Bacteria toxicity: EC50 Sludge > 100 mg/L

Cashew, nutshell liq.

CAS: 8007-24-7	a) Aquatic acute toxicity: LC50 Fish Cyprinidon variegatus = 1000 mg/L 96h
	a) Aquatic acute toxicity: LC50 Daphnia Daphnia magna = 40.46 mg/L 48h
	a) Aquatic acute toxicity: EC50 Algae Pseudokirchneriella subcapitata = 1300 mg/L 72h
	a) Aquatic acute toxicity: NOEC Sludge activated sludge = 100 mg/L

12.2. Persistence and degradability

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

CAS: 1675-54-3	Non-readily biodegradable	Test: Oxygen consumption Notes: OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

propylene carbonate

CAS: 108-32-7 Readily biodegradable Test: CO2 production
Notes: OECD guideline 301 B

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

CAS: 68609-97-2 Readily biodegradable Test: Oxygen consumption; Value: 87
Notes: %; OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)

Cashew, nutshell liq.

CAS: 8007-24-7 Readily biodegradable Test: Oxygen consumption; Value: 83.8
Notes: %; EU Method C.4-D

12.3. Bioaccumulative potential

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

CAS: 1675-54-3 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 31

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

CAS: 68609-97-2 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 160

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.

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

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

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Shipping Name: N/A

IMDG-Shipping Name: N/A

14.3. Transport hazard class(es)

ADR-Class:

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

ADR-Packing Group:

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

N.A.

IMDG-EMS: N/A

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

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

ADR Limited Quantities: N/A

ADR Excepted Quantities: N/A

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage and handling: N/A

IMDG-Segregation: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisions: N/A

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

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

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

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

Regulation (EU) n. 2020/878

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. 2023/707

Regulation (EU) n. 2023/1434 (ATP 19 CLP)

Regulation (EU) n. 2023/1435 (ATP 20 CLP)

Regulation (EU) n. 2024/197 (ATP 21 CLP)

Regulation (EU) n. 2024/2564 (ATP 22 CLP)

Regulation (EU) n. 2024/2865

Regulation (EU) n. 2025/1222 (ATP 23 CLP)

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):

None

Explosives precursors – Regulation 2019/1148

No substances listed

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

No substances listed

German Water Hazard Class.

Class 1: slightly hazardous for water.

German Lagerklasse according to TRGS 510:

LGK 6.1C

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

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

propylene carbonate

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

Cashew, nutshell liq.

SECTION 16: Other information

Code	Description
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H360F	May damage fertility.
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
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

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

- Safety Data Sheet
- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information
- SECTION 16: Other information

Exposure Scenario
Propylene carbonate

Exposure Scenario, 07/06/2021

Substance identity	
	Propylene carbonate
CAS No.	108-32-7
INDEX No.	607-194-00-1
EINECS No.	203-572-1
Registration number	01-2119537232-48

Table of contents

1. **ES 1** Widespread use by professional workers; Adhesives, sealants (PC1)

1. ES 1 Widespread use by professional workers; Adhesives, sealants (PC1)

1.1 TITLE SECTION

Exposure Scenario name	Use in rigid foams, coatings, adhesives and sealants
Date - Version	07/06/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Adhesives, sealants (PC1)

Environment Contributing Scenario

CS1	ERC8a

Worker Contributing Scenario

CS2 Hand application - finger paints, pastels, adhesives	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8a)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) (ERC8a)

Product (article) characteristics

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

Vapour pressure:
= 6 Pa

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:
Application rate = 35000 kg/ha

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

	Air - minimum efficiency of: = 100 % Water - minimum efficiency of: = 100 %

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10
Receiving surface water flow: 18000 m³/day
Indoor use

1.2. CS2: Worker Contributing Scenario: Hand application - finger paints, pastels, adhesives (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

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

Vapour pressure:
= 6 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to = 480 min/day

Frequency:
Covers frequency up to: = 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of controlled ventilation (5 to 10 air changes per hour).	Inhalation - minimum efficiency of: = 70 %

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

Personal protection

Wear suitable face shield. Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.	Dermal - minimum efficiency of: = 80 %

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures. 20°C

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8a)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
Man via environment - Oral	N/A	ECETOC TRA environment v3	= 0.000933

1.3. CS2: Worker Contributing Scenario: Hand application - finger paints, pastels, adhesives (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	= 5.4857 mg/kg bw/day	ECETOC TRA worker v3	= 0.274286
inhalative, systemic, long-term	= 23.7781 mg/m³	ECETOC TRA worker v3	= 0.336992

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

Guidance to check compliance with the exposure scenario:
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least

equivalent levels.

Exposure Scenario

bis-[4-(2,3-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. 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

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

Exposure Scenario, 03/01/2025

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

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

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

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks by brush or roller - Professional application of coatings and inks
Date - Version	03/01/2025 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Adhesives, sealants (PC1) - Coatings and paints, thinners, paint removers (PC9a) - Fillers, putties, plasters, modelling clay (PC9b)

Environment Contributing Scenario

CS1	ERC8c

Worker Contributing Scenario

CS2 Mixing operations	PROC5
CS3 Large surfaces - Surfaces - Rolling, Brushing	PROC10
CS4 Large surfaces - Surfaces - Roller, spreader, flow application	PROC11
CS5 Large surfaces - Surfaces - Rolling, Brushing	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

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

Release type: Intermittent release

1.2. CS2: Worker Contributing Scenario: Mixing operations (PROC5)

Process Categories	Mixing or blending in batch processes (PROC5)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection
Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.
Body parts exposed:
Assumes that potential dermal contact is limited to hands and forearms.

1.2. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Provide extract ventilation to points where emissions occur.
Avoid direct eye contact with product, also via contamination on hands.
Use long handled brushes and rollers.

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

Personal protection
Wear suitable gloves tested to EN374.
Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.

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

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours
Frequency:
For each use, avoid using for more than .... < 4 h/event

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Provide extract ventilation to points where emissions occur.
Avoid direct eye contact with product, also via contamination on hands.
Use long handled brushes and rollers.
Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

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

Personal protection
Wear suitable gloves tested to EN374.
Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.

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

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours
Frequency:
For each use, avoid using for more than .... < 1 h/event

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Provide extract ventilation to points where emissions occur.
Avoid direct eye contact with product, also via contamination on hands.
Use long handled brushes and rollers.

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

Personal protection
Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.

1.3 Exposure estimation and reference to its source

1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC5)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 9.3 mg/m³	ECETOC TRA worker v2.0	= 0.674
dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002

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

1.3. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)

inhalative, local, short-term	= 2.325 mg/m³	ECETOC TRA worker v2.0	= 0.168
dermal, systemic, long-term	= 0.137 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.035

Additional information on exposure estimation:

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 0.36 mg/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

Additional information on exposure estimation:

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, long-term	= 2E-07 mg/m³	ECETOC TRA worker v2.0	< 0.001
dermal, systemic, long-term	= 1.414 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.42

Additional information on exposure estimation:

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

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

Guidance to check compliance with the exposure scenario:

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

Exposure Scenario
Cashew, nutshell liq.

Exposure Scenario, 08/06/2021

Substance identity	
	Cashew, nutshell liq.
CAS No.	8007-24-7
EINECS No.	232-355-4
Registration number	01-2119502450-57

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

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

1.1 TITLE SECTION

Exposure Scenario name	Dye - Professional application of coatings and inks by brush or roller - Use in rigid foams, coatings, adhesives and sealants
Date - Version	21/05/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1)
Article Category(ies)	Stone, plaster, cement, glass and ceramic articles: Large surface area articles (AC4a) - Other articles made of stone, plaster, cement, glass or ceramic (AC4g)

Environment Contributing Scenario

CS1	ERC8c - ERC8f

Worker Contributing Scenario

CS2 Mixing operations	PROC19
CS3 Equipment cleaning and maintenance - (aqueous) - Material transfers	PROC8b
CS4 Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous)	PROC10

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 percentage substance in the product up to 1 %.

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

Amounts used:
< 50 t(onnes)/year
< 167 kg/day

Release type: Intermittent 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: = 93.2 %

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

Waste treatment
Residues which cannot be recycled are disposed off as chemical waste

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: Mixing operations (PROC19)

Process Categories	Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:
Liquid

Concentration of substance in product:
Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:
< 50 t(onnes)/year

Duration:
Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection
Wear suitable gloves tested to EN374.
Wear suitable coveralls to prevent exposure to the skin.
Use eye protection according to EN 166.
Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Covers use at ambient temperatures.

1.2. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

Process Categories	Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC8b)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours

Frequency:
Avoid using product more than .... = 4 h/event

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection
Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.

1.2. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers daily exposures up to 8 hours

Frequency:
Avoid using product more than .... = 4 h/event

Technical and organisational conditions and measures

Technical and organisational measures
Ensure operatives are trained to minimise exposures.
Provide extract ventilation to points where emissions occur.
Avoid direct eye contact with product, also via contamination on hands.
Use long handled brushes and rollers.

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

Personal protection
Wear suitable gloves tested to EN374.
Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Indoor use
Professional use
Temperature: Covers use at ambient temperatures.

1.3 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)
N/A	N/A	N/A	< 1

1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative	N/A	ECETOC TRA worker v2.0	< 1
dermal	N/A	ECETOC TRA worker v2.0	< 1

1.3. CS3: Worker Contributing Scenario: Equipment cleaning and maintenance - (aqueous) - Material transfers (PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 7.75 mg/m³	ECETOC TRA worker v2.0	= 0.562

dermal, systemic, long-term	= 0.014 mg/m³	ECETOC TRA worker v2.0	= 0.004

1.3. CS4: Worker Contributing Scenario: Equipment cleaning and maintenance - Large surfaces - Surfaces - Rolling, Brushing - Finishing operations - (aqueous) (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, short-term	= 2.325 mg/m³	ECETOC TRA worker v2.0	= 0.168
dermal, systemic, long-term	= 0.137 mg/m³	ECETOC TRA worker v2.0	= 0.035

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

SUPERFLEX (B)

Date of first edition: 5/4/2021

Safety Data Sheet dated 19/11/2026 version 14

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

1.1. Product identifier

Mixture identification:

Trade name: SUPERFLEX (B)

Trade code: S100B0277 22

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

Ireland Emergency medical information: (seven days) contact National Poisons Information Centre,
Beaumont Hospital, Dublin 9 DOV2NO, Ireland.

Members of the public Number (8 am-10 pm): +353 (0)1 809 2166

Healthcare professional telephone Number (24hrs): +353 (0)1 809 2566

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

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

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

Hazard pictograms and Signal Word



Danger

Hazard statements

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

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

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

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

Special Provisions:

EUH208 Contains benzyl alcohol. May produce an allergic reaction.

EUH208 Contains M-phenylenebis(methylamine). May produce an allergic reaction.

EUH208 Contains Phenol, styrenated. May produce an allergic reaction.

EUH208 Contains Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine. May produce an allergic reaction.

EUH208 Contains amines, polyethylenepoly-; HEPA. May produce an allergic reaction.

EUH208 Contains Amines, polyethylenepoly-, triethylenetetramine fraction. May produce an allergic reaction.

EUH208 Contains Amines, polyethylenepoly-, tetraethylenepentamine fraction. May produce an allergic reaction.

Contains

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

3-aminomethyl-3,5,5-trimethylcyclohexylamine

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

2,4,6-tris(dimethylaminomethyl)phenol

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: SUPERFLEX (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥5-<10 %	benzyl alcohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1B, H317 Acute Toxicity Estimate: ATE - Oral: 1200 mg/kg bw	01-2119492630-38
≥5-<10 %	3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS:2855-13-2 EC:220-666-8 Index:612-067-00-9	Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1A, H317 Specific Concentration Limits: C ≥ 0.001%: Skin Sens. 1A H317 Acute Toxicity Estimate: ATE - Oral: 1030mg/kg bw	01-2119514687-32
≥3-<5 %	2,4,6-tris(dimethylaminomethyl)phenol	CAS:90-72-2 EC:202-013-9 Index:603-069-00-0	Acute Tox. 4, H302; Skin Corr. 1C, H314; Eye Dam. 1, H318	01-2119560597-27
≥3-<5 %	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-	CAS:113930-69-1 EC:500-302-7	Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 2, H411	01-2119965162-39

	phenylenebis(methylamine)			
≥1-<3 %	Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	EC:701-046-0	Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	01-2119972321-42
≥1-<3 %	Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	CAS:68082-29-1 EC:500-191-5	Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	01-2119972320-44
≥1-<3 %	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
≥0.5-<1 %	Salicylic acid	CAS:69-72-7 EC:200-712-3	Acute Tox. 4, H302; Eye Dam. 1, H318; Repr. 2, H361d	01-2119486984-17
≥0.5-<1 %	amines, polyethylenepoly-; HEPA	CAS:68131-73-7 EC:268-626-9 Index:612-121-00-1	Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1, H317; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312	01-2119485823-28
≥0.5-<1 %	Amines, polyethylenepoly-, tetraethylenepentamine fraction	CAS:90640-66-7 EC:292-587-7	Acute Tox. 4, H312; Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Sens. 1, H317	01-2119487290-37
≥0.5-<1 %	Amines, polyethylenepoly-, triethylenetetramine fraction	CAS:90640-67-8 EC:292-588-2 Index:612-059-00-5	Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412; Eye Dam. 1, H318	01-2119487919-13
≥0.15-<0.20 %	Phenol, styrenated	CAS:61788-44-1 EC:262-975-0	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1A, H317; Aquatic Chronic 2, H411	01-2119980970-2

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:

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

In case of Inhalation:

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

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.

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)

Calcium carbonate

CAS: 471-34-1	NATION FRANCE AL	Long Term: 10 mg/m3 Source: INRS outil65
	NATION CROATIA AL	Long Term: 10 mg/m3 Notes: U Source: NN 1/2021
		Long Term: 4 mg/m3 Notes: R Source: NN 1/2021

	NATIONAL	HUNGARY	Long Term: 10 mg/m3 Notes: inhalable aerosol Source: 5/2020. (II. 6.) ITM
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Notes: Inhalable fraction Source: 2021 Code of Practice Long Term: 4 mg/m3 Notes: Respirable fraction Source: 2021 Code of Practice
	NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
	NATIONAL	POLAND	Long Term: 10 mg/m3 Notes: 4) Source: Dz.U. 2018 poz. 1286
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), Formel / Formal, NIOSH Source: suva.ch/valeurs-limites

Kaolin

CAS: 1332-58-7	ACGIH		Long Term: 2 mg/m3 (8h) Notes: E,R, A4 - Pneumoconiosis
	NATIONAL	BELGIUM	Long Term: 2 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK	Long Term: 2 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Long Term: 2 mg/m3 Notes: alveolijae Source: HTP-ARVOT 2020
	NATIONAL	CROATIA	Long Term: 2 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 2 mg/m3 Source: 2021 Code of Practice
	NATIONAL	POLAND	Long Term: 10 mg/m3 Notes: 4), 7) Source: Dz.U. 2018 poz. 1286
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites

benzyl alcohol

CAS: 100-51-6	NATIONAL	BULGARIA	Long Term: 5 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 40 mg/m3; Short Term: Ceiling - 80 mg/m3 Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	GERMANY	Long Term: 22 mg/m3 Notes: DFG, H, Y, 11, 2 (I) Source: TRGS 900
	NATIONAL	FINLAND	Long Term: 45 mg/m3 - 10 ppm Source: HTP-ARVOT 2020
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 Notes: O Ū Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	LATVIA	Long Term: 5 mg/m3 Source: KN325P1
	NATIONAL	POLAND	Long Term: 240 mg/m3 Source: Dz.U. 2018 poz. 1286
	NATIONAL	SLOVENIA	Long Term: 22 mg/m3 - 5 ppm; Short Term: 44 mg/m3 - 10 ppm Notes: K, Y

			Source: UL št. 72, 11. 5. 2021
	SUVA	SWITZERLAND	Long Term: 22 mg/m3 - 5 ppm Notes: R/H, SSC, VR / AW, NIOSH, La substance peut être présente sous forme de vapeur et d'aérosol en même temps / Der Stoff kann gleichzeitig als Dampf und Aerosol vorliegen Source: suva.ch/valeurs-limites
Titanium dioxide			
CAS: 13463-67-7	ACGIH		Long Term: 2.5 mg/m3 (8h) Notes: Finescale particles; R ; A3 - LRT irr, pneumoconiosis
	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, MAK, A Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	BULGARIA	Long Term: 10 mg/m3 Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	GERMANY	Long Term: 0.3 mg/m3; Short Term: 2.4 mg/m3 Notes: DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density; Source: TRGS900
	NATIONAL	DENMARK	Long Term: 6 mg/m3 Notes: K Source: BEK nr 2203 af 29/11/2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Source: LEP 2022
	NATIONAL	ESTONIA	Long Term: 5 mg/m3 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	FRANCE	Long Term: 10 mg/m3 Notes: Cancérogène de catégorie 2 Source: INRS outil65
	NATIONAL	GREECE	Long Term: 10 mg/m3 Notes: εισπν. Source: ΦΕΚ 94/Α` 13.5.1999  Long Term: 5 mg/m3 Notes: αναπν. Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	CROATIA	Long Term: 10 mg/m3 Notes: U Source: NN 1/2021 Long Term: 4 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	IRELAND	Long Term: 10 mg/m3 Source: 2021 Code of Practice Long Term: 4 mg/m3 Source: 2021 Code of Practice
	NATIONAL	LITHUANIA	Long Term: 5 mg/m3 Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	LATVIA	Long Term: 10 mg/m3 Source: KN325P1
	NATIONAL	NORWAY	Long Term: 5 mg/m3 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 10 mg/m3 Notes: 4), 7) Source: Dz.U. 2018 poz. 1286
	NATIONAL	ROMANIA	Long Term: 10 mg/m3; Short Term: 15 mg/m3 Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVAKIA	Long Term: 5 mg/m3 Source: 355 NARIADENIE VLÁDY z 10. mája 2006

	NATIONAL	SWEDEN	Long Term: 5 mg/m3 Notes: 3 Source: AFS 2021:3
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), SSC, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites

M-phenylenebis(methylamine)

CAS: 1477-55-0	ACGIH		Short Term: Ceiling - 0.018 ppm Notes: Skin - Eye, skin, and GI irr
	NATIONAL	AUSTRIA	Long Term: 0.1 mg/m3; Short Term: Ceiling - 0.1 mg/m3 Notes: Mow, MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Short Term: 0.1 mg/m3 Notes: 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 Notes: LH Source: BEK nr 2203 af 29/11/2021
	NATIONAL	FINLAND	Short Term: Ceiling - 0.1 mg/m3 Notes: 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
	NATIONAL	NORWAY	Short Term: Ceiling - 0.1 mg/m3 Notes: T Source: FOR-2021-06-28-2248
	SUVA	SWITZERLAND	Long Term: 0.1 mg/m3 Notes: R/H, S, TGI Peau Yeux / GIT Haut Auge Source: suva.ch/valeurs-limites

Aluminium oxide

CAS: 1344-28-1	NATIONAL	AUSTRIA	Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, A Source: GKV, BGBl. II Nr. 156/2021
			Long Term: 5 mg/m3; Short Term: 10 mg/m3 Notes: 60(Miw), 2x, MAK, A Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 1 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	DENMARK	Long Term: 5 mg/m3 Source: BEK nr 2203 af 29/11/2021
	NATIONAL	SPAIN	Long Term: 10 mg/m3 Notes: véase Capítulo 9 Source: LEP 2022
	NATIONAL	ESTONIA	Long Term: 4 mg/m3 Notes: 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 Notes: εισην Source: ΦΕΚ 94/Α` 13.5.1999
			Long Term: 5 mg/m3 Notes: αναην Source: ΦΕΚ 94/Α` 13.5.1999
	NATIONAL	CROATIA	Long Term: 10 mg/m3 Notes: U

			Source: NN 1/2021
			Long Term: 4 mg/m3 Notes: R Source: NN 1/2021
	NATIONAL	HUNGARY	Long Term: 5 mg/m3 Notes: N Source: 5/2020. (II. 6.) ITM rendelet
			Long Term: 2 mg/m3 Notes: resp, N Source: 5/2020. (II. 6.) ITM rendelet
	NATIONAL	LATVIA	Long Term: 6 mg/m3 Source: KN325P1
			Long Term: 4 mg/m3 Source: KN325P1
	NATIONAL	NORWAY	Long Term: 10 mg/m3 Notes: 1 Source: FOR-2021-06-28-2248
	NATIONAL	POLAND	Long Term: 2.5 mg/m3 Notes: 4) Source: Dz.U. 2018 poz. 1286
			Long Term: 1.2 mg/m3 Notes: 6) Source: Dz.U. 2018 poz. 1286
	NATIONAL	ROMANIA	Long Term: 2 mg/m3; Short Term: 5 mg/m3 Notes: (Aerosoli) Source: Republicarea 1 - nr. 743 din 29 iulie 2021
	NATIONAL	SLOVAKIA	Long Term: 4 mg/m3 Notes: 10) Source: 355 NARIADENIE VLÁDY z 10. mája 2006
	SUVA	SWITZERLAND	Long Term: 3 mg/m3 Notes: TWA mg/m3: (a), B, Formel / Formal, NIOSH Source: suva.ch/valeurs-limites
			Long Term: 3 mg/m3; Short Term: 24 mg/m3 Notes: TWA mg/m3: (a), Fimétal / Metallrauch, NIOSH Source: suva.ch/valeurs-limites

silicon dioxide, chemically prepared

CAS: 7631-86-9	NATIONAL	AUSTRIA	Notes: MAK Source: BGBl. II Nr. 156/2021
	NATIONAL	BELGIUM	Long Term: 10 mg/m3 Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL	GERMANY	Long Term: 4 mg/m3 Notes: DFG, 2, Y, E Source: TRGS 900
	NATIONAL	ESTONIA	Long Term: 2 mg/m3 Notes: 1 Source: Vabariigi Valitsuse, 20. märtsi 2001. a määrus nr 105
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 6 mg/m3 Notes: Inhalable aerosol Source: EH40/2005 Workplace exposure limits
			Long Term: 2.4 mg/m3 Notes: Respirable aerosol Source: EH40/2005 Workplace exposure limits
	NATIONAL	IRELAND	Long Term: 6 mg/m3 Notes: Inhalable fraction Source: 2021 Code of Practice
			Long Term: 2.4 mg/m3 Notes: Respirable fraction

			Source: 2021 Code of Practice
	NATIONAL	LATVIA	Long Term: 1 mg/m3 Source: KN325P1
	NATIONAL	SLOVENIA	Long Term: 4 mg/m3 Notes: Y, (I) Source: UL št. 72, 11. 5. 2021
	SUVA	SWITZERLAND	Notes: SSC, Fibpulm / Lungenfibrose, Des VMEs se trouvent sous les substances associées / MAK-Werte finden sich unter den zugeordneten Stoffen Source: suva.ch/valeurs-limites
			Long Term: 4 mg/m3 Notes: TWA mg/m3: (i), SSC, Fibpulm / Lungenfibrose Source: suva.ch/valeurs-limites

Propylidynetrimethanol

CAS: 77-99-6	NATIONAL	LITHUANIA	Short Term: Ceiling - 5 ppm Notes: Ū Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	SWEDEN	Long Term: 5 mg/m3 Source: AFS 2021:3

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

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2	Exposure Route: Fresh Water; PNEC Limit: 60 mg/m3
	Exposure Route: Marine water; PNEC Limit: 6 mg/m3
	Exposure Route: Freshwater sediments; PNEC Limit: 5.784 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 578 µg/kg
	Exposure Route: Soil (agricultural); PNEC Limit: 1.121 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.23 mg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.18 mg/l

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2	Exposure Route: Fresh Water; PNEC Limit: 84 mg/m3
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 840 mg/m3
	Exposure Route: Marine water; PNEC Limit: 8.4 mg/m3
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 200 mg/m3

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

	Exposure Route: Fresh Water; PNEC Limit: 2.63 mg/m3
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 26.3 mg/m3
	Exposure Route: Marine water; PNEC Limit: 263 ng/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 7.21 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 263.01 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 26.301 mg/kg
	Exposure Route: Soil; PNEC Limit: 58.58 mg/kg

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1	Exposure Route: Fresh Water; PNEC Limit: 4.34 mg/m3
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 43.4 mg/m3
	Exposure Route: Marine water; PNEC Limit: 434 ng/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.84 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 434.02 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 43.4 mg/kg
Exposure Route: Soil; PNEC Limit: 86.78 mg/kg

M-phenylenebis(methylamine)

CAS: 1477-55-0 Exposure Route: Fresh Water; PNEC Limit: 94 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 152 mg/m3
Exposure Route: Marine water; PNEC Limit: 9.4 mg/m3
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 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1 mg/l
Exposure Route: Marine water; PNEC Limit: 20 mg/m3
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

amines, polyethylenepoly-; HEPA

CAS: 68131-73-7 Exposure Route: Fresh Water; PNEC Limit: 1.6 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 16 mg/m3
Exposure Route: Marine water; PNEC Limit: 1.6 mg/m3
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.19 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 0.14 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 0.14 mg/kg
Exposure Route: Soil; PNEC Limit: 10 mg/kg

Amines, polyethylenepoly-, tetraethylenepentamine fraction

CAS: 90640-66-7 Exposure Route: Fresh Water; PNEC Limit: 6.8 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 68 mg/m3
Exposure Route: Marine water; PNEC Limit: 680 ng/l
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 4.6 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 341 µg/kg
Exposure Route: Marine water sediments; PNEC Limit: 764 µg/kg
Exposure Route: Soil; PNEC Limit: 274 µg/kg
Exposure Route: Secondary poisoning; PNEC Limit: 230 µg/kg

Amines, polyethylenepoly-, triethylenetetramine fraction

CAS: 90640-67-8 Exposure Route: Fresh Water; PNEC Limit: 26.8 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 200 mg/m3
Exposure Route: Marine water; PNEC Limit: 2.68 mg/m3
Exposure Route: Intermittent releases (marine water); PNEC Limit: 20 mg/m3
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 130 mg/m3
Exposure Route: Freshwater sediments; PNEC Limit: 8.572 mg/kg
Exposure Route: Marine water sediments; PNEC Limit: 857.2 µg/kg
Exposure Route: Soil; PNEC Limit: 1.25 mg/kg

Phenol, styrenated

CAS: 61788-44-1 Exposure Route: Fresh Water; PNEC Limit: 30 mg/m3
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 46 mg/m3
Exposure Route: Marine water; PNEC Limit: 3 mg/m3
Exposure Route: Intermittent releases (marine water); PNEC Limit: 4.6 mg/m3
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 36.2 mg/l
Exposure Route: Freshwater sediments; PNEC Limit: 1.86 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 186 µg/kg

Exposure Route: Soil; PNEC Limit: 355 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/kg/day; Consumer: 8.1 mg/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 450 mg/kg/day; Consumer: 40.5 mg/kg/day

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

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2 Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 20.1 mg/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects
Worker Professional: 20.1 mg/kg/day

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 526 µg/kg

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

CAS: 113930-69-1 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 493 µg/m³; Consumer: 74 µg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 6.99 mg/kg/day; Consumer: 1.5 mg/kg/day

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 140 µg/kg; Consumer: 50 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 50 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 990 µg/kg

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 3.9 mg/kg/day; Consumer: 970 µg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.1 mg/kg; Consumer: 560 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 560 µg/kg

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 3.9 mg/kg/day; Consumer: 970 µg/m³

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.1 mg/kg; Consumer: 560 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 560 µg/kg

M-phenylenebis(methylamine)

CAS: 1477-55-0 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.2 mg/kg/day

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/kg/day; Consumer: 4 mg/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
Consumer: 0.2 mg/kg/day

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

amines, polyethylenepoly-; HEPA

CAS: 68131-73-7 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.59 mg/kg/day; Consumer: 0.46 mg/kg/day

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 8550 mg/kg/day; Consumer: 2542 mg/kg/day

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 0.65 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 32 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 0.91 mg/kg/day; Consumer: 0.4 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Professional: 0.044 mg/cm²; Consumer: 0.68 mg/cm²

Exposure Route: Human Dermal; Exposure Frequency: Short Term (acute)
Consumer: 1.59 mg/cm²

Amines, polyethylenepoly-, tetraethylenepentamine fraction

CAS: 90640-66-7 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 1.29 mg/kg/day; Consumer: 380 µg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects
Worker Professional: 6940 mg/kg/day; Consumer: 2071 mg/kg/day

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 740 µg/kg; Consumer: 320 µg/kg

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

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
Worker Professional: 0.036 mg/cm²; Consumer: 0.56 mg/cm²

Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects
Consumer: 1.29 mg/cm²

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 530 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects
Consumer: 26 mg/kg

Amines, polyethylenepoly-, triethylenetetramine fraction

CAS: 90640-67-8 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 540 µg/m³; Consumer: 96 µg/m³

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 140 µg/kg

Phenol, styrenated

CAS: 61788-44-1 Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
Worker Professional: 7.4 mg/kg/day; Consumer: 1.31 mg/kg/day

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
Worker Professional: 2.1 mg/kg; Consumer: 750 µg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
Consumer: 750 µg/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:

Nitrile rubber .

Respiratory protection:

N.A.

Thermal Hazards:

Not expected if used as intended

Environmental exposure controls:

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	White
Odour:	N.A.
pH:	Not Relevant
Kinematic viscosity:	<= 20,5 mm2/s (40 °C)
Melting point/freezing point:	N.A.
Boiling point or initial boiling point and boiling range:	N.A.
Flash point:	> 93°C
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
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 =	10.36%; 184.38g/L
Particle characteristics:	
Particle size:	N.A.

9.2. Other information

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 Corr. 1B(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1A(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

benzyl alcohol

CAS: 100-51-6	a) acute toxicity	ATE - Oral: 1200 mg/kg bw
		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
	f) carcinogenicity	Genotoxicity Negative
		Carcinogenicity Oral Rat Negative
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 200 mg/kg

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2	a) acute toxicity	ATE - Oral: 1030 mg/kg bw
		LD50 Oral Rat = 1030 mg/kg
		LC50 Inhalation of aerosol Rat > 5.01 mg/l 4h
		LD50 Skin Rat > 2000 mg/kg
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive
	c) serious eye	Eye Irritant Rabbit Yes

	damage/irritation	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive
	f) carcinogenicity	Genotoxicity Negative
		Carcinogenicity Negative

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2	a) acute toxicity	LD50 Oral Rat = 2169 mg/kg
		LD50 Skin Rat > 1 ml/Kg 6h
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 15 mg/kg

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

CAS: 113930-69-1	b) skin corrosion/irritation	Skin Corrosive Human Positive

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

	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg
		LD50 Skin Rat > 2000 mg/kg 24h
	b) skin corrosion/irritation	Skin Irritant Negative
	c) serious eye damage/irritation	Eye Corrosive Positive
	d) respiratory or skin sensitisation	Skin Sensitization Positive
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg
		LD50 Skin Rat > 2000 mg/kg 24h
	c) serious eye damage/irritation	Eye Irritant Yes 1h
		Eye Corrosive Rabbit Positive
	d) respiratory or skin sensitisation	Skin Sensitization Positive
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg

M-phenylenebis(methylamine)

CAS: 1477-55-0	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
	f) carcinogenicity	Genotoxicity Negative
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 450 mg/kg

Salicylic acid

CAS: 69-72-7	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
		Carcinogenicity Oral Rat Negative
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 75 mg/kg

amines, polyethylenepoly-; HEPA

CAS: 68131-73-7	a) acute toxicity	LD50 Oral Rat = 1716.2 mg/kg
		LD50 Skin Rabbit = 1465.4 mg/kg 24h
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive
	f) carcinogenicity	Genotoxicity Negative

Amines, polyethylenepoly-, tetraethylenepentamine fraction

CAS: 90640-66-7	a) acute toxicity	LD50 Oral Rat = 1861.9 mg/kg
		LD50 Skin Rabbit = 1465.4 mg/kg 24h
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive
	f) carcinogenicity	Genotoxicity Negative
	g) reproductive toxicity	Reproductive Toxicity Oral Rat Negative

Amines, polyethylenepoly-, triethylenetetramine fraction

CAS: 90640-67-8	a) acute toxicity	LD50 Oral Rat = 1716.2 mg/kg
		LD50 Skin Rabbit = 1465.4 mg/kg 24h
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive
	f) carcinogenicity	Genotoxicity Negative
		Carcinogenicity Skin = 50 mg/kg

Phenol, styrenated

CAS: 61788-44-1	a) acute toxicity	LD50 Oral Rat >= 2000 mg/kg
		LC50 Inhalation of aerosol Rat > 4.92 mg/l 4h
		LD50 Skin Rat > 2000 mg/kg 24h
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive
	c) serious eye damage/irritation	Eye Irritant Rabbit No 24h
	d) respiratory or skin sensitisation	Skin Sensitization Positive
	f) carcinogenicity	Genotoxicity Negative
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 124 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:

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

benzyl alcohol

CAS: 100-51-6
a) Aquatic acute toxicity: LC50 Fish Oryzias latipes = 460 mg/L 96h
b) Aquatic chronic toxicity: NOEC Fish = 48.897 mg/L
a) Aquatic acute toxicity: LC50 Daphnia Daphnia magna = 230 mg/L 48h
b) Aquatic chronic toxicity: NOEC Daphnia Daphnia magna = 51 mg/L
a) Aquatic acute toxicity: EC50 Algae Pseudokirchnerella subcapitata = 770 mg/L 72h
c) Bacteria toxicity: EC50 Nitrosomonas = 390 mg/L

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2
a) Aquatic acute toxicity: LC50 Fish Leuciscus idus = 110 mg/L 96h
a) Aquatic acute toxicity: EC50 Daphnia Daphnia magna = 23 mg/L 48h
a) Aquatic acute toxicity: EC50 Algae Scenedesmus subspicatus > 50 mg/L 72h
b) Aquatic chronic toxicity: NOEC Daphnia = 3 mg/L
c) Bacteria toxicity: EC10 Pseudomonas putida = 1120 mg/L

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2
a) Aquatic acute toxicity: LC50 Fish Cyorinus carpio = 175 mg/L 96h
a) Aquatic acute toxicity: LC50 Salmo gairdneri < 240 mg/L 96h
a) Aquatic acute toxicity: LC50 Daphnia Palemonetes vulgaris = 718 mg/L 96h
a) Aquatic acute toxicity: EC50 Algae freshwater algae = 84 mg/L

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

CAS: 113930-69-1
a) Aquatic acute toxicity: LC50 Fish Oncorhynchus mykiss = 64 mg/L 96h
a) Aquatic acute toxicity: LC50 Daphnia Daphnia magna <= 1.46 mg/L 48h
a) Aquatic acute toxicity: EC50 Algae Pseudokirchneriella subcapitata = 30 mg/L 72h
a) Aquatic acute toxicity: EC50 Sludge activated sludge = 888.9 mg/L 3h

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

a) Aquatic acute toxicity: LC50 Fish Zebrafish = 7.07 mg/L 96h
a) Aquatic acute toxicity: LC50 Daphnia Daphnia magna = 5.18 mg/L 48h
a) Aquatic acute toxicity: EC50 Algae Pseudokirchneriella subcapitata = 2.63 mg/L 72h
a) Aquatic acute toxicity: EC50 Sludge Activated sludge = 721 mg/L 3h
c) Bacteria toxicity: NOEC 1.41 mg/L

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1
a) Aquatic acute toxicity: LC50 Fish = 10 mg/L 96h
a) Aquatic acute toxicity: EC100 Daphnia = 10 mg/L 24h
a) Aquatic acute toxicity: EC50 Algae = 4.34 mL/L 72h

M-phenylenebis(methylamine)

CAS: 1477-55-0
a) Aquatic acute toxicity: LC50 Fish Oryzias latipes = 87.6 mg/L 96h
a) Aquatic acute toxicity: EC50 Daphnia Daphnia magna = 15.2 mg/L 48h
b) Aquatic chronic toxicity: NOEC Daphnia Daphnia magna = 4.7 mg/L
a) Aquatic acute toxicity: EC50 Algae Selenastrum capricornutum = 32.1 mg/L 72h
a) Aquatic acute toxicity: EC50 Sludge activated sludge > 1000 mg/L

Salicylic acid

CAS: 69-72-7
a) Aquatic acute toxicity: LC50 Fish Pimephales promelas = 1380 mg/L 96h
a) Aquatic acute toxicity: LC50 Daphnia freshwater invertebrates = 870 mg/L 48h
b) Aquatic chronic toxicity: NOEC Daphnia = 10 mg/L
a) Aquatic acute toxicity: EC50 Algae Scenedesmus subspicatus > 100 mg/L 72h
c) Bacteria toxicity: EC50 Pseudomonas putida = 380 mg/L

amines, polyethylenepoly-; HEPA

CAS: 68131-73-7
a) Aquatic acute toxicity: LC50 Fish Poecilia reticulata = 100 mg/L 96h
a) Aquatic acute toxicity: EC50 Daphnia Daphnia magna = 2.2 mg/L 48h
a) Aquatic acute toxicity: EC50 Algae Selenastrum capricornutum = 0.23 mg/L 72h

c) Bacteria toxicity: EC50 nitrifying bacteria = 319.3 mg/L

d) Terrestrial toxicity: NOEC Worm Eisenia fetida = 1000 mg/kg

Amines, polyethylenepoly-, tetraethylenepentamine fraction

CAS: 90640-66-7 a) Aquatic acute toxicity: LC50 Fish freshwater fish = 420 mg/L

a) Aquatic acute toxicity: LC50 freshwater invertebrates = 24.1 mg/L

a) Aquatic acute toxicity: EC50 Algae freshwater algae = 6.8 mg/L

a) Aquatic acute toxicity: EC50 microorganisms = 97.3 mg/L

a) Aquatic acute toxicity: NOEC Algae = 0.5 mg/L

Amines, polyethylenepoly-, triethylenetetramine fraction

CAS: 90640-67-8 a) Aquatic acute toxicity: LC50 Fish Pimephales promelas = 330 mg/L 96h

a) Aquatic acute toxicity: EC50 Daphnia Daphnia magna = 31.1 mg/L 48h

a) Aquatic acute toxicity: EC50 Algae Pseudokirchneriella subcapitata = 20 mg/L 72h

d) Terrestrial toxicity: NOEC Worm Eisenia fetida = 62.5 mg/kg

a) Aquatic acute toxicity: NOEC Algae soil microorganisms = 72 mg/L

Phenol, styrenated

CAS: 61788-44-1 a) Aquatic acute toxicity: LC50 Fish Danio rerio = 24 mg/L 96h

b) Aquatic chronic toxicity: NOEC Fish 3.8 mg/L

a) Aquatic acute toxicity: EC50 Daphnia Daphnia magna = 4.6 mg/L 48h

b) Aquatic chronic toxicity: NOEC Daphnia Daphnia magna = 1.5 mg/L

a) Aquatic acute toxicity: EL50 Algae Chlorella vulgaris = 3.14 72h

a) Aquatic acute toxicity: EC50 Sludge activated sludge = 360 mg/L 3h

12.2. Persistence and degradability

benzyl alcohol

CAS: 100-51-6 Readily biodegradable Test: Dissolved organic carbon; Value: 96
Notes: %; OECD Guideline 301A

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2 Non-readily biodegradable Test: Dissolved organic carbon; Value: 8
Notes: %; EU-method C.4-A

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2 Non-readily biodegradable

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

CAS: 113930-69-1 Non-readily biodegradable Test: Oxygen consumption; Value: 0
Notes: EU Method C.4-D (Determination of the "Ready" Biodegradability - Manometric Respirometry Test)

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

Non-readily biodegradable

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1 Non-readily biodegradable Notes: OECD 301 D

M-phenylenebis(methylamine)

CAS: 1477-55-0 Non-readily biodegradable Test: Oxygen consumption
Notes: OECD 301B

Salicylic acid

CAS: 69-72-7 Readily biodegradable Test: Biochemical oxigen demand; Value: 88.1
Notes: %; OECD guideline 301C

amines, polyethylenepoly-; HEPA

CAS: 68131-73-7 Non-readily biodegradable Test: Oxygen consumption
Notes: OECD 301D

Amines, polyethylenepoly-, tetraethylenepentamine fraction

CAS: 90640-66-7 Non-readily biodegradable

Amines, polyethylenepoly-, triethylenetetramine fraction

CAS: 90640-67-8 Non-readily biodegradable Notes: OECD 301D

Phenol, styrenated

CAS: 61788-44-1 Non-readily biodegradable

12.3. Bioaccumulative potential

benzyl alcohol

CAS: 100-51-6 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 1
Notes: L/kg ww

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with m-phenylenebis(methylamine)

CAS: 113930-69-1 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 4.77
Notes: L/kg ww

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

Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 138
Notes: L/kg ww

Fatty acids, C18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 77.4
Notes: L/kg ww; QSAR

M-phenylenebis(methylamine)

CAS: 1477-55-0 Not bioaccumulative Test: BCF - Bioconcentrantion factor
Notes: OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)

Phenol, styrenated

CAS: 61788-44-1 Bioaccumulative Test: BCF - Bioconcentrantion factor; Value: 14.43
Notes: L/kg ww

12.4. Mobility in soil

3-aminomethyl-3,5,5-trimethylcyclohexylamine

CAS: 2855-13-2 Not mobile

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.

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

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

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

14.2. UN proper shipping name

ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2,4,6-tris(dimethylaminomethyl)phenol)

IATA-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2,4,6-tris(dimethylaminomethyl)phenol)

IMDG-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2,4,6-tris(dimethylaminomethyl)phenol)

14.3. Transport hazard class(es)

ADR-Class:

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group:

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Most important toxic component: Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction

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): 2 (E)

ADR Limited Quantities: 1 L

ADR Excepted Quantities: E2

Air (IATA):

IATA-Passenger Aircraft: 851

IATA-Cargo Aircraft: 855

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage and handling: Category A

IMDG-Segregation: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 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 (EU) n. 2020/878

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. 2023/707

Regulation (EU) n. 2023/1434 (ATP 19 CLP)

Regulation (EU) n. 2023/1435 (ATP 20 CLP)

Regulation (EU) n. 2024/197 (ATP 21 CLP)

Regulation (EU) n. 2024/2564 (ATP 22 CLP)

Regulation (EU) n. 2024/2865

Regulation (EU) n. 2025/1222 (ATP 23 CLP)

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):

Seveso III category according	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)

to Annex 1, part 1

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.

Class 1: slightly hazardous for water.

German Lagerklasse according to TRGS 510:

LGK 8A

SVHC Substances:

No SVHC substances present in concentration >= 0.1%

15.2. Chemical safety assessment

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

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

benzyl alcohol

3-aminomethyl-3,5,5-trimethylcyclohexylamine

2,4,6-tris(dimethylaminomethyl)phenol

amines, polyethylenepoly-; HEPA

SECTION 16: Other information

Code	Description
EUH071	Corrosive to the respiratory tract.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.7/2	Repr. 2	Reproductive toxicity, Category 2
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1A, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

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

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

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

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

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

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: Keep Away From Heat

KSt: Explosion coefficient.

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

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

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available
NA: Not available
NIOSH: National Institute for Occupational Safety and Health
NOAEL: No Observed Adverse Effect Level
OSHA: Occupational Safety and Health Administration
PBT: Persistent, Bioaccumulative and Toxic
PGK: Packaging Instruction
PNEC: Predicted No Effect Concentration.
PSG: Passengers
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
vPvB: Very Persistent, Very Bioaccumulative.
WGK: German Water Hazard Class.

Paragraphs modified from the previous revision:

- Safety Data Sheet
- SECTION 1: Identification of the substance/mixture and of the company/undertaking
- SECTION 2: Hazards identification
- SECTION 3: Composition/information on ingredients
- SECTION 8: Exposure controls/personal protection
- SECTION 9: Physical and chemical properties
- SECTION 11: Toxicological information
- SECTION 12: Ecological information
- SECTION 15: Regulatory information

Exposure Scenario
Benzyl alcohol

Exposure Scenario, 30/06/2021

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

Table of contents

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

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

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks - Use in rigid foams, coatings, adhesives and sealants
Date - Version	30/06/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22) - Building and construction work (SU19)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Non-metal surface treatment products (PC15)

Environment Contributing Scenario

CS1	ERC8a - ERC8d

Worker Contributing Scenario

CS2	PROC8a - PROC10

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)

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 (m^3/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.

Exposure Scenario

3-aminomethyl-3,5,5-trimethylcyclohexylamine

Exposure Scenario, 01/06/2022

Substance identity	
	3-aminomethyl-3,5,5-trimethylcyclohexylamine
CAS No.	2855-13-2
INDEX No.	612-067-00-9
EINECS No.	220-666-8
Registration number	01-2119514687-32

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1. **ES 1** Widespread use by professional workers; Various products (PC9b, PC9a, PC1, PC32)

1. ES 1 Widespread use by professional workers; Various products (PC9b, PC9a, PC1, PC32)

1.1 TITLE SECTION

Exposure Scenario name	Use in rigid foams, coatings, adhesives and sealants
Date - Version	01/06/2022 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Polymer preparations and compounds (PC32)

Environment Contributing Scenario	
CS1	ERC8c
CS2	ERC8f

Worker Contributing Scenario	
CS3 Material transfers	PROC8a
CS4 Rolling, Brushing	PROC10
CS5 Material transfers	PROC8a
CS6 Rolling, Brushing	PROC10

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Control measures to prevent releases

	Water - minimum efficiency of: 0.015 %

1.2. CS2: Environment Contributing Scenario (ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Control measures to prevent releases

	Water - minimum efficiency of: 0.015 %

1.2. CS3: 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

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 4 h/day

Frequency:

Covers use up to <= 240 days per year

Technical and organisational conditions and measures

Technical and organisational measures

Local exhaust ventilation	Inhalation - minimum efficiency of: 80 %

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

Personal protection

Wear suitable respiratory protection.	Inhalation - minimum efficiency of: 95 %
Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable coveralls to prevent exposure to the skin.	
Use suitable eye protection.	

Other conditions affecting worker exposure

Indoor use

Professional use

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

1.2. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 4 h/day

Frequency:

Covers use up to <= 240 days per year

Technical and organisational conditions and measures

Technical and organisational measures

Local exhaust ventilation	Inhalation - minimum efficiency of: 80 %

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

Personal protection

Wear suitable respiratory protection.	Inhalation - minimum efficiency of: 95 %
Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable coveralls to prevent exposure to the skin.	
Use suitable eye protection.	

Other conditions affecting worker exposure

Indoor use
Professional use
Body parts exposed:
Assumes that potential dermal contact is limited to hands.

1.2. CS5: 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

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to 1 h
Frequency:
Covers use up to <= 240 days per year

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

Personal protection

Wear suitable respiratory protection.	Inhalation - minimum efficiency of: 98 %
Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable coveralls to prevent exposure to the skin.	
Use suitable eye protection.	

Other conditions affecting worker exposure

Outdoor use
Professional use
Body parts exposed:
Assumes that potential dermal contact is limited to hands.

1.2. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 1 h

Frequency:

Covers use up to <= 240 days per year

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

Personal protection

Wear suitable respiratory protection.	Inhalation - minimum efficiency of: 98 %
Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable coveralls to prevent exposure to the skin.	
Use suitable eye protection.	

Other conditions affecting worker exposure

Outdoor use

Professional use

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 (ERC8c)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.0004855 mg/L	N/A	< 0.01
freshwater sediment	0.047 mg/kg dry weight	N/A	< 0.01
marine water	4.85E-05 mg/L	N/A	< 0.01
marine sediment	0.005 mg/kg dry weight	N/A	< 0.01
marine water	4.85E-05 mg/L	N/A	< 0.01
Sewage treatment plant	1.48E-05 mg/L	N/A	< 0.01
Agricultural soil	0.017 mg/kg dry weight	N/A	< 0.01
Man via environment - Oral	0.000188 mg/kg bw/day	N/A	< 0.01

1.3. CS2: Environment Contributing Scenario (ERC8f)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.000487 mg/L	N/A	< 0.01
freshwater sediment	0.047 mg/kg dry weight	N/A	< 0.01
marine water	4.815E-05 mg/L	N/A	< 0.01
marine sediment	0.005 mg/kg dry weight	N/A	< 0.01
Sewage treatment plant	2.96E-05 mg/L	N/A	< 0.01
Agricultural soil	0.017 mg/kg dry weight	N/A	= 0.015
Man via environment - Oral	0.0001193 mg/kg bw/day	N/A	< 0.01

1.3. CS3: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	13.714 mg/kg bw/day	N/A	0.274
inhalative	106.438 mg/m³	N/A	N/A

1.3. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	27.429 mg/kg bw/day	N/A	0.549
inhalative	106.438 mg/m³	N/A	N/A

1.3. CS5: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	13.714 mg/kg bw/day	N/A	0.274
inhalative	24.835 mg/m³	N/A	0.497

1.3. CS6: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	27.429 mg/kg bw/day	N/A	0.549
inhalative	24.835 mg/m³	N/A	0.497

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

Amines, polyethylenepoly-; hepa

Exposure Scenario, 10/08/2021

Substance identity	
	Amines, polyethylenepoly-; hepa
CAS No.	68131-73-7
INDEX No.	612-121-00-1
EINECS No.	268-626-9
Registration number	01-2119485823-28

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1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)
2. **ES 2** Widespread use by professional workers; Adhesives, sealants (PC1)

1. ES 1 Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	10/08/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Environment Contributing Scenario

CS1	ERC8c - ERC8f

Worker Contributing Scenario

CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11
CS5 Handling and dilution of concentrates	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 concentrations up to 25 %

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

Amounts used:
Daily amount per site = 2114 kg/day

Release type: Continuous release

Emission days: 220 days per year

Other conditions affecting environmental exposure

Local freshwater dilution factor: 10

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 concentrations up to 25 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to > 15 min

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

Personal protection

Wear suitable respiratory protection. Wear suitable gloves tested to EN374.	Inhalation - minimum efficiency of: 95 %

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 concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide extract ventilation to points where emissions occur.	Inhalation - minimum efficiency of: 90 %

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

Personal protection

Wear suitable gloves tested to EN374.

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 concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide extract ventilation to points where emissions occur.	Inhalation - minimum efficiency of: 90 %

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

Personal protection

Wear suitable gloves tested to EN374.

1.2. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (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 concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 8 h

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

Personal protection

Wear suitable gloves tested to EN374.

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	7.92E-05 mg/L	EUSES	0.05
marine water	7.9E-06 mg/L	EUSES	0.005
freshwater sediment	0.0795 mg/kg dry weight	EUSES	0.568
marine sediment	0.00792 mg/kg dry weight	EUSES	0.057
soil	0.0118 mg/kg dry weight	EUSES	0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.068 mg/kg bw/day	ECETOC TRA worker v2.0	0.12
inhalative, systemic, long-term	0.456 mg/m³	ECETOC TRA worker v2.0	0.457
combined routes	N/A	N/A	0.577
inhalative, local, short-term	0.913 mg/m³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.082 mg/kg bw/day	ECETOC TRA worker v2.0	0.144
inhalative, systemic, long-term	0.457 mg/m³	ECETOC TRA worker v2.0	0.229
combined routes	N/A	N/A	0.373
inhalative, local, short-term	0.914 mg/m³	ECETOC TRA worker v2.0	< 0.001

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)
dermal, systemic, long-term	0.214 mg/kg bw/day	ECETOC TRA worker v2.0	0.376
inhalative, systemic, long-term	0.121 mg/m³	ECETOC TRA worker v2.0	0.122
combined routes	N/A	N/A	0.498
inhalative, local, short-term	0.243 mg/m³	ECETOC TRA worker v2.0	< 0.001

1.3. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.248
inhalative, systemic, long-term	0.76 mg/m³	ECETOC TRA worker v2.0	0.076
combined routes	N/A	N/A	0.324
inhalative, local, short-term	1.52 mg/m³	ECETOC TRA worker v2.0	< 0.001

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.

2. ES 2 Widespread use by professional workers; Adhesives, sealants (PC1)

2.1 TITLE SECTION

Exposure Scenario name	Use in rigid foams, coatings, adhesives and sealants
Date - Version	10/08/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Adhesives, sealants (PC1)

Environment Contributing Scenario

CS1	ERC8a - ERC8d

Worker Contributing Scenario

CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11
CS5 Handling and dilution of concentrates	PROC19

2.2 Conditions of use affecting exposure

2.2. 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 < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 25 %

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

Amounts used:

Daily amount per site = 15500 kg/day

Release type: Continuous release

Emission days: 300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Pre-treatment of waste water by neutralization	Water - minimum efficiency of: 53.1 %

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

STP effluent (m^3/day): 2000

Other conditions affecting environmental exposure

Local freshwater dilution factor: 1000

2.2. 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 concentrations up to 25 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to > 15 min

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

Personal protection

Wear suitable respiratory protection. Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 95 %

2.2. 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 concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

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

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 95 %

2.2. 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 concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide extract ventilation to points where emissions occur.	Inhalation - minimum efficiency of: 90 %

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

Personal protection

Wear suitable gloves tested to EN374.

2.2. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (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 concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 8 h

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

Personal protection

Wear suitable gloves tested to EN374.

2.3 Exposure estimation and reference to its source

2.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	6.74E-05 mg/L	Other measured data	0.042
marine water	6.7E-06 mg/L	Other measured data	0.004
freshwater sediment	0.0677 mg/kg dry weight	Other measured data	0.483
marine sediment	0.00674 mg/kg dry weight	Other measured data	0.048
soil	0.0118 mg/kg dry weight	Other measured data	0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.068 mg/kg bw/day	ECETOC TRA worker v2.0	0.12
inhalative, systemic, long-term	0.456 mg/m³	ECETOC TRA worker v2.0	0.457
combined routes	N/A	N/A	0.577
inhalative, local, short-term	0.913 mg/m³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.082 mg/kg bw/day	ECETOC TRA worker v2.0	0.144
inhalative, systemic, long-term	0.457 mg/m³	ECETOC TRA worker v2.0	0.229
combined routes	N/A	N/A	0.373
inhalative, local, short-term	0.914 mg/m³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.214 mg/kg bw/day	ECETOC TRA worker v2.0	0.376
inhalative, systemic, long-term	0.121 mg/m³	ECETOC TRA worker v2.0	0.122
combined routes	N/A	N/A	0.498
inhalative, local, short-term	0.243 mg/m³	ECETOC TRA worker v2.0	< 0.001

2.3. CS5: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.248
inhalative, systemic, long-term	0.76 mg/m³	ECETOC TRA worker v2.0	0.076
combined routes	N/A	N/A	0.324
inhalative, local, short-term	1.52 mg/m³	ECETOC TRA worker v2.0	< 0.001

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

Exposure Scenario, 08/11/2024

Substance identity	
	Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction
EINECS No.	701-046-0
Registration number	01-2119972321-42

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1. **ES 1** Widespread use by professional workers; Adhesives, sealants (PC1)

1. ES 1 Widespread use by professional workers; Adhesives, sealants (PC1)

1.1 TITLE SECTION

Exposure Scenario name	Use in rigid foams, coatings, adhesives and sealants
Date - Version	08/11/2024 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Adhesives, sealants (PC1)

Environment Contributing Scenario	
CS1	ERC8c
CS2	ERC8f

Worker Contributing Scenario	
CS3 Material transfers	PROC8a
CS4 Roller, spreader, flow application	PROC10
CS5 Roller, spreader, flow application	PROC10

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

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

Amounts used:
Daily amount per site <= 5.494E-05 tonnes/day

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 91.34 %

STP effluent (m^3/day): 0.002

Other conditions affecting environmental exposure

Receiving surface water flow: 0.00018 m^3/day

1.2. CS2: Environment Contributing Scenario (ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (outdoor) (ERC8f)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

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

Amounts used:
Daily amount per site <= 5.494E-05 tonnes/day

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 91.34 %
STP effluent (m^3/day): 0.002

Other conditions affecting environmental exposure

Receiving surface water flow: 0.00018 m^3/day

1.2. CS3: 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

Concentration of substance in product:
Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:
Exposure duration < 4 h

Technical and organisational conditions and measures

Technical and organisational measures
Provide a good standard of general ventilation (not less than 3 to 5 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: = 95 %

Other conditions affecting worker exposure

Covers indoor and outdoor use
Professional use
Temperature: Assumes process temperature up to .... 40°C
Body parts exposed:
Palm of one hand

1.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
Vapour pressure < 0.01 Pa at standard temperature and pressure

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:

Exposure duration < 480 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Ensure regular inspection, cleaning and maintenance of equipment and machines.

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

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Indoor use
Professional use
Room size: Covers use in room size of = 300 m^3
Temperature: Covers use at ambient temperatures.
Body parts exposed:

Palm of one hand

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

Additional Good Practice Advice:

Ensure regular inspection, cleaning and maintenance of equipment and machines.

1.2. CS5: Worker Contributing Scenario: Roller, spreader, flow application (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

Vapour pressure < 0.01 Pa at standard temperature and pressure

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:

Exposure duration < 480 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).
Ensure regular inspection, cleaning and maintenance of equipment and machines.

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

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 95 %

Other conditions affecting worker exposure

Outdoor use
Professional use
Temperature: Assumes process temperature up to .... 25°C

Body parts exposed:

Palm of one hand

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

Additional Good Practice Advice:

Ensure regular inspection, cleaning and maintenance of equipment and machines.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c)

Release route	Release rate	Release estimation method
Water	0.008 kg/day	FEICA SPERC 8c.1a.v1
Air	0	FEICA SPERC 8c.1a.v1
soil	0	FEICA SPERC 8c.1a.v1

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 8.15E-05 mg/L	NGOA	= 0.031
freshwater sediment	= 8.15 mg/kg dry weight	NGOA	= 0.031
marine water	= 1.242E-05 mg/L	NGOA	= 0.047
marine sediment	= 1.242 mg/kg dry weight	NGOA	= 0.047
Agricultural soil	= 7.229 mg/kg dry weight	NGOA	= 0.138
Sewage treatment plant	= 0.000357 mg/L	NGOA	< 0.01
Man via environment - Inhalation	= 8.41E-07 mg/m³	NGOA	< 0.01

1.3. CS2: Environment Contributing Scenario (ERC8f)

Release route	Release rate	Release estimation method
Water	0.008 kg/day	FEICA SPERC 8f.1.v1
Air	0	FEICA SPERC 8f.1.v1
soil	0	FEICA SPERC 8f.1.v1

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 8.15E-05 mg/L	NGOA	= 0.031
freshwater sediment	= 8.15 mg/kg dry weight	NGOA	= 0.031
marine water	= 1.242E-05 mg/L	NGOA	= 0.047
marine sediment	= 1.242 mg/kg dry weight	NGOA	= 0.029

Agricultural soil	= 7.229 mg/kg dry weight	NGOA	= 0.138
Sewage treatment plant	= 0.000357 mg/L	NGOA	< 0.01
Man via environment - Inhalation	= 8.41E-07 mg/m³	NGOA	< 0.01

1.3. CS3: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.656 mg/m³	ECETOC TRA worker v3	= 0.168
dermal, systemic, long-term	= 0.171 mg/kg bw/day	ECETOC TRA worker v3	= 0.156
combined routes, systemic, long-term	NGOA	NGOA	= 0.324

1.3. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.063 mg/m³	ART v1.5	= 0.016
dermal, systemic, long-term	= 0.0343 mg/kg bw/day	ECETOC TRA worker v3	= 0.312
combined routes, systemic, long-term	NGOA	NGOA	= 0.328

1.3. CS5: Worker Contributing Scenario: Roller, spreader, flow application (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.0093 mg/m³	ART v1.5	= 0.002
dermal, systemic, long-term	= 0.0343 mg/kg bw/day	ECETOC TRA worker v3	= 0.312
combined routes, systemic, long-term	NGOA	NGOA	= 0.314

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
2,4,6-tris(dimethylaminomethyl)phenol

Exposure Scenario, 05/11/2021

Substance identity	
	2,4,6-tris(dimethylaminomethyl)phenol
CAS No.	90-72-2
INDEX No.	603-069-00-0
EINECS No.	202-013-9
Registration number	01-2119560597-27

Table of contents

1. **ES 1** Widespread use by professional workers; Fillers, putties, plasters, modelling clay (PC9b)

1. ES 1 Widespread use by professional workers; Fillers, putties, plasters, modelling clay (PC9b)

1.1 TITLE SECTION

Exposure Scenario name	Road and construction applications - Use in rigid foams, coatings, adhesives and sealants
Date - Version	05/11/2021 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b)

Environment Contributing Scenario

CS1	ERC8b - ERC8e

Worker Contributing Scenario

CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Rolling, Brushing	PROC10
CS5 Roller, spreader, flow application	PROC11
CS6 Roller, spreader, flow application	PROC11

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8b, ERC8e)

Environmental release categories	Widespread use of reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of reactive processing aid (no inclusion into or onto article, outdoor) (ERC8b, ERC8e)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
0.197 Pa

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:
Amount per use <= 0.0014 tonnes/day

Release type: Continuous release

Conditions and measures related to sewage treatment plant

STP type:
No specific measures identified.
Water - minimum efficiency of: = 0.059 %

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

Waste treatment
This material and its container must be disposed of as hazardous.

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:
= 0.197 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Duration of contact < 30 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).	Inhalation - minimum efficiency of: 30 %
Local exhaust ventilation	Inhalation - minimum efficiency of: 80 %

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 a full face respirator conforming to EN136.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 95 %
Use suitable eye protection.	

Other conditions affecting worker exposure

Body parts exposed:
Assumes that potential dermal contact is limited to hands.

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:
= 0.197 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Duration of contact < 440 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).	Inhalation - minimum efficiency of: 44 %

Ensure that direction of application is only horizontal or downward.
Open doors and windows.

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 a full face respirator conforming to EN136. Wear suitable respiratory protection. Wear an impervious suit.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %
Use suitable eye protection.	

Other conditions affecting worker exposure

Indoor 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.

1.2. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Process Categories	Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 0.197 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Duration of contact < 440 min

Technical and organisational conditions and measures

Technical and organisational measures

Mechanical ventilation giving at least [ACH]:	Inhalation - minimum efficiency of: 44 %
Ensure that direction of application is only horizontal or downward.	
Open doors and windows.	

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 a full face respirator conforming to EN136. Wear suitable respiratory protection. Wear an impervious suit.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %

Use suitable eye protection.

Other conditions affecting worker exposure

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.

1.2. CS5: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
= 0.197 Pa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:
Duration of contact < 4 h

Technical and organisational conditions and measures

Technical and organisational measures

Provide a basic standard of general ventilation (1 to 3 air changes per hour).	Inhalation - minimum efficiency of: 44 %
Ensure that direction of application is only horizontal or downward.	
Open doors and windows.	

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 a full face respirator conforming to EN136. Wear suitable respiratory protection. Wear an impervious suit.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %
Use suitable eye protection.	

Other conditions affecting worker exposure

Indoor use
Professional use
Body parts exposed:
Assumes that potential dermal contact is limited to hands.

1.2. CS6: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Duration of contact < 4 h

Technical and organisational conditions and measures

Technical and organisational measures

Mechanical ventilation giving at least [ACH]:	Inhalation - minimum efficiency of: 44 %
Ensure that direction of application is only horizontal or downward.	
Open doors and windows.	

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 a full face respirator conforming to EN136. Wear suitable respiratory protection. Wear an impervious suit.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %
Use suitable eye protection.	

Other conditions affecting worker exposure

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 (ERC8b, ERC8e)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	0.00172 mg/L	EUSES v2.1	0.037
freshwater sediment	0.00701 mg/kg dry weight	EUSES v2.1	0.027
marine water	0.00017 mg/L	EUSES v2.1	0.037
marine sediment	0.0007 mg/kg dry weight	EUSES v2.1	0.027
Sewage treatment plant	0.014 mg/L	EUSES v2.1	0.069
Agricultural soil	8E-05 mg/kg dry weight	EUSES v2.1	< 0.01
Man via environment - Inhalation	< 0.0001 mg/m³	EUSES v2.1	< 0.01

Man via environment - Oral	< 0.0001 mg/kg bw/day	EUSES v2.1	< 0.01

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	0.023 mg/m³	EASY TRA v3.6	0.004
inhalative, systemic, short-term	0.464 mg/m³	EASY TRA v3.6	0.211
combined routes, systemic, long-term	N/A	N/A	0.247
dermal, systemic, long-term	0.03 mg/kg bw/day	RISKOFDERM v2.1	0.203

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	0.31 mg/m³	ECETOC TRA worker v3	0.584
inhalative, systemic, short-term	0.4641238 mg/m³	EASY TRA v3.6	0.59
combined routes, systemic, long-term	N/A	N/A	0.854
dermal, systemic, long-term	0.041 mg/kg bw/day	RISKOFDERM v2.1	0.27

1.3. CS4: Worker Contributing Scenario: Rolling, Brushing (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.039 mg/m³	ECETOC TRA worker v3	0.073
inhalative, systemic, short-term	0.867 mg/m³	EASY TRA v3.6	0.413
combined routes, systemic, long-term	N/A	N/A	0.343
dermal, systemic, long-term	0.041 mg/kg bw/day	RISKOFDERM v2.1	0.27

1.3. CS5: 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	0.367 mg/m³	ART v1.5	0.022
inhalative, systemic, short-term	0.023 mg/m³	ART v1.5	0.011
combined routes, systemic, long-term	N/A	N/A	0.827
dermal, systemic, long-term	0.121 mg/kg bw/day	RISKOFDERM v2.1	0.805

1.3. CS6: 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	0.019 mg/m³	ART v1.5	0.037
inhalative, systemic, short-term	0.039 mg/m³	ART v1.5	0.019
combined routes, systemic, long-term	N/A	N/A	0.101
dermal, systemic, long-term	0.05 mg/kg bw/day	RISKOFDERM v2.1	0.33

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.