

Safety Data Sheet

Conforms to – Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by UK SI 2021/904

L34 EVOLUTION RAPID (A)

Date of first edition: 1/5/2026

Safety Data Sheet dated 05/01/2026 version 1

kerakoll

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

1.1. Product identifier

Mixture identification:

Trade name: L34 EVOLUTION RAPID (A)

Trade code: S100B0111

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

Kerakoll UK Ltd

Tomlinson Road, Leyland, Lancashire, PR25 2DY,

United Kingdom

Tel. 01772 456831

safety@kerakoll.co.uk

1.4. Emergency telephone number

UK National Poisons Information Service.

E-mail: npis.birmingham@nhs.net; Tel: +44 (0)344 892 0111

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

GB CLP regulation:

Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
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

GB CLP regulation:

Hazard pictograms and Signal Word



Warning

Hazard statements

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

Precautionary statements

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

Contains

bis-[4-(2,3-epoxipropoxi)phenyl]propane
oxirane, mono[(C12-14-alkyloxy)methyl]
derivs.

Special provisions according to Annex XVII of UK REACH:

None.

2.3. Other hazards

When mixtures containing cement react with water, for instance when making concrete or mortar, or when the cement becomes wet, a strong alkaline solution is produced (high pH caused by the formation of calcium, sodium and potassium hydroxides).
Cement and mixtures containing cement may irritate the eyes, the mucous system, the throat and the respiratory system and cause coughing. Frequent inhalation of cement dust or mixtures containing cement over a long period of time increases the risk of developing lung diseases.
In case of prolonged contact with the skin, both cement and mixtures containing cement, including pastes, may cause skin sensitisation due to the presence of trace amounts of chromium VI salts. Where necessary, such an effect can be minimized by incorporating a special reducing agent to maintain the water-soluble chromium VI content to concentration rates below 0.0002% (2 ppm) on the total dry weight of cement.

No PBT or vPvB 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: L34 EVOLUTION RAPID (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥20-<50 %	Limestone	CAS:1317-65-3 EC:215-279-6	Substance with a workplace exposure limit in Great Britain.	
≥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	
≥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	
≥0.25-<0.3 %	Cashew, nutshell liq.	CAS:8007-24-7 EC:232-355-4	Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317	
<0.0015 %	methanol	CAS:67-56-1 EC:200-659-6 Index:603-001-00-X	Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	

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 ophthalmologist immediately.
Protect uninjured eye.

In case of Ingestion:
Do not induce vomiting, get medical attention showing the SDS and label hazardous.

In case of Inhalation:
Remove casualty to fresh air and keep warm and at rest.

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

Eye irritation
Eye damages
Skin Irritation

Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO₂).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities

The product must be stored in waterproof, dry, clean conditions and protected from contamination. Do not use aluminium containers due to incompatibility of the materials.

The product contains cement with an addition of a Chromium reducing agent (VI) and its effectiveness decreases with time. Consequently, packaging's of the material indicate information about the production date, storing conditions and the appropriate storage period for the maintaining of the activity of the reducing agent and for maintaining the soluble Chromium (VI) amount under 2ppm over the total dry weight referred to cement (BS EN 196-10).

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:

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

	OEL Type	Country	Occupational Exposure Limit
Limestone CAS: 1317-65-3	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 10 mg/m ³ Inhalable fraction Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 4 mg/m ³ Respirable fraction Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
methanol CAS: 67-56-1	ACGIH		Long Term: 200 ppm (8h); Short Term: 250 ppm Skin, BEI - Headache, eye dam, dizziness, nausea
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 266 mg/m ³ - 200 ppm; Short Term: 333 mg/m ³ - 250 ppm Sk Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)

Biological limit values

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

Predicted No Effect Concentration (PNEC) values

bis-[4-(2,3-epoxipropoxy)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
oxirane, mono[(C12-14-alkyloxy)methyl] derivs. CAS: 68609-97-2	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.018 mg/l
	Exposure Route: Fresh Water; PNEC Limit: 0.007 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.072 µg/l
	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
Cashew, nutshell liq. CAS: 8007-24-7	Exposure Route: Soil; PNEC Limit: 80.12 mg/kg
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.072 mg/l
	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
methanol CAS: 67-56-1	Exposure Route: Soil; PNEC Limit: 6.71 mg/kg
	Exposure Route: Fresh Water; PNEC Limit: 20.8 mg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 1540 mg/l

Exposure Route: Marine water; PNEC Limit: 2.08 mg/l
 Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 100 mg/l
 Exposure Route: Freshwater sediments; PNEC Limit: 77 mg/kg
 Exposure Route: Marine water sediments; PNEC Limit: 7.7 mg/kg
 Exposure Route: Soil; PNEC Limit: 100 mg/kg

Derived No Effect Level (DNEL) values

bis-[4-(2,3-epoxipropoxy)phenyl] propane
 CAS: 1675-54-3

Exposure Route: Human Oral; Exposure Frequency: Long Term, local effects
 Worker Professional: 0.75 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects
 Worker Professional: 0.75 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects
 Worker Professional: 3.571 mg/kg

Exposure Route: Human Dermal; Exposure Frequency: Long Term, local effects
 Worker Professional: 3.571 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects
 Worker Professional: 12.25 mg/m³

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects
 Worker Professional: 12.25 mg/m³

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/m³; Consumer: 7.6 mg/m³

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/m³; Consumer: 2.9 mg/m³

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/m³; Consumer: 4.1 mg/m³

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/m³; Consumer: 0.2 mg/m³

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

methanol
 CAS: 67-56-1

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

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

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

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

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

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

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

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

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

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

Nitrile rubber - NBR: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

Butyl rubber - IIR: thickness $\geq 0,4\text{mm}$; breakthrough time $\geq 480\text{min}$.

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 $>65^{\circ}\text{C}$)

Thermal Hazards:

Not expected if used as intended

Environmental exposure controls:

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

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid

Appearance and colour: Beige

Odour: N.A.

Odour threshold: N.A.

pH: N.A.

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: Not Applicable

Evaporation rate: N.A.

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.73 g/cm³

Solubility in water: Soluble

Solubility in oil: N.A.

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

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Viscosity: 62,000.00 cPo

Explosive properties: N.A.

Oxidizing properties: N.A.

Solid/gas flammability: N.A.

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

9.2. Other information

Substance Groups relevant properties N.A.

Miscibility: N.A.

Conductivity: N.A.

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 toxicological effects

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

Toxicological information on main components of the mixture:

bis-[4-(2,3-epoxipropoxy)phenyl] propane	a) acute toxicity	LD50 Oral Rabbit = 19800 mg/kg	
		LD50 Skin Rabbit > 20 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	epoxy resin with an average molecular mass <= 700 d irritate skin of rabbits
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse, oral
		Carcinogenicity Oral Rat = 15 mg/kg	NOAEL
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.		Carcinogenicity Skin Rat = 1 mg/kg	NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750 mg/kg	
	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	Eye Irritant Rabbit Yes	

	damage/irritation		
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 200 mg/kg	
Cashew, nutshell liq.	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	Mouse
methanol	a) acute toxicity	LD50 Oral Rat >= 2528 mg/kg LC50 Inhalation = 43.68 mg/l 6h LD50 Skin Rabbit = 17100 mg/kg	Cat
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Rat Negative	Mouse intraperitoneal route
	g) reproductive toxicity	Lowest Observed Adverse Effect Level Oral = 1000 mg/kg	Mouse

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> = 2 mg/L 96h a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 1.8 mg/L 48h a) Aquatic acute toxicity : EC50 Algae <i>Scenedesmus capricornutum</i> = 11 mg/L 72h EPA-660/3-75-009 c) Bacteria toxicity : EC50 Sludge activated sludge = 100 mg/L 3h
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS: 68609-97-2 - EINECS: 271-846-8 - INDEX: 603-103-00-4	a) Aquatic acute toxicity : LC50 Fish <i>Oncorhynchus mykiss</i> > 5000 mg/L 96h a) Aquatic acute toxicity : NOEC Algae <i>Pseudokirchneriella subcapitata</i> = 500 mg/L 72h „OECD Guideline 201 (Alga, Growth Inhibition Test) a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> = 843 mg/L 72h c) Bacteria toxicity : EC50 Sludge > 100 mg/L

Cashew, nutshell liq.	CAS: 8007-24-7 - EINECS: 232-355-4	a) Aquatic acute toxicity : LC50 Fish Cyprinodon variegatus = 1000 mg/L 96h „OECD Guideline 203 (Fish, Acute Toxicity Test)
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 40.46 mg/L 48h „EPA OPPTS 850.1010 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 1300 mg/L 72h „OECD Guideline 201 (Alga, Growth Inhibition Test)
methanol	CAS: 67-56-1 - EINECS: 200-659-6 - INDEX: 603-001-00-X	a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L a) Aquatic acute toxicity : LC50 Fish Lepomis macrochirus = 15400 mg/L 96h b) Aquatic chronic toxicity : NOEC Fish = 450 mg/L a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 22200 mg/L 48h b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 208 mg/L a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 22000 mg/L 96h OECD 201 Guideline. d) Terrestrial toxicity : NOEC Worm Eisenia andrei = 10000 mg/kg d) Terrestrial toxicity : NOEC Folsomia candida = 1000 mg/kg OECD Guideline 232

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Non-readily biodegradable	Oxygen consumption		OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Readily biodegradable	Oxygen consumption	87.000	%; OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Cashew, nutshell liq.	Readily biodegradable	Oxygen consumption	83.800	%; EU Method C.4-D
methanol	Readily biodegradable			

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Bioaccumulative	BCF - Bioconcentration factor	31.000	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Bioaccumulative	BCF - Bioconcentration factor	160.000	
methanol	Not bioaccumulative	BCF - Bioconcentration factor	< 10	

12.4. Mobility in soil

Data not available.

12.5. Results of PBT and vPvB assessment

No PBT or vPvB substances present in concentration $\geq 0.1\%$

12.6. Other adverse effects

Data not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Recover if possible. In so doing, comply with the local and national regulations currently in force. Disposal through discharge into wastewater is not permitted

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number

N/A

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: N/A

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

ADR-Packing Group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

Toxic ingredients quantity: 0.00

Very toxic ingredients quantity: 0.00

Marine pollutant: No

Environmental Pollutant: No

14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR exempt: No

ADR-Label: N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

ADR-Transport category (Tunnel restriction code): 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

IMDG-EMS: N/A

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

N.A.

SECTION 15: Regulatory information

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

Workplace exposure limit within the meaning of the Control of Substances Hazardous to Health Regulations 2002 (WEL-EH40)

REACH regulation as changed by the REACH etc. (Amendment etc.) (EU Exit) Regulations (UK REACH)

CLP regulation as changed by the Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations (GB CLP)

GB PIC legislation - (Regulation (EU) No 649/2012 as changed by the Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc) (EU Exit) Regulations

Restrictions related to the product or the substances contained according to Annex XVII of UK REACH:

Restrictions related to the product: 3

Restrictions related to the substances contained: 40, 69

Additional Regulatory Information for Great Britain

No Additional Information

Provisions related to the Control of Major Accident Hazards Regulations 2015 (GB implementation of Seveso III):

None

GB PIC Legislation:

No substances listed

SVHC Substances:

No SVHC substances present in concentration \geq 0.1%

UK regulations implementing Dir. 2010/75/EC (VOC directive)

Volatile Organic compounds - VOCs = 0.00 %

Volatile Organic compounds - VOCs = 0.00 g/L

15.2. Chemical safety assessment

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

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

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

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

Cashew, nutshell liq.

SECTION 16: Other information

Code	Description
------	-------------

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
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.
H331	Toxic if inhaled.
H370	Causes damage to organs.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
3.1/3/Dermal	Acute Tox. 3	Acute toxicity (dermal), Category 3
3.1/3/Inhal	Acute Tox. 3	Acute toxicity (inhalation), Category 3
3.1/3/Oral	Acute Tox. 3	Acute toxicity (oral), Category 3
3.1/4/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
3.8/1	STOT SE 1	Specific target organ toxicity — single exposure, Category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

Classification and procedure used to derive the classification for mixtures according to GB CLP regulation:

Classification according to GB CLP	Classification procedure
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1A, H317	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
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.

Exposure Scenario

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

Exposure Scenario, 07/06/2021

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

Table of contents

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

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

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

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

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

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/m ³	ECETOC TRA worker v2.0	0.07
dermal, systemic, long-term	= 0.2742 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.03

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

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

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

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

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

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

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

Guidance to check compliance with the exposure scenario:

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

Exposure Scenario

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

Exposure Scenario, 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

Table of contents

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

1. ES 1		Widespread use by professional workers; Various products (PC1, PC9a, PC9b)	
1.1 TITLE SECTION			
Exposure Scenario name		Professional application of coatings and inks by brush or roller - Professional application of coatings and inks	
Date - Version		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.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use Temperature: Covers use at ambient temperatures.															
1.2. CS5: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC19)															
Process Categories		Manual activities involving hand contact (PROC19)													
<i>Product (article) characteristics</i>															
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP															
Concentration of substance in product: Covers percentage substance in the product up to 25 %.															
<i>Amount used, frequency and duration of use/exposure</i>															
Duration: Covers daily exposures up to 8 hours															
Frequency: For each use, avoid using for more than < 1 h/event															
<i>Technical and organisational conditions and measures</i>															
Technical and organisational measures Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers.															
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>															
Personal protection Wear suitable gloves tested to EN374.															
<i>Other conditions affecting worker exposure</i>															
Indoor use Professional use Temperature: Covers use at ambient temperatures.															
1.3 Exposure estimation and reference to its source															
1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC5)															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> <tr> <td>inhalative, systemic, long-term</td> <td>= 9.3 mg/m³</td> <td>ECETOC TRA worker v2.0</td> <td>= 0.674</td> </tr> <tr> <td>dermal, systemic, long-term</td> <td>= 0.007 mg/kg bw/day</td> <td>ECETOC TRA worker v2.0</td> <td>= 0.002</td> </tr> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)	inhalative, systemic, long-term	= 9.3 mg/m ³	ECETOC TRA worker v2.0	= 0.674	dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												
inhalative, systemic, long-term	= 9.3 mg/m ³	ECETOC TRA worker v2.0	= 0.674												
dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002												
Additional information on exposure estimation: If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374.															
1.3. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)															
<table border="1"> <thead> <tr> <th>Exposure route, Health effect, Exposure indicator</th> <th>Exposure level</th> <th>Calculation method</th> <th>Risk Characterization Ratio (RCR)</th> </tr> </thead> <tbody> </tbody> </table>				Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)								
Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)												

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

Additional information on exposure estimation:

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

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

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

Additional information on exposure estimation:

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

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

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

Additional information on exposure estimation:

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

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

Guidance to check compliance with the exposure scenario:

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



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

Table of contents

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)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Concentration of substance in product: Covers percentage substance in the product up to 1 %.			
<i>Amount used, frequency and duration of use (or from service life)</i>			
Amounts used: < 50 t(tonnes)/year < 167 kg/day			
Release type: Intermittent release			
Emission days: 365 days per year			
<i>Conditions and measures related to sewage treatment plant</i>			
STP type: Municipal Sewage Treatment Plant Water - minimum efficiency of: = 93.2 %			
<i>Conditions and measures related to treatment of waste (including article waste)</i>			
Waste treatment Residues which cannot be recycled are disposed off as chemical waste			
<i>Other conditions affecting environmental exposure</i>			
Local marine water dilution factor: 100 Local freshwater dilution factor: 10			

Receiving surface water flow: 18000 m ³ /day Covers indoor and outdoor use	
1.2. CS2: Worker Contributing Scenario: Mixing operations (PROC19)	
Process Categories	Manual activities involving hand contact (PROC19)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid	
Concentration of substance in product: Covers percentage substance in the product up to 1 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
Amounts used: < 50 t(tonnes)/year	
Duration: Covers daily exposures up to 8 hours	
<i>Technical and organisational conditions and measures</i>	
Technical and organisational measures Ensure operatives are trained to minimise exposures. Avoid direct eye contact with product, also via contamination on hands.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
Personal protection Wear 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.	
<i>Other conditions affecting worker exposure</i>	
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)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid, vapour pressure < 0,5 kPa at STP	
Concentration of substance in product: Covers percentage substance in the product up to 25 %.	
<i>Amount used, frequency and duration of use/exposure</i>	
Duration: Covers daily exposures up to 8 hours	
Frequency: Avoid using product more than = 4 h/event	
<i>Technical and organisational conditions and measures</i>	
Technical and organisational measures Ensure operatives are trained to minimise exposures. Avoid direct eye contact with product, also via contamination on hands.	
<i>Conditions and measures related to personal protection, hygiene and health evaluation</i>	
Personal protection Wear suitable gloves tested to EN374.	
<i>Other conditions affecting worker exposure</i>	

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/m ³	ECETOC TRA worker v2.0	= 0.562

dermal, systemic, long-term	= 0.014 mg/m ³	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/m ³	ECETOC TRA worker v2.0	= 0.168
dermal, systemic, long-term	= 0.137 mg/m ³	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.