Safety Data Sheet
Conforms to – Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II,
as amended by UK SI 2021/904
KERAREP (A)
Date of first edition: 1/5/2026
Safety Data Sheet dated 05/01/2026 version 1

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

1.1. Product identifier

Mixture identification:

Trade name: KERAREP (A)

Trade code: 12112020

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

Recommended use: Adhesives, sealants

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:

Flam. Liq. 3	Flammable liquid and vapour.
Skin Irrit. 2	Causes skin irritation.
Eye Irrit. 2	Causes serious eye irritation.
Skin Sens. 1A	May cause an allergic skin reaction.
Repr. 2	Suspected of damaging fertility or the unborn child if inhaled and in contact with skin.
STOT RE 1	Causes damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

GB CLP regulation:

Hazard pictograms and Signal Word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child if inhaled and in contact with skin.
H372	Causes damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary statements

P102	Keep out of reach of children.

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire, use a CO2 fire extinguisher to extinguish.

Contains

maleic anhydride

styrene

Fatty acids, C14-18 and C16-18-unsatd., maleated

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: KERAREP (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
≥10-<20 %	styrene	CAS:100-42-5 EC:202-851-5 Index:601-026-00-0	Flam. Liq. 3, H226; Repr. 2, H361d; Acute Tox. 4, H332; STOT RE 1, H372; Skin Irrit. 2, H315; Eye Irrit. 2, H319	
≥0.3-<0.5 %	Fatty acids, C14-18 and C16-18-unsatd., maleated	CAS:85711-46-2 EC:288-306-2	Skin Irrit. 2, H315; Skin Sens. 1, H317	
≥0.20-<0.25 %	ethanol; ethyl alcohol	CAS:64-17-5 EC:200-578-6 Index:603-002-00-5	Flam. Liq. 2, H225; Eye Irrit. 2, H319	
≥0.20-<0.25 %	1,1'-(p-tolylimino)dipropan-2-ol	CAS:38668-48-3 EC:254-075-1	Acute Tox. 2, H300; Eye Irrit. 2, H319; Aquatic Chronic 3, H412	
≥0.20-<0.25 %	xylene	CAS:1330-20-7 EC:215-535-7 Index:601-022-00-9	Flam. Liq. 3, H226; Acute Tox. 4, H332; Acute Tox. 4, H312; Skin Irrit. 2, H315; STOT SE 3, H335; STOT RE 2, H373; Asp. Tox. 1, H304; Aquatic Chronic 3, H412; Eye Irrit. 2, H319, M-Chronic:1	
≥0.05-<0.1 %	maleic anhydride	CAS:108-31-6 EC:203-571-6 Index:607-096-00-9	Acute Tox. 4, H302; STOT RE 1, H372; Skin Corr. 1B, H314; Eye Dam. 1, H318; Resp. Sens. 1, H334; Skin Sens. 1A, H317, EUH071	

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

Wash thoroughly the body (shower or bath).

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:

If breathing is irregular or stopped, administer artificial respiration.

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

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a CO2 fire extinguisher to extinguish.

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 all sources of ignition.

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

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

For emergency responders:

Wear personal protection equipment.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Use localized ventilation system.

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

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

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contamined 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).

Store at below 20 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
styrene CAS: 100-42-5	ACGIH		Long Term: 10 ppm (8h); Short Term: 20 ppm OTO, A3, BEI - CNS and hearing impair, URT irr, peripheral neuropathy, visual disorders
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 430 mg/m3 - 100 ppm; Short Term: 1080 mg/m3 - 250 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
ethanol; ethyl alcohol CAS: 64-17-5	ACGIH		Short Term: 1000 ppm A3 - URT irr
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 1920 mg/m3 - 1000 ppm Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
xylene CAS: 1330-20-7	ACGIH		Long Term: 20 ppm (8h) A4, BEI - URT and eye irr; hematologic eff; CNS impair
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	Long Term: 220 mg/m3 - 50 ppm; Short Term: 441 mg/m3 - 100 ppm Sk, BMGV Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)
maleic anhydride CAS: 108-31-6	ACGIH		Long Term: 0.01 mg/m3 (8h) IFV, DSEN, RSEN, A4 - Resp sens
	WEL-EH40	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN	Long Term: 1 mg/m3; Short Term: 3 mg/m3 Sen Source: EH40/2005 Workplace exposure limits (Fourth Edition 2020)

Biological limit values

styrene CAS: 100-42-5	Biological Indicator: Mandelic acid in urine and fenilgliossilico; Sampling Period: End of turn Value: 600 mg/g; Medium: Urine
xylene CAS: 1330-20-7	Biological Indicator: Methyl hippuric acid in urine; Sampling Period: End of turn Value: 2000 mg/L; Medium: Urine

Predicted No Effect Concentration (PNEC) values

styrene CAS: 100-42-5	Exposure Route: Fresh Water; PNEC Limit: 34 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 40 µg/l
	Exposure Route: Marine water; PNEC Limit: 27 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 5 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 516 µg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 362.5 µg/kg
	Exposure Route: Soil; PNEC Limit: 173 µg/kg
ethanol; ethyl alcohol CAS: 64-17-5	Exposure Route: Fresh Water; PNEC Limit: 960 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 2.75 mg/l
	Exposure Route: Marine water; PNEC Limit: 790 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 580 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 3.6 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 2.9 mg/kg
	Exposure Route: Soil; PNEC Limit: 630 µg/kg
	Exposure Route: Secondary poisoning; PNEC Limit: 550 mg/kg
xylene CAS: 1330-20-7	Exposure Route: Fresh Water; PNEC Limit: 327 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 327 µg/l
	Exposure Route: Marine water; PNEC Limit: 327 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 6.58 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 12.46 mg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 12.46 mg/kg
	Exposure Route: Soil; PNEC Limit: 2.31 mg/kg
maleic anhydride CAS: 108-31-6	Exposure Route: Fresh Water; PNEC Limit: 87.5 µg/l
	Exposure Route: Intermittent releases (fresh water); PNEC Limit: 589.5 µg/l
	Exposure Route: Marine water; PNEC Limit: 8.75 µg/l
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 24.53 mg/l
	Exposure Route: Freshwater sediments; PNEC Limit: 197 µg/kg
	Exposure Route: Marine water sediments; PNEC Limit: 19.7 µg/kg
	Exposure Route: Soil; PNEC Limit: 25.75 µg/kg
	Exposure Route: Secondary poisoning; PNEC Limit: 6.67 mg/kg

Derived No Effect Level (DNEL) values

styrene CAS: 100-42-5	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 85 mg/m³; Consumer: 1 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 100 mg/m³; Consumer: 10 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 100 mg/m³; Consumer: 1 mg/m³
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 100 mg/m³; Consumer: 10 mg/m³
	Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 406 mg/kg; Consumer: 343 mg/kg
	Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects

	Consumer: 7.7 µg/kg
ethanol; ethyl alcohol CAS: 64-17-5	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 950 mg/m³; Consumer: 114 mg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 1900 mg/m³; Consumer: 950 mg/m³ Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 343 mg/kg; Consumer: 206 mg/kg Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 87 mg/kg
xylene CAS: 1330-20-7	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 221 mg/m³; Consumer: 65.3 mg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 442 mg/m³; Consumer: 260 mg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 221 mg/m³; Consumer: 65.3 mg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Professional: 442 mg/m³; Consumer: 260 mg/m³ Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 212 mg/kg; Consumer: 125 mg/kg Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 12.5 mg/kg
maleic anhydride CAS: 108-31-6	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Professional: 190 µg/m³; Consumer: 50 µg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Professional: 800 µg/m³ Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Professional: 320 µg/m³; Consumer: 80 µg/m³ Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects Worker Professional: 200 µg/kg; Consumer: 100 µg/kg Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Professional: 200 µg/kg; Consumer: 100 µg/kg Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects Consumer: 60 µg/kg Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects Consumer: 100 µg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

Protection for hands:

Suitable materials for safety gloves; EN 374:

Nitrile rubber - NBR: thickness ≥0,35mm; breakthrough time ≥480min.

Respiratory protection:

Gas filter type A .

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: Viscous Grey
Odour: Characteristic
Odour threshold: N.A.
pH: N.A.
Melting point / freezing point: -31 °C (-24 °F)
Initial boiling point and boiling range: 145 °C (293 °F)
Flash point: 32 °C (90 °F)
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: 3.6
Vapour pressure: 6.67 (kPa 50°C). hPa
Relative density: 1.67 g/cm3
Solubility in water: Insoluble
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: 490.00 °C
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.
Volatile Organic compounds - VOCs = 17.71 % ; 295.72 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

Avoid contact with combustible materials. The product could catch fire.

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	The product is classified: Repr. 2(H361)
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	The product is classified: STOT RE 1(H372)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

Toxicological information on main components of the mixture:

styrene	a) acute toxicity	LD50 Oral Rat = 5000 mg/kg	
		LC50 Inhalation Vapour Rat = 11.8 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 Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse inhalation route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 0.64	mg/L
ethanol; ethyl alcohol	a) acute toxicity	LD50 Oral Rat = 10470 mg/kg	
		LC50 Inhalation Vapour Rat = 117 mg/l 4h	
		LD50 Skin Rabbit = 17100 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 20700 mg/kg	Mouse
xylene	a) acute toxicity	LD50 Oral Rat = 3523 ml/Kg	
		LC50 Inhalation Vapour Rat = 29000 mg/m3 4h	
		LD50 Skin Rabbit = 12126 mg/kg 24h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Negative 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 1h	
	f) carcinogenicity	Genotoxicity Negative	Mouse subcutaneous route
	g) reproductive toxicity	No Observed Adverse Effect Level Inhalation Rat = 2171 mg/kg	
maleic anhydride	a) acute toxicity	LD50 Oral Rat = 1090 mg/kg	
		LC50 Inhalation Rat > 4.35 mg/l 1h	
		LD50 Skin Rabbit = 2620 mg/kg	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
		Respiratory Sensitization Rat Positive	
	f) carcinogenicity	Genotoxicity Rat Negative 6h	Inhalation route
		Carcinogenicity Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 55 mg/kg	

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

List of Eco-Toxicological properties of the product

Not classified for environmental hazards.

No data available for the product

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
styrene	CAS: 100-42-5 - EINECS: 202-851-5 - INDEX: 601-026-00-0	a) Aquatic acute toxicity : LC50 Fish Pimephales promelas = 4.02 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 4.7 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 1.01 mg/L OECD Guideline 211 - 21days
		a) Aquatic acute toxicity : EC50 Algae = 4.9 mg/L 72h
		a) Aquatic acute toxicity : EC50 Sludge activated sludge = 500 mg/L
ethanol; ethyl alcohol	CAS: 64-17-5 - EINECS: 200-578-6 - INDEX: 603-002-00-5	a) Aquatic acute toxicity : LC50 Fish S. gairdneri > 11.2 g/L 96h
		b) Aquatic chronic toxicity : NOEC Fish Oryzias latipes = 250 mg/L OECD212
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 5012 mg/L 48h
		a) Aquatic acute toxicity : NOEC Daphnia Ceriodaphnia dubia = 9.6 mg/L - 10days
		a) Aquatic acute toxicity : EC50 Algae Chlorella vulgaris = 275 mg/L 72h
		a) Aquatic acute toxicity : LC50 Paramaecium caudatum = 5800 mg/L - 16hr
		d) Terrestrial toxicity : LC50 Worm Eisenia foetida = 0.1 mg/cm2
		e) Plant toxicity : EC50 = 633 mg/kg
xylene	CAS: 1330-20-7 - EINECS: 215-535-7 - INDEX: 601-022-00-9	a) Aquatic acute toxicity : LC50 Fish freshwater fish = 2.6 mg/L 96h OECD 203
		b) Aquatic chronic toxicity : NOEC Fish freshwater fish = 1.3 mg/L - 56days
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1 mg/L 24h OECD 202
		b) Aquatic chronic toxicity : NOEC Daphnia Ceriodaphnia dubia = 0.96 mg/L - 7days
		a) Aquatic acute toxicity : EC50 Algae freshwater algae = 1.3 mg/L 48h OECD 201
		a) Aquatic acute toxicity : EC50 microorganisms = 96 mg/L OECD 301F
		d) Terrestrial toxicity : NOEC Worm earthworms = 16 mg/kg - 14days
		e) Plant toxicity : LC50 terrestrial plants = 1 mg/kg - 14days
maleic anhydride	CAS: 108-31-6 - EINECS: 203-571-6 - INDEX: 607-096-00-9	a) Aquatic acute toxicity : LC50 Fish rainbow trout = 75 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 42.81 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 10 mg/L - 21days
		a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 74.32 mg/L
		a) Aquatic acute toxicity : NOEC Sludge activated sludge = 44.6 mg/L - 18h

12.2. Persistence and degradability

Component	Persitence/Degradability:	Test	Value	Notes:
styrene	Readily biodegradable	Biochemical oxigen demand	80.000	28days
ethanol; ethyl alcohol	Readily biodegradable	CO2 production	75.000	
xylene	Readily biodegradable			

maleic anhydride	Readily biodegradable	90.000	28days

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value
ethanol; ethyl alcohol	Bioaccumulative	BCF - Bioconcentrantion factor	4.500
xylene	Bioaccumulative	BCF - Bioconcentrantion factor	25.900

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. 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. Disposal through discharge into wastewater is not permitted

SECTION 14: Transport information

14.1. UN number

1133

14.2. UN proper shipping name

ADR-Shipping Name: ADHESIVES containing flammable liquid
IATA-Shipping Name: ADHESIVES containing flammable liquid
IMDG-Shipping Name: ADHESIVES containing flammable liquid

14.3. Transport hazard class(es)

ADR-Class: 3
IATA-Class: 3
IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: III
IATA-Packing group: III
IMDG-Packing group: III

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-Label: 3
ADR - Hazard identification number: -
ADR-Special Provisions: -
ADR-Transport category (Tunnel restriction code): 3 (E)

Air (IATA):

IATA-Passenger Aircraft: 355
IATA-Cargo Aircraft: 366
IATA-Label: 3
IATA-Subsidiary hazards: -
IATA-Erg: 3L
IATA-Special Provisions: A3

Sea (IMDG):

IMDG-Stowage and handling: Category A
IMDG-Segregation: -
IMDG-Subsidiary hazards: -
IMDG-Special Provisions: 223 955
IMDG-EMS: F-E, S-D

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, 40

Restrictions related to the substances contained: None.

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):

Seveso III category according to Schedule I, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
Product belongs to category: P5c	5000	50000

GB PIC Legislation:

No substances listed

SVHC Substances:

No SVHC substances present in concentration >= 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:

ethanol; ethyl alcohol

SECTION 16: Other information

Code	Description
EUH071	Corrosive to the respiratory tract.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H300	Fatal if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child if inhaled and in contact with skin.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H372	Causes damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
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
2.6/3	Flam. Liq. 3	Flammable liquid, Category 3
3.1/2/Oral	Acute Tox. 2	Acute toxicity (oral), Category 2
3.1/4/Dermal	Acute Tox. 4	Acute toxicity (dermal), Category 4
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.1/1	Resp. Sens. 1	Respiratory Sensitisation, Category 1
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.7/2	Repr. 2	Reproductive toxicity, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
3.9/2	STOT RE 2	Specific target organ toxicity — repeated exposure, Category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to GB CLP	Classification procedure
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1A, H317	Calculation method
Repr. 2, H361	Calculation method
STOT RE 1, H372	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
Ethanol

Exposure Scenario, 29/07/2021

Substance identity	
	Ethanol
CAS No.	64-17-5
INDEX No.	603-002-00-5
EINECS No.	200-578-6
Registration number	01-2119457610-43

Table of contents

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

1.1 TITLE SECTION

Exposure Scenario name	Professional application of coatings and inks
Date - Version	29/07/2021 - 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) - Adhesives, sealants (PC1)

Environment Contributing Scenario

CS1	ERC8a - ERC8d

Worker Contributing Scenario

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

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

Concentration of substance in product:
Covers concentrations up to 80 %

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

Amounts used:
Annual site tonnage = 10000 t

Release type: Continuous release

Emission days: 300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Prevent discharge of undissolved substance to or recover from onsite wastewater.	Air - minimum efficiency of: 100 % Soil - minimum efficiency of: 20 % Water - minimum efficiency of: 100 %

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 90 %

STP effluent (m^3/day): 2000

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

Waste treatment
Contain and dispose of waste 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

1.2. CS2: 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 concentrations up to 80 %

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to > 4 h
Frequency:
Use frequency 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
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
For further specification, refer to section 8 of the SDS.

Other conditions affecting worker exposure

Indoor use
Professional use

1.2. CS3: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

Process Categories	Non industrial spraying (PROC11)

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:
Covers use up to < 4 h
Frequency:
Use frequency 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
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 chemically resistant gloves (tested to EN374) in combination with ''basic'' employee training. For further specification, refer to section 8 of the SDS.	Dermal - minimum efficiency of: = 80 %

Other conditions affecting worker exposure

Indoor use
Professional use

1.2. CS4: 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

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

Amount used, frequency and duration of use/exposure

Duration:
Covers use up to > 4 h

Frequency:
Use frequency 5 days per week

Technical and organisational conditions and measures

Technical and organisational measures
Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.
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
For further specification, refer to section 8 of the SDS.

Other conditions affecting worker exposure

Indoor use
Professional use

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	= 0.045 mg/L	EUSES v2.1	= 0.0469
freshwater sediment	= 0.045 mg/kg dry weight	EUSES v2.1	= 0.0469
marine water	= 0.0044 mg/L	EUSES v2.1	= 0.00557
marine sediment	= 0.0044 mg/kg dry weight	EUSES v2.1	= 0.00557
soil	= 0.0003 mg/kg dry weight	EUSES v2.1	= 0.00476
wastewater treatment plant microbes	= 0.34 mg/L	EUSES v2.1	= 0.000586

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

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

inhalative, systemic, long-term	= 198.08 mg/m³	ECETOC TRA worker v2.0	= 0.202
dermal, systemic, long-term	= 27.42 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.177

1.3. CS3: 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	= 345.75 mg/m³	ECETOC TRA worker v2.0	= 0.364
dermal, systemic, long-term	= 21.42 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.138

1.3. CS4: Worker Contributing Scenario: Handling and dilution of concentrates (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 115.25 mg/m³	ECETOC TRA worker v2.0	= 0.1213
dermal, systemic, long-term	= 84.86 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.547

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.