

Safety Data Sheet

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

H40 EXTREME UK (A)

Date of first edition: 2/10/2022

Safety Data Sheet dated 2/10/2022

version 1

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

1.1. Product identifier

Mixture identification:

Trade name: H40 EXTREME UK (A)

Trade code: B0368 .010

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

Recommended use: Adhesives, sealants

Uses advised against: Data not available.

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy - +39-0536-816511

Ireland

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

In case of emergency call 999 or 112

Malta

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

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Skin Irrit. 2 Causes skin irritation.

Eye Irrit. 2 Causes serious eye irritation.

Skin Sens. 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

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

Pictograms and Signal Words



Warning

Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P102 Keep out of reach of children.

P305+P351+P33 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Contains

Cashew, nutshell liq.

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

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

None

2.3. Other hazards

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

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: H40 EXTREME UK (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
10-19,9 %	bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS:1675-54-3 EC:216-823-5 Index:603-073-00-2	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411, M-Chronic:1	01-2119456619-26
			Specific Concentration Limits: C ≥ 5%: Eye Irrit. 2 H319 C ≥ 5%: Skin Irrit. 2 H315	
< 1 %	Quartz	CAS:14808-60-7 EC:238-878-4	STOT RE 1, H372	
< 0,2 %	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	01-2119502450-57

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

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 ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

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

In case of Inhalation:

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

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

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

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

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term	Long Term	Short Term	Short Term	Notes
				mg/m ³	ppm	mg/m ³	ppm	
Quartz	NATIONAL	AUSTRALIA		0.100				Respirable fraction

NATIONAL	AUSTRIA	0.150	Respirable aerosol	
NATIONAL	BELGIUM	0.100		
NATIONAL	CANADA	0.100	Canada Ontario; Respirable aerosol	
NATIONAL	CANADA	0.100	Canada Quebec	
NATIONAL	DENMARK	0.300	Inhalable aerosol	
NATIONAL	DENMARK	0.100	Respirable aerosol	
NATIONAL	FINLAND	0.050	Respirable fraction	
NATIONAL	FRANCE	0.100	Respirable aerosol	
NATIONAL	HUNGARY	0.150	Respirable aerosol	
NATIONAL	IRELAND	0.100	Respirable fraction	
NATIONAL	NEW ZEALAND	0.200	Respirable aerosol	
NATIONAL	CHINA	1.000	Inhalable fraction. 10% <= free SiO2 <= 50%.	
NATIONAL	CHINA	0.700	Inhalable fraction. 50% < free SiO2 <= 80%.	
NATIONAL	CHINA	0.500	Inhalable fraction. Free SiO2 < 80%.	
NATIONAL	SINGAPORE	0.100	Respirable aerosol.	
NATIONAL	SPAIN	0.100	Respirable fraction	
NATIONAL	SWEDEN	0.100	Respirable aerosol	
NATIONAL	SWITZERLAND	0.150	Respirable aerosol	
NATIONAL	NETHERLANDS	0.075	Respirable dust	
NATIONAL	ITALY	0.050	Silice cristallina	
NATIONAL	ITALY	0.025	A2	
NATIONAL	ITALY	10.000	Come particelle non altrimenti specificate PNOC	
NATIONAL	KOREA, REPUBLIC OF	0.050		
NATIONAL	UNITED STATES OF AMERICA	0.050	NIOSH	
NATIONAL	ARGENTINA	0.050		
NATIONAL	CHILE	0.080		
NATIONAL	CROATIA	0.100		
NATIONAL	ESTONIA	0.100		
NATIONAL	INDIA	10.000		
NATIONAL	LITHUANIA	0.100		
NATIONAL	MALAYSIA	0.100		
NATIONAL	MEXICO	0.025	Respirable fraction	
NATIONAL	NORWAY	0.300	Total dust	
NATIONAL	NORWAY	0.100	Respirable dust	
NATIONAL	PORTUGAL	0.025	Respirable fraction	
NATIONAL	SLOVENIA	0.050	0.400	
NATIONAL	SOUTH AFRICA	0.100		
ACGIH	NNN	0.025	(R), A2 - Pulm fibrosis, lung cancer	
bis-[4-(2,3-epoxipropoxy)phenyl]propane	NATIONAL	NETHERLANDS	5.000	respirable fraction

	NATIONAL	NETHERLANDS	10.000	Inhalable fraction	
Calcium carbonate	NATIONAL	AUSTRALIA	10.000	This value is for inhalable dust containing no asbestos and <1 % crystalline silica.	
	NATIONAL	CANADA	10.000		
	NATIONAL	FRANCE	10.000	inhalable aerosol	
	NATIONAL	HUNGARY	10.000	inhalable aerosol	
	NATIONAL	IRELAND	10.000	Inhalable fraction	
	NATIONAL	IRELAND	4.000	Respirable fraction	
	NATIONAL	LATVIA	6.000		
	NATIONAL	NEW ZEALAND	10.000	The value for inhalable dust containing no asbestos and less than 1% free silica.	
	NATIONAL	POLAND	10.000		
	NATIONAL	SINGAPORE	10.000	(limestone, marble)	
	NATIONAL	SWITZERLAND	3.000	respirable aerosol	
	NATIONAL	UNITED STATES OF AMERICA	15.000	total dust	
	NATIONAL	UNITED STATES OF AMERICA	5.000	respirable dust	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	inhalable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	respirable aerosol	
	NATIONAL	ITALY	10.000		
	NATIONAL	BELGIUM	10.000		
	NATIONAL	KOREA, REPUBLIC OF	10.000		
	NATIONAL	CROATIA	10.000		
	NATIONAL	NETHERLANDS	10.000		
	NATIONAL	PORTUGAL	10.000		
	NATIONAL	SPAIN	10.000		
	NATIONAL	CHILE	5.000	respirable fraction	
Quartz	NATIONAL	AUSTRALIA	0.100	Respirable fraction	
	NATIONAL	AUSTRIA	0.150	respirable aerosol	
	NATIONAL	BELGIUM	0.100		
	NATIONAL	CANADA	0.100	Canada Ontario. Respirable aerosol	
	NATIONAL	CANADA	0.100	Canada Quebec	
	NATIONAL	DENMARK	0.300	0.600	Inhalable aerosol
	NATIONAL	DENMARK	0.100	0.200	Respirable aerosol
	NATIONAL	FINLAND	0.050	Respirable fraction	
	NATIONAL	FRANCE	0.100	Respirable aerosol	

	NATIONAL	HUNGARY	0.150	Respirable aerosol	
	NATIONAL	IRELAND	0.100	Respirable fraction	
	NATIONAL	NEW ZEALAND	0.200	Respirable aerosol	
	NATIONAL	CHINA	1.000	Inhalable fraction. 10% <= free SiO ₂ <= 50%.	
	NATIONAL	CHINA	0.700	Inhalable fraction. 50% < free SiO ₂ <= 80%.	
	NATIONAL	CHINA	0.500	Inhalable fraction. Free SiO ₂ < 80%.	
	NATIONAL	SINGAPORE	0.100	Respirable aerosol.	
	NATIONAL	SPAIN	0.100	Respirable fraction	
	NATIONAL	SWEDEN	0.100	Respirable aerosol	
	NATIONAL	SWITZERLA ND	0.150	Respirable aerosol	
	NATIONAL	NETHERLA NDS	0.075	Respirable dust	
	NATIONAL	ITALY	0.050	Silice cristallina	
	NATIONAL	ITALY	0.025	A2	
	NATIONAL	UNITED STATES OF AMERICA	0.050	NIOSH	
	NATIONAL	KOREA, REPUBLIC OF	0.050		
	NATIONAL	ARGENTINA	0.050		
	NATIONAL	CHILE	0.080		
	NATIONAL	CROATIA	0.100		
	NATIONAL	ESTONIA	0.100		
	NATIONAL	INDIA	10.000		
	NATIONAL	LITHUANIA	0.100		
	NATIONAL	MALAYSIA	0.100		
	NATIONAL	MEXICO	0.025	Respirable fraction	
	NATIONAL	NORWAY	0.300	Total dust	
	NATIONAL	NORWAY	0.100	Respirable dust	
	NATIONAL	PORTUGAL	0.025		
	NATIONAL	SLOVENIA	0.050	0.400	
	NATIONAL	SOUTH AFRICA	0.100		
	ACGIH	NNN	0.025	(R), A2 - Pulm fibrosis, lung cancer	
	EU	NNN	0.100	(R), A2 - Pulm fibrosis, lung cancer	
Titanium dioxide	NATIONAL	AUSTRALIA	10.000	This value is for inhalable dust containing no asbestos and < 1% crystalline silica	
	NATIONAL	BELGIUM	10.000		
	NATIONAL	CANADA	10.000	Ontario	
	NATIONAL	CANADA	10.000	Quebec	
	NATIONAL	DENMARK	6.000	12.000	Long term and short term: total dust
	NATIONAL	FRANCE	11.000	Inhalable aerosol	
	NATIONAL	GERMANY	0.300	2.400	DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material

NATIONAL	IRELAND	10.000	density;
NATIONAL	IRELAND	8.000	Inhalable fraction
NATIONAL	JAPAN	0.300	Respirable fraction
NATIONAL	LATVIA	10.000	JSOH; Nanoparticle, as Ti
NATIONAL	NEW ZEALAND	10.000	The value for inhalable dust containing no asbestos and less than 1% free silica
NATIONAL	CHINA	8.000	Inhalable fraction
NATIONAL	POLAND	10.000	30.000
NATIONAL	ROMANIA	10.000	15.000
NATIONAL	SINGAPORE	10.000	
NATIONAL	KOREA, REPUBLIC OF	10.000	
NATIONAL	SPAIN	10.000	Inhalable aerosol
NATIONAL	SWEDEN	5.000	Inhalable aerosol
NATIONAL	SWITZERLA ND	3.000	Respirable aerosol
NATIONAL	UNITED STATES OF AMERICA	15.000	OSHA; total dust
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	Inhalable aerosol
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	Respirable aerosol
NATIONAL	ITALY	10.000	
NATIONAL	ARGENTINA	10.000	
NATIONAL	AUSTRIA	5.000	10.000
NATIONAL	BULGARIA	10.000	
NATIONAL	CROATIA	10.000	Total dust
NATIONAL	CROATIA	4.000	Respirable dust
NATIONAL	ESTONIA	5.000	
NATIONAL	GREECE	10.000	
NATIONAL	GREECE	5.000	
NATIONAL	INDONESIA	10.000	
NATIONAL	LITHUANIA	5.000	
NATIONAL	MALAYSIA	10.000	
NATIONAL	MEXICO	10.000	
NATIONAL	NORWAY	5.000	
NATIONAL	PORTUGAL	10.000	
NATIONAL	RUSSIAN FEDERATIO N	10.000	
NATIONAL	SLOVAKIA	5.000	
NATIONAL	SLOVENIA	6.000	
NATIONAL	SOUTH AFRICA	10.000	Inhalable particulate

	NATIONAL	SOUTH AFRICA	5.000	Respirable particulate	
	NATIONAL	TAIWAN, PROVINCE OF CHINA	10.000		
silicon dioxide, chemically prepared	ACGIH	NNN	10	A4 - LRT irr	
	NATIONAL	AUSTRALIA	2.000	This value is for inhalable dust containing no asbestos and < 1% crystalline silica	
	NATIONAL	AUSTRIA	4.000	Inhalable aerosol	
	NATIONAL	BELGIUM	10.000		
	NATIONAL	CANADA	10.000	Ontario	
	NATIONAL	CANADA	6.000	Quebec	
	NATIONAL	DENMARK	2.000	4.000	Inhalable aerosol
	NATIONAL	FINLAND	5.000		
	NATIONAL	GERMANY	4.000	AGS; Inhalable aerosol	
	NATIONAL	GERMANY	4.000	DFG; Inhalable aerosol	
	NATIONAL	IRELAND	6.000	Inhalable fraction	
	NATIONAL	IRELAND	2.400	Respirable fraction	
	NATIONAL	LATVIA	1.000		
	NATIONAL	NEW ZEALAND	1.000		
	NATIONAL	CHINA	2.000	Inhalable fraction	
	NATIONAL	SINGAPORE	10.000		
	NATIONAL	KOREA, REPUBLIC OF	10.000		
	NATIONAL	SWITZERLAND	4.000	Inhalable aerosol	
	NATIONAL	UNITED STATES OF AMERICA	80.000	OSHA; 80/ % silica total dust (MG3)	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	6.000	Inhalable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	2.400	Respirable aerosol	
	NATIONAL	ESTONIA	2.000		
	NATIONAL	SLOVENIA	4.000	Inhalable fraction	
	NATIONAL	SOUTH AFRICA	6.000	Inhalable particulate	
	NATIONAL	SOUTH AFRICA	3.000	Respirable particulate	
Aluminium oxide	NATIONAL	FRANCE	10.000	Respirable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	Inhalable aerosol	

NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	Respirable aerosol			
NATIONAL	AUSTRALIA	10.000	Inhalable dust containing no asbestos and < 1% crystalline silica			
NATIONAL	AUSTRIA	10.000	Long term: inhalable fraction; Short term: inhalable fraction, 60 minutes average value			
NATIONAL	AUSTRIA	5.000	Long term: respirable fraction; Short term: respirable fraction, 60 minutes average value			
NATIONAL	CANADA	10.000				
NATIONAL	DENMARK	5.000	Calculated as AI; Long term and Short term: inhalable aerosol			
NATIONAL	DENMARK	2.000	Calculated as AI; Long term and Short term: respirable aerosol			
NATIONAL	GERMANY	4.000	Inhalable aerosol			
NATIONAL	GERMANY	1.500	Respirable aerosol			
NATIONAL	HUNGARY	6.000	Respirable aerosol			
NATIONAL	IRELAND	10.000	Inhalable fraction			
NATIONAL	IRELAND	4.000	Respirable fraction			
NATIONAL	LATVIA	6.000				
NATIONAL	NEW ZEALAND	10.000	The value for inhalable dust containing no asbestos and less than 1% free silica			
NATIONAL	POLAND	2.500	16.000			
NATIONAL	POLAND	1.200	Aluminium trioxide as AI fume; Long term: total dust fume			
NATIONAL	POLAND	1.200	Aluminium trioxide as AI fume; Long term: respirable dust			
NATIONAL	ROMANIA	2.000	0.500	5.000	1.200	Long term and short term: aerosol
NATIONAL	SINGAPORE	10.000				
NATIONAL	KOREA, REPUBLIC OF	10.000				
NATIONAL	SPAIN	10.000	Inhalable aerosol			
NATIONAL	SPAIN	5.000	Respirable aerosol			
NATIONAL	SWEDEN	5.000	Inhalable aerosol			
NATIONAL	SWEDEN	2.000	Respirable aerosol			
NATIONAL	SWITZERLAND	3.000	Respirable aerosol			
NATIONAL	UNITED STATES OF AMERICA	15.000	OSHA; Total dust			
NATIONAL	UNITED STATES OF AMERICA	5.000	OSHA; Inhalable dust			

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
bis-[4-(2,3-epoxipropoxy)phenyl]propane	1675-54-3	0.006 mg/l	Freshwater	

		600.000 ng/L	Marine water
		0.996 mg/kg	Freshwater sediments
		0.099 mg/kg	Marine water sediments
		0.196 mg/kg	Soil
		10.000 mg/l	Microorganisms in sewage treatments
		0.018 mg/l	Intermittent releases (freshwater)
Cashew, nutshell liq.	8007-24-7	0.003 mg/l	Freshwater
		0.088 mg/kg	Marine water sediments
		0.970 mg/kg	Freshwater sediments
		0.030 mg/l	Intermittent releases (freshwater)
		6.710 mg/kg	Soil

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
bis-[4-(2,3-epoxipropoxi)phenyl]propane	1675-54-3		0.750 mg/kg		Human Oral	Long Term, local effects
			0.750 mg/kg		Human Oral	Long Term, systemic effects
			3.571 mg/kg		Human Dermal	Long Term, systemic effects
			3.571 mg/kg		Human Dermal	Long Term, local effects
			12.250 mg/m ³		Human Inhalation	Long Term, systemic effects
			12.250 mg/m ³		Human Inhalation	Long Term, local effects
Cashew, nutshell liq.	8007-24-7		0.500 mg/kg	0.250 mg/kg	Human Dermal	Long Term, local effects
			0.880 mg/m ³	0.200 mg/m ³	Human Inhalation	Long Term, local effects
				0.250 mg/kg	Human Oral	Long Term, local effects

8.2. Exposure controls

Eye protection:

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

Protection for skin:

No special precaution must be adopted for normal use.

Protection for hands:

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

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Liquid

Color: White

Odour: Characteristic
Odour threshold: N.A.
pH: N.A.
Kinematic viscosity: <= 20,5 mm²/sec (40 °C)
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: > 100°C / 212°F
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 1.49 g/cm³
Solubility in water: Immiscible
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Flammability: N.A.
Volatile Organic compounds - VOCs = 0 % ; 0 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Miscibility: N.A.
Conductivity: N.A.
Evaporation rate: N.A. No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Irrit. 2(H315)
c) serious eye damage/irritation	The product is classified: Eye Irrit. 2(H319)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 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 = 19800.00000 mg/kg	
	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 = 15.00000 mg/kg	NOAEL
		Carcinogenicity Skin Rat = 1.00000 mg/kg	NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750.00000 mg/kg	
Quartz	a) acute toxicity	LD50 Oral > 2000.00000 mg/kg	
Cashew, nutshell liq.	a) acute toxicity	LD50 Oral Rat = 2000.00000 mg/kg	
		LD50 Skin Rat > 2000.00000 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

11.2 Information on other hazards**Endocrine disrupting properties:**

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information**12.1. Toxicity**

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

Eco-Toxicological Information:

Harmful to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 3(H412)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-96h 823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 2.00000 mg/L a) Aquatic acute toxicity : EC50 Algae Scenedesmus capricornutum = 11.00000 mg/L 72h EPA-660/3-75-009 c) Bacteria toxicity : EC50 Sludge activated sludge = 100.00000 mg/L 3h
Cashew, nutshell liq.	CAS: 8007-24-7 - EINECS: 232-355-4	a) Aquatic acute toxicity : LC50 Fish Cyprinodon variegatus = 1000.00000 mg/L 96h ,OECD Guideline 203 (Fish, Acute Toxicity Test) a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 40.46000 mg/L 48h „EPA OPPTS 850.1010 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids) a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata =

12.2. Persistence and degradability

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

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Bioaccumulative	BCF - Bioconcentration factor	31.000

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

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

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

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

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

SECTION 14: Transport information

Not classified as dangerous in the meaning of transport regulations.

14.1. UN number or ID number

N.A.

14.2. UN proper shipping name

ADR-Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

N.A.

14.3. Transport hazard class(es)

ADR-Class: N.A.

IATA-Class: N/A

IMDG-Class: N/A

14.4. Packing group

N.A.

ADR-Packing Group:

IATA-Packing group: N/A

IMDG-Packing group: N/A

14.5. Environmental hazards

N.A.

IMDG-EMS: N/A

14.6. Special precautions for user

N.A.

Road and Rail (ADR-RID) :

ADR-Label: N.A. N/A

ADR - Hazard identification number: N/A

ADR-Special Provisions: N/A

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

ADR Limited Quantities: N/A

ADR Excepted Quantities: N/A

Air (IATA) :

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subsidiary hazards: N/A

IATA-Erg: N/A

IATA-Special Provisioning: N/A

N.A.

Sea (IMDG) :

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subsidiary hazards: N/A

IMDG-Special Provisioning: N/A

N.A.

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

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

N.A.

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

No Substance Listed

German Water Hazard Class.

Class 1: slightly hazardous for water.

SVHC Substances:

No data available

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code	Description
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
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
3.9/1	STOT RE 1	Specific target organ toxicity — repeated exposure, Category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.2/2	Calculation method
3.3/2	Calculation method
3.4.2/1A	Calculation method
4.1/C3	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

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

Exposure Scenario

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
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Worker Contributing Scenario

CS2 Material transfers	PROC8a
CS3 Rolling, Brushing	PROC10
CS4 Roller, spreader, flow application	PROC11
CS5 Mixing operations - Manual	PROC19

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)
----------------------------------	---

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Amounts used:

Daily amount per site = 175 kg/day

Release type:

Continuous release

Emission days:

365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Provide onsite wastewater removal efficiency of ³ (%):

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

STP effluent (m³/day):

2

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

Waste treatment

Dispose of waste cans and containers according to local regulations.

Other conditions affecting environmental exposure

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

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

Other conditions affecting worker exposure

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

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

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

Other conditions affecting worker exposure

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

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

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

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

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

Wear suitable face shield.

Wear an impervious suit.

Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

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

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

Process Categories	Manual activities involving hand contact (PROC19)
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Product (article) characteristics**Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Avoid carrying out activities involving exposure for more than 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

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

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

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

< 50 t(tonnes)/year
< 167 kg/day

Release type: Intermittent release**Emission days:** 365 days per year**Conditions and measures related to sewage treatment plant****STP type:**

Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 93.2 %

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

Residues which cannot be recycled are disposed off as chemical waste

Other conditions affecting environmental exposure**Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10

Receiving surface water flow: 18000 m³/day

Covers indoor and outdoor use

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

Process Categories Manual activities involving hand contact (PROC19)

Product (article) characteristics

Physical form of product:

Liquid

Concentration of substance in product:

Covers percentage substance in the product up to 1 %.

Amount used, frequency and duration of use/exposure

Amounts used:

< 50 t(tonnes)/year

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection

Wear suitable gloves tested to EN374.

Wear suitable coveralls to prevent exposure to the skin.

Use eye protection according to EN 166.

Wear a respirator conforming to EN140.

Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

Temperature: Covers use at ambient temperatures.

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

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

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Frequency:

Avoid using product more than = 4 h/event

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection

Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Indoor use

Professional use

Temperature: Covers use at ambient temperatures.

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 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
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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.

Safety Data Sheet

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

H40 EXTREME UK (B)

Date of first edition: 2/10/2022

Safety Data Sheet dated 2/10/2022

version 1

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

1.1. Product identifier

Mixture identification:

Trade name: H40 EXTREME UK (B)

Trade code: K46364

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

Recommended use: hardener

Uses advised against: Data not available.

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy - +39-0536-816511

Ireland

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

In case of emergency call 999 or 112

Malta

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

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

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

Skin Corr. 1B Causes severe skin burns and eye damage.

Eye Dam. 1 Causes serious eye damage.

Skin Sens. 1 May cause an allergic skin reaction.

Aquatic Chronic 2 Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

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

Pictograms and Signal Words



Danger

Hazard statements

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P102 Keep out of reach of children.
P305+P351+P33 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
8

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

Contains

amines, polyethylenepoly-; HEPA
2,4,6-tris(dimethylaminomethyl)phenol

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

None

2.3. Other hazards

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

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: H40 EXTREME UK (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
10-19,9 %	amines, polyethylenepoly-; HEPA	CAS:68131-73-7 EC:268-626-9 Index:612-121-00-1	Skin Corr. 1B, H314; Skin Sens. 1, 01-2119485823-28 H317; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312, M-Chronic:1	
2,5-4,9 %	2,4,6-tris(dimethylaminomethyl)phenol	CAS:90-72-2 EC:202-013-9 Index:603-069-00-0	Acute Tox. 4, H302; Skin Corr. 1C, 01-2119560597-27 H314; Eye Dam. 1, H318	

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.

OBTAINT IMMEDIATE MEDICAL ATTENTION.

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 ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

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

In case of Inhalation:

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

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

Eye irritation

Eye damages

Skin Irritation

Erythema

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

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Extinguishing media which must not be used for safety reasons:

None in particular.

5.2. Special hazards arising from the substance or mixture

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

5.3. Advice for firefighters

Use suitable breathing apparatus .

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

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

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

6.4. Reference to other sections

See also section 8 and 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

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

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

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term mg/m ³	Long Term ppm	Short Term mg/m ³	Short Term ppm	Notes
Calcium carbonate	NATIONAL	AUSTRALIA		10.000				This value is for inhalable dust containing no asbestos and <1 % crystalline silica.
	NATIONAL	CANADA		10.000				
	NATIONAL	FRANCE		10.000				inhalable aerosol
	NATIONAL	HUNGARY		10.000				inhalable aerosol
	NATIONAL	IRELAND		10.000				Inhalable fraction

	NATIONAL IRELAND	4.000	Respirable fraction	
	NATIONAL LATVIA	6.000		
	NATIONAL NEW ZEALAND	10.000	The value for inhalable dust containing no asbestos and less than 1% free silica.	
	NATIONAL POLAND	10.000		
	NATIONAL SINGAPORE	10.000	(limestone, marble)	
	NATIONAL SWITZERLAND	3.000	respirable aerosol	
	NATIONAL UNITED STATES OF AMERICA	15.000	total dust	
	NATIONAL UNITED STATES OF AMERICA	5.000	respirable dust	
	NATIONAL UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	inhalable aerosol	
	NATIONAL UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	respirable aerosol	
	NATIONAL ITALY	10.000		
	NATIONAL BELGIUM	10.000		
	NATIONAL KOREA, REPUBLIC OF	10.000		
	NATIONAL CROATIA	10.000		
	NATIONAL NETHERLANDS	10.000		
	NATIONAL PORTUGAL	10.000		
	NATIONAL SPAIN	10.000		
	NATIONAL CHILE	5.000	respirable fraction	
Titanium dioxide	NATIONAL AUSTRALIA	10.000	This value is for inhalable dust containing no asbestos and < 1% crystalline silica	
	NATIONAL BELGIUM	10.000		
	NATIONAL CANADA	10.000	Ontario	
	NATIONAL CANADA	10.000	Quebec	
	NATIONAL DENMARK	6.000	12.000	Long term and short term: total dust
	NATIONAL FRANCE	11.000		
	NATIONAL GERMANY	0.300	2.400	DFG; Long term and short term: excluding ultrafine particles; respirable fraction; multiplied by the material density;
	NATIONAL IRELAND	10.000		
	NATIONAL IRELAND	8.000		
	NATIONAL JAPAN	0.300		
	NATIONAL LATVIA	10.000		
	NATIONAL NEW ZEALAND	10.000	The value for inhalable dust containing no asbestos and	

			less than 1% free silica
NATIONAL	CHINA	8.000	Inhalable fraction
NATIONAL	POLAND	10.000	30.000
NATIONAL	ROMANIA	10.000	15.000
NATIONAL	SINGAPORE	10.000	
NATIONAL	KOREA, REPUBLIC OF	10.000	
NATIONAL	SPAIN	10.000	Inhalable aerosol
NATIONAL	SWEDEN	5.000	Inhalable aerosol
NATIONAL	SWITZERLA ND	3.000	Respirable aerosol
NATIONAL	UNITED STATES OF AMERICA	15.000	OSHA; total dust
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	Inhalable aerosol
NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	Respirable aerosol
NATIONAL	ITALY	10.000	
NATIONAL	ARGENTINA	10.000	
NATIONAL	AUSTRIA	5.000	10.000
NATIONAL	BULGARIA	10.000	
NATIONAL	CROATIA	10.000	Total dust
NATIONAL	CROATIA	4.000	Respirable dust
NATIONAL	ESTONIA	5.000	
NATIONAL	GREECE	10.000	
NATIONAL	GREECE	5.000	
NATIONAL	INDONESIA	10.000	
NATIONAL	LITHUANIA	5.000	
NATIONAL	MALAYSIA	10.000	
NATIONAL	MEXICO	10.000	
NATIONAL	NORWAY	5.000	
NATIONAL	PORTUGAL	10.000	
NATIONAL	RUSSIAN FEDERATIO N	10.000	
NATIONAL	SLOVAKIA	5.000	
NATIONAL	SLOVENIA	6.000	
NATIONAL	SOUTH AFRICA	10.000	Inhalable particulate
NATIONAL	SOUTH AFRICA	5.000	Respirable particulate
NATIONAL	TAIWAN, PROVINCE OF CHINA	10.000	
ACGIH	NNN	10	A4 - LRT irr

silicon dioxide, chemically prepared	NATIONAL	AUSTRALIA	2.000	This value is for inhalable dust containing no asbestos and < 1% crystalline silica	
	NATIONAL	AUSTRIA	4.000	Inhalable aerosol	
	NATIONAL	BELGIUM	10.000		
	NATIONAL	CANADA	10.000	Ontario	
	NATIONAL	CANADA	6.000	Quebec	
	NATIONAL	DENMARK	2.000	4.000	Inhalable aerosol
	NATIONAL	FINLAND	5.000		
	NATIONAL	GERMANY	4.000	AGS; Inhalable aerosol	
	NATIONAL	GERMANY	4.000	DFG; Inhalable aerosol	
	NATIONAL	IRELAND	6.000	Inhalable fraction	
	NATIONAL	IRELAND	2.400	Respirable fraction	
	NATIONAL	LATVIA	1.000		
	NATIONAL	NEW ZEALAND	1.000		
	NATIONAL	CHINA	2.000	Inhalable fraction	
	NATIONAL	SINGAPORE	10.000		
	NATIONAL	KOREA, REPUBLIC OF	10.000		
	NATIONAL	SWITZERLA ND	4.000	Inhalable aerosol	
	NATIONAL	UNITED STATES OF AMERICA	80.000	OSHA; 80/ % silica total dust (MG3)	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	6.000	Inhalable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	2.400	Respirable aerosol	
	NATIONAL	ESTONIA	2.000		
	NATIONAL	SLOVENIA	4.000	Inhalable fraction	
	NATIONAL	SOUTH AFRICA	6.000	Inhalable particulate	
	NATIONAL	SOUTH AFRICA	3.000	Respirable particulate	
Aluminium oxide	NATIONAL	FRANCE	10.000	Respirable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	10.000	Inhalable aerosol	
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	4.000	Respirable aerosol	

NATIONAL	AUSTRALIA	10.000		Inhalable dust containing no asbestos and < 1% crystalline silica		
NATIONAL	AUSTRIA	10.000	20.000	Long term: inhalable fraction; Short term: inhalable fraction, 60 minutes average value		
NATIONAL	AUSTRIA	5.000	10.000	Long term: respirable fraction; Short term: respirable fraction, 60 minutes average value		
NATIONAL	CANADA	10.000				
NATIONAL	DENMARK	5.000	10.000	Calculated as AI; Long term and Short term: inhalable aerosol		
NATIONAL	DENMARK	2.000	4.000	Calculated as AI; Long term and Short term: respirable aerosol		
NATIONAL	GERMANY	4.000		Inhalable aerosol		
NATIONAL	GERMANY	1.500		Respirable aerosol		
NATIONAL	HUNGARY	6.000		Respirable aerosol		
NATIONAL	IRELAND	10.000		Inhalable fraction		
NATIONAL	IRELAND	4.000		Respirable fraction		
NATIONAL	LATVIA	6.000				
NATIONAL	NEW ZEALAND	10.000		The value for inhalable dust containing no asbestos and less than 1% free silica		
NATIONAL	POLAND	2.500	16.000	Aluminium trioxide as AI fume; Long term: total dust fume		
NATIONAL	POLAND	1.200		Aluminium trioxide as AI fume; Long term: respirable dust		
NATIONAL	ROMANIA	2.000	0.500	5.000	1.200	Long term and short term: aerosol
NATIONAL	SINGAPORE	10.000				
NATIONAL	KOREA, REPUBLIC OF	10.000				
NATIONAL	SPAIN	10.000		Inhalable aerosol		
NATIONAL	SPAIN	5.000		Respirable aerosol		
NATIONAL	SWEDEN	5.000		Inhalable aerosol		
NATIONAL	SWEDEN	2.000		Respirable aerosol		
NATIONAL	SWITZERLAND	3.000		Respirable aerosol		
NATIONAL	UNITED STATES OF AMERICA	15.000		OSHA; Total dust		
NATIONAL	UNITED STATES OF AMERICA	5.000		OSHA; Inhalable dust		

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
amines, polyethylenepoly-; HEPA	68131-73-7	1.600 µg/l	Freshwater	
		16.000 µg/l	Intermittent releases (freshwater)	
		1.600 µg/l	Marine water	
		3.190 mg/l	Microorganisms in sewage treatments	

2,4,6-tris (dimethylaminomethyl) phenol	90-72-2	0.140 mg/kg	Freshwater sediments
		0.140 mg/kg	Marine water sediments
	84.000 µg/l	10.000 mg/kg	Soil
		840.000 µg/l	Freshwater
		8.400 µg/l	Intermittent releases (freshwater)
		200.000 µg/l	Marine water
		200.000 µg/l	Microorganisms in sewage treatments

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
amines, polyethylenepoly-; HEPA	68131-73-7		1.590 mg/m ³	0.460 mg/m ³	Human Inhalation	Long Term, systemic effects
			8550.000 mg/m ³	2542.000 mg/m ³	Human Inhalation	Short Term, systemic effects
				0.650 mg/kg	Human Oral	Long Term, systemic effects
				32.000 mg/kg	Human Oral	Short Term, systemic effects
			0.910 mg/m ³	0.400 mg/kg	Human Dermal	Long Term, systemic effects
			0.044 mg/cm ²	0.680 mg/cm ²	Human Dermal	Long Term, local effects
				1.590 mg/cm ²	Human Dermal	Short Term (acute)

8.2. Exposure controls

Eye protection:

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

Protection for skin:

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

Protection for hands:

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

Respiratory protection:

N.A.

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

Hygienic and Technical measures

N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Liquid

Color: White

Odour: Like: Amines

Odour threshold: N.A.

pH: N.A.

Kinematic viscosity: N.A.

Melting point / freezing point: > 200 °C (392 °F)

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

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

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

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: 1.60 g/cm³ (EN 1097-03)
Solubility in water: Immiscible
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Flammability: N.A.
Volatile Organic compounds - VOCs = 0 % ; 0 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Miscibility: N.A.
Conductivity: N.A.
Evaporation rate: N.A.
Viscosity: 56,000.00 cPo
No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

10.3. Possibility of hazardous reactions

None.

10.4. Conditions to avoid

Stable under normal conditions.

10.5. Incompatible materials

None in particular.

10.6. Hazardous decomposition products

None.

SECTION 11: Toxicological information

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

Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin Corr. 1B(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	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:

amines, a) acute toxicity LD50 Oral Rat = 1716.20000 mg/kg
polyethylenepoly-; HEPA

LD50 Skin Rabbit = 1465.40 mg/kg 24h

b) skin corrosion/irritation Skin Corrosive Rabbit Positive

c) serious eye damage/irritation Eye Irritant Rabbit Yes

	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Positive	
	f) carcinogenicity	Genotoxicity Negative	Mouse intraperitoneal route
2,4,6-tris(dimethylaminomethyl)phenol	a) acute toxicity	LD50 Oral Rat = 2169.00000 mg/kg	
		LD50 Skin Rat > 1.00000 ml/Kg 6h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guineapig Negative	
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 15.00000 mg/kg	

11.2 Information on other hazards

Endocrine disrupting properties:

No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity

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

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
amines, polyethylenepoly-; HEPA	CAS: 68131-73-7 - EINECS: 268-626-9 - INDEX: 612-121-00-1	<p>a) Aquatic acute toxicity : LC50 Fish Poecilia reticulata = 100.00000 mg/L 96h EU Method C.1 (Acute Toxicity for Fish)</p> <p>a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 2.20000 mg/L 48h EU Method C.2 (Acute Toxicity for Daphnia)</p> <p>a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 0.23 mg/L 72h OECD TG 201</p> <p>c) Bacteria toxicity : EC50 nitrifying bacteria = 319.30000 mg/L - 2h</p> <p>d) Terrestrial toxicity : NOEC Worm Eisenia fetida = 1000.00000 mg/kg OECD Guideline 222 (Earthworm Reproduction Test (Eisenia fetida/Eisenia andrei)) - 56days</p>
2,4,6-tris(dimethylaminomethyl)phenol	CAS: 90-72-2 - EINECS: 202-013-9 - INDEX: 603-069-00-0	<p>a) Aquatic acute toxicity : LC50 Fish Cyprinus carpio = 175.00000 mg/L 96h</p> <p>a) Aquatic acute toxicity : LC50 Salmo gairdneri < 240.00 mg/L 96h</p> <p>a) Aquatic acute toxicity : LC50 Daphnia Paleomonetes vulgaris = 718.00 mg/L 96h</p> <p>a) Aquatic acute toxicity : EC50 Algae freshwater algae = 84.00 mg/L</p>

12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Notes
amines, polyethylenepoly-; HEPA	Non-readily biodegradable	Oxygen consumption	OECD 301D

2,4,6-
tris(dimethylaminomethyl)phenol Non-readily
biodegradable

12.3. Bioaccumulative potential

N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting properties

No endocrine disruptor substances present in concentration >= 0.1%

12.7 Other adverse effects

N.A.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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

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

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

HP 14: Ecotoxic; HP 13: Sensitising; HP 8: Corrosive

SECTION 14: Transport information

14.1. UN number or ID number

2735

14.2. UN proper shipping name

ADR-Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. (amines, polyethylenepoly-; HEPA - 2,4,6-tris(dimethylaminomethyl)phenol)

IATA-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (amines, polyethylenepoly-; HEPA - 2,4,6-tris(dimethylaminomethyl)phenol)

IMDG-Technical name: AMINES, LIQUID, CORROSIVE, N.O.S. (amines, polyethylenepoly-; HEPA - 2,4,6-tris(dimethylaminomethyl)phenol)

14.3. Transport hazard class(es)

ADR-Class: 8

IATA-Class: 8

IMDG-Class: 8

14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

14.5. Environmental hazards

Toxic Component most present: amines, polyethylenepoly-; HEPA

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-B

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR exempt: No

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA) :

IATA-Passenger Aircraft: 852

IATA-Cargo Aircraft: 856

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisioning: A3 A803

Sea (IMDG) :

IMDG-Stowage Code: Category A

IMDG-Stowage Note: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: 223 274

14.7. Maritime transport in bulk according to IMO instruments

N.A.

SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: 3

Restrictions related to the substances contained: 75

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

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
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Product belongs to category: E2	200	500
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Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

Class 2: hazardous for water.

SVHC Substances:

No data available

15.2. Chemical safety assessment

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

SECTION 16: Other information

Code

Description

H302

Harmful if swallowed.

H312

Harmful in contact with skin.

H314

Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H410 Very toxic to aquatic life with long lasting effects.
 H411 Toxic to aquatic life with long lasting effects.

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

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

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
3.2/1B	Calculation method
3.3/1	Calculation method
3.4.2/1	Calculation method
4.1/C2	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

DPD: Dangerous Preparations Directive

DSD: Dangerous Substances Directive

EC50: Half Maximal Effective Concentration

ECHA: European Chemicals Agency

EINECS: European Inventory of Existing Commercial Chemical Substances.

ES: Exposure Scenario

GefStoffVO: Ordinance on Hazardous Substances, Germany.

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

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association.

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

IC50: half maximal inhibitory concentration

ICAO: International Civil Aviation Organization.

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

IMDG: International Maritime Code for Dangerous Goods.

INCI: International Nomenclature of Cosmetic Ingredients.

IRCCS: Scientific Institute for Research, Hospitalization and Health Care

KAFH: Keep Away From Heat

KSt: Explosion coefficient.

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

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

LDLo: Leathal Dose Low

N.A.: Not Applicable

N/A: Not Applicable

N/D: Not defined/ Not available

NA: Not available

NIOSH: National Institute for Occupational Safety and Health

NOAEL: No Observed Adverse Effect Level

OSHA: Occupational Safety and Health Administration.

PBT: Persistent, Bioaccumulative and Toxic

PGK: Packaging Instruction

PNEC: Predicted No Effect Concentration.

PSG: Passengers

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

vPvB: Very Persistent, Very Bioaccumulative.

WGK: German Water Hazard Class.

Exposure Scenario

Amines, polyethylenepoly-; hepa

Exposure Scenario, 10/08/2021

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

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

1. ES 1

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

1.1 TITLE SECTION

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

Environment Contributing Scenario

CS1	ERC8c - ERC8f
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Worker Contributing Scenario

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

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

Environmental release categories	Widespread use leading to inclusion into/onto article (indoor) - Widespread use leading to inclusion into/onto article (outdoor) (ERC8c, ERC8f)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 25 %

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

Amounts used:

Daily amount per site = 2114 kg/day

Release type:

Continuous release

Emission days:

220 days per year

Other conditions affecting environmental exposure

Local freshwater dilution factor:

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 25 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to > 15 min

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

Wear suitable respiratory protection.
Wear suitable gloves tested to EN374.

Inhalation - minimum efficiency of: 95 %

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

Process Categories Roller application or brushing (PROC10)

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

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 15 %

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

Covers use up to 60 min

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

Provide extract ventilation to points where emissions occur.

Inhalation - minimum efficiency of: 90 %

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

Wear suitable gloves tested to EN374.

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

Process Categories Non industrial spraying (PROC11)

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

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 15 %

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

Covers use up to 60 min

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

Provide extract ventilation to points where emissions occur.

Inhalation - minimum efficiency of: 90 %

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

Wear suitable gloves tested to EN374.

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

Process Categories	Manual activities involving hand contact (PROC19)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 8 h

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

Personal protection

Wear suitable gloves tested to EN374.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	7.92E-05 mg/L	EUSES	0.05
marine water	7.9E-06 mg/L	EUSES	0.005
freshwater sediment	0.0795 mg/kg dry weight	EUSES	0.568
marine sediment	0.00792 mg/kg dry weight	EUSES	0.057
soil	0.0118 mg/kg dry weight	EUSES	0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.068 mg/kg bw/day	ECETOC TRA worker v2.0	0.12
inhalative, systemic, long-term	0.456 mg/m ³	ECETOC TRA worker v2.0	0.457
combined routes	N/A	N/A	0.577
inhalative, local, short-term	0.913 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.082 mg/kg bw/day	ECETOC TRA worker v2.0	0.144
inhalative, systemic, long-term	0.457 mg/m ³	ECETOC TRA worker v2.0	0.229
combined routes	N/A	N/A	0.373
inhalative, local, short-term	0.914 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.214 mg/kg bw/day	ECETOC TRA worker v2.0	0.376
inhalative, systemic, long-term	0.121 mg/m ³	ECETOC TRA worker v2.0	0.122
combined routes	N/A	N/A	0.498
inhalative, local, short-term	0.243 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.248
inhalative, systemic, long-term	0.76 mg/m ³	ECETOC TRA worker v2.0	0.076
combined routes	N/A	N/A	0.324
inhalative, local, short-term	1.52 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Guidance to check compliance with the exposure scenario:

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

2. ES 2

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

2.1 TITLE SECTION

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

Environment Contributing Scenario

CS1	ERC8a - ERC8d
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Worker Contributing Scenario

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

2.2 Conditions of use affecting exposure

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 25 %

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

Amounts used:

Daily amount per site = 15500 kg/day

Release type:

Continuous release

Emission days:

300 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Pre-treatment of waste water by neutralization	Water - minimum efficiency of: 53.1 %
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Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

STP effluent (m³/day):

2000

Other conditions affecting environmental exposure

Local freshwater dilution factor: 1000

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

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 25 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to > 15 min

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

Personal protection

Wear suitable respiratory protection. Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 95 %
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2.2. CS3: Worker Contributing Scenario: Rolling, Brushing (PROC10)

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

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

Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 95 %
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2.2. CS4: Worker Contributing Scenario: Roller, spreader, flow application (PROC11)

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

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 60 min

Technical and organisational conditions and measures

Technical and organisational measures

Provide extract ventilation to points where emissions occur.	Inhalation - minimum efficiency of: 90 %
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Conditions and measures related to personal protection, hygiene and health evaluation

Personal protection

Wear suitable gloves tested to EN374.

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

Process Categories	Manual activities involving hand contact (PROC19)
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Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Duration:

Covers use up to 8 h

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

Personal protection

Wear suitable gloves tested to EN374.

2.3 Exposure estimation and reference to its source

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

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.068 mg/kg bw/day	ECETOC TRA worker v2.0	0.12
inhalative, systemic, long-term	0.456 mg/m ³	ECETOC TRA worker v2.0	0.457
combined routes	N/A	N/A	0.577
inhalative, local, short-term	0.913 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.082 mg/kg bw/day	ECETOC TRA worker v2.0	0.144
inhalative, systemic, long-term	0.457 mg/m ³	ECETOC TRA worker v2.0	0.229
combined routes	N/A	N/A	0.373
inhalative, local, short-term	0.914 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.214 mg/kg bw/day	ECETOC TRA worker v2.0	0.376
inhalative, systemic, long-term	0.121 mg/m ³	ECETOC TRA worker v2.0	0.122
combined routes	N/A	N/A	0.498
inhalative, local, short-term	0.243 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.14 mg/kg bw/day	ECETOC TRA worker v2.0	0.248
inhalative, systemic, long-term	0.76 mg/m ³	ECETOC TRA worker v2.0	0.076
combined routes	N/A	N/A	0.324
inhalative, local, short-term	1.52 mg/m ³	ECETOC TRA worker v2.0	< 0.001

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

Guidance to check compliance with the exposure scenario:

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

Exposure Scenario

2,4,6-tris(dimethylaminomethyl)phenol

Exposure Scenario, 05/11/2021

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

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

1. ES 1

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

1.1 TITLE SECTION

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

Environment Contributing Scenario

CS1	ERC8b - ERC8e
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Worker Contributing Scenario

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

1.2 Conditions of use affecting exposure

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

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

Physical form of product:

Liquid

Vapour pressure:

0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Amounts used:

Amount per use <= 0.0014 tonnes/day

Release type:

Continuous release

Conditions and measures related to sewage treatment plant

STP type:

No specific measures identified.

Water - minimum efficiency of: = 0.059 %

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

Waste treatment

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

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

Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
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Product (article) characteristics**Physical form of product:**

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Duration of contact < 30 min

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

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

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

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training. Wear a full face respirator conforming to EN136.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 95 %
Use suitable eye protection.	

Other conditions affecting worker exposure**Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

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

Process Categories	Roller application or brushing (PROC10)
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Product (article) characteristics**Physical form of product:**

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

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

Duration of contact < 440 min

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

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

Open doors and windows.

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

Personal protection

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

Wear a full face respirator conforming to EN136.

Wear suitable respiratory protection.

Wear an impervious suit.

Dermal - minimum efficiency of: 90 %

Inhalation - minimum efficiency of: 99 %

Use suitable eye protection.

Other conditions affecting worker exposure

Indoor use

Professional use

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

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

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

Process Categories Roller application or brushing (PROC10)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Duration of contact < 440 min

Technical and organisational conditions and measures

Technical and organisational measures

Mechanical ventilation giving at least [ACH]:

Inhalation - minimum efficiency of: 44 %

Ensure that direction of application is only horizontal or downward.

Open doors and windows.

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

Personal protection

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

Wear a full face respirator conforming to EN136.

Wear suitable respiratory protection.

Wear an impervious suit.

Dermal - minimum efficiency of: 90 %

Inhalation - minimum efficiency of: 99 %

Use suitable eye protection.

Other conditions affecting worker exposure

Outdoor use

Professional use

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

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

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

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

Physical form of product:

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Duration of contact < 4 h

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %
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Wear a full face respirator conforming to EN136.
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Wear suitable respiratory protection.

Wear an impervious suit.

Use suitable eye protection.

Other conditions affecting worker exposure

Indoor use

Professional use

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

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

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

Physical form of product:

Liquid

Vapour pressure:

= 0.197 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Duration:

Duration of contact < 4 h

Technical and organisational conditions and measures

Technical and organisational measures

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

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with "basic" employee training. Wear a full face respirator conforming to EN136. Wear suitable respiratory protection. Wear an impervious suit.	Dermal - minimum efficiency of: 90 % Inhalation - minimum efficiency of: 99 %
Use suitable eye protection.	

Other conditions affecting worker exposure

Outdoor use

Professional use

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

Body parts exposed:

Assumes that potential dermal contact is limited to hands.

1.3 Exposure estimation and reference to its source

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

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

Man via environment - Oral	< 0.0001 mg/kg bw/day	EUSES v2.1	< 0.01
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1.3. CS2: Worker Contributing Scenario: Material transfers (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.023 mg/m ³	EASY TRA v3.6	0.004
inhalative, systemic, short-term	0.464 mg/m ³	EASY TRA v3.6	0.211
combined routes, systemic, long-term	N/A	N/A	0.247
dermal, systemic, long-term	0.03 mg/kg bw/day	RISKOFDERM v2.1	0.203

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.31 mg/m ³	ECETOC TRA worker v3	0.584
inhalative, systemic, short-term	0.4641238 mg/m ³	EASY TRA v3.6	0.59
combined routes, systemic, long-term	N/A	N/A	0.854
dermal, systemic, long-term	0.041 mg/kg bw/day	RISKOFDERM v2.1	0.27

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.039 mg/m ³	ECETOC TRA worker v3	0.073
inhalative, systemic, short-term	0.867 mg/m ³	EASY TRA v3.6	0.413
combined routes, systemic, long-term	N/A	N/A	0.343
dermal, systemic, long-term	0.041 mg/kg bw/day	RISKOFDERM v2.1	0.27

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.367 mg/m ³	ART v1.5	0.022
inhalative, systemic, short-term	0.023 mg/m ³	ART v1.5	0.011
combined routes, systemic, long-term	N/A	N/A	0.827
dermal, systemic, long-term	0.121 mg/kg bw/day	RISKOFDERM v2.1	0.805

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.019 mg/m ³	ART v1.5	0.037
inhalative, systemic, short-term	0.039 mg/m ³	ART v1.5	0.019
combined routes, systemic, long-term	N/A	N/A	0.101
dermal, systemic, long-term	0.05 mg/kg bw/day	RISKOFDERM v2.1	0.33

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

Guidance to check compliance with the exposure scenario:

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