

## Safety Data Sheet

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

### EPOFILL (A)

Date of first edition: 10/8/2021

Safety Data Sheet dated 28/11/2024

version 10

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

### 1.1. Product identifier

Mixture identification:

Trade name: EPOFILL (A)

Trade code: S100B0020 .030

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

Recommended use: Adhesives and sealants - building and construction works; Restricted to professional users

Uses advised against: All uses other than recommended ones; Not intended for use by private individuals or non-professionals.

### 1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel. +39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

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

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

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

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

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

Adverse physicochemical, human health and environmental effects:

No other hazards

### 2.2. Label elements

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

#### Hazard pictograms and Signal Word



Danger

#### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

#### Precautionary statements

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

### Contains

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

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

Bisphenol-F-epichlorohydrin resin

### 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  $\geq 0.1\%$

Other Hazards: No other hazards

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: EPOFILL (A)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
$\geq 50$ -<70 %	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 $\geq 5\%$ : Eye Irrit. 2 H319 C $\geq 5\%$ : Skin Irrit. 2 H315	
$\geq 20$ -<50 %	oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS:68609-97-2 EC:271-846-8 Index:603-103-00-4	Skin Irrit. 2, H315; Skin Sens. 1B, H317; Repr. 1B, H360F	01-2119485289-22
$\geq 20$ -<50 %	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	EC:701-263-0	Skin Irrit. 2, H315; Skin Sens. 1, H317; Aquatic Chronic 2, H411, M-Chronic:1	01-2119454392-40

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately 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).

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### **SECTION 5: Firefighting measures**

#### **5.1. Extinguishing media**

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

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.

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### **SECTION 6: Accidental release measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

##### **For non emergency personnel:**

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

##### **For emergency responders:**

Wear personal protection equipment.

#### **6.2. Environmental precautions**

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

Retain contaminated washing water and dispose it.

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

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

#### **6.3. Methods and material for containment and cleaning up**

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

Wash with plenty of water.

#### **6.4. Reference to other sections**

See also section 8 and 13

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### **SECTION 7: Handling and storage**

#### **7.1. Precautions for safe handling**

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

Exercise the greatest care when handling or opening the container.

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.

##### **Advice on general occupational hygiene:**

#### **7.2. Conditions for safe storage, including any incompatibilities**

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

#### **7.3. Specific end use(s)**

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Predicted No Effect Concentration (PNEC) values

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

Exposure Route: Fresh Water; PNEC Limit: 0.006 mg/l

Exposure Route: Marine water; PNEC Limit: 600 ng/L

Exposure Route: Freshwater sediments; PNEC Limit: 0.996 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.099 mg/kg

Exposure Route: Soil; PNEC Limit: 0.196 mg/kg

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.018 mg/l

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.  
CAS: 68609-97-2

Exposure Route: Fresh Water; PNEC Limit: 0.007 mg/l

Exposure Route: Marine water; PNEC Limit: 0.072 µg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 66.77 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 6.677 mg/kg

Exposure Route: Soil; PNEC Limit: 80.12 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.072 mg/l

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

Exposure Route: Fresh Water; PNEC Limit: 3 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 25.4 µg/l

Exposure Route: Marine water; PNEC Limit: 300 ng/L

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 294 µg/kg

Exposure Route: Marine water sediments; PNEC Limit: 29.4 µg/kg

Exposure Route: Soil; PNEC Limit: 237 µg/kg

#### Derived No Effect Level (DNEL) values

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

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

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

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

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 12.25 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 12.25 mg/m<sup>3</sup>

oxirane, mono[(C12-14-alkyloxy)methyl] derivs. CAS: 68609-97-2  
Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 17 mg/kg; Consumer: 10 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 29 mg/m<sup>3</sup>; Consumer: 7.6 mg/m<sup>3</sup>

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

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

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 9.8 mg/m<sup>3</sup>; Consumer: 2.9 mg/m<sup>3</sup>

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 13.8 mg/m<sup>3</sup>; Consumer: 4.1 mg/m<sup>3</sup>

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

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

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

Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)] bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)] bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane  
Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 29.39 mg/m<sup>3</sup>; Consumer: 8.7 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 104.15 mg/kg; Consumer: 62.5 mg/kg

Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 6.25 mg/kg

## 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Chemical protection clothing. Safety shoes.

Protection for hands:

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

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

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

Respiratory protection:

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

Thermal Hazards:

Not expected if used as intended

Environmental exposure controls:

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

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Solid

Colour: Yellow  
Odour: Light  
Odour threshold: N.A.  
pH: N.A.  
Kinematic viscosity: N.A.  
Melting point/freezing point: N.A.  
Boiling point or initial boiling point and boiling range: 278 °C (532 °F)  
Flash point: 141 °C (286 °F)  
Lower and upper explosion limit: N.A.  
Relative vapour density: N.A.  
Vapour pressure: N.A.  
Density and/or relative density: 1.11 g/cm<sup>3</sup> ( EN 1097-03 )  
Solubility in water: Soluble  
Solubility in oil: N.A.  
Partition coefficient n-octanol/water (log value): N.A.  
Auto-ignition temperature: N.A.  
Decomposition temperature: N.A.  
Flammability: N.A.  
Volatile Organic compounds - VOCs = 0 % ; 0 g/l

**Particle characteristics:**

Particle size: N.A.

**9.2. Other information**

Viscosity: 686.00 cPo  
No other relevant information

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**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.

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

**Toxicological information on main components of the mixture:**

bis-[4-(2,3-epoxipropoxy)phenyl]propane	a) acute toxicity	LD50 Oral Rabbit = 19800 mg/kg	
		LD50 Skin Rabbit > 20 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Positive	epoxy resin with an average molecular mass <= 700 d irritate skin of rabbits
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse, oral
		Carcinogenicity Oral Rat = 15 mg/kg Carcinogenicity Skin Rat = 1 mg/kg	NOAEL NOAEL
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 750 mg/kg	
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	a) acute toxicity	LD50 Oral Rat = 26800 mg/kg	
		LC50 Inhalation Rat > 0.206 mg/l 4h LD50 Skin Rabbit > 4.5 ml/Kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Yes	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	g) reproductive toxicity	No Observed Adverse Effect Level Skin Rat = 200 mg/kg	
	Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	a) acute toxicity	LD50 Oral Rat > 5000 mg/kg
		LD50 Skin Rat > 2000 mg/kg 24h	
b) skin corrosion/irritation		Skin Irritant Rabbit Positive 4h	
c) serious eye damage/irritation		Eye Irritant Rabbit No	
d) respiratory or skin sensitisation		Skin Sensitization Positive	Mouse
f) carcinogenicity		Genotoxicity Negative	Hamster oral route
g) reproductive toxicity		No Observed Adverse Effect Level Oral Rat = 750 mg/kg	

**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
bis-[4-(2,3-epoxipropoxy)phenyl]propane	CAS: 1675-54-3 - EINECS: 216-823-5 - INDEX: 603-073-00-2	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 2 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 1.8 mg/L 48h
		a) Aquatic acute toxicity : EC50 Algae Scenedesmus capricornutum = 11 mg/L 72h EPA-660/3-75-009
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	CAS: 68609-97-2 - EINECS: 271-846-8 - INDEX: 603-103-00-4	c) Bacteria toxicity : EC50 Sludge activated sludge = 100 mg/L 3h
		a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss > 5000 mg/L 96h
		a) Aquatic acute toxicity : NOEC Algae Pseudokirchneriella subcapitata = 500 mg/L 72h ,,OECD Guideline 201 (Alga, Growth Inhibition Test)
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	EINECS: 701-263-0	a) Aquatic acute toxicity : EC50 Algae Pseudokirchneriella subcapitata = 843 mg/L 72h
		c) Bacteria toxicity : EC50 Sludge > 100 mg/L
		a) Aquatic acute toxicity : LC50 Fish Leuciscus idus = 2.54 mg/L 96h
		a) Aquatic acute toxicity : LC50 Daphnia Daphnia magna = 2.55 mg/L 48h
		b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 0.3 mg/L - 21days
		a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 1.8 mg/L 72h
		a) Aquatic acute toxicity : NOEC Sludge activated sludge = 100 mg/L 3h

**12.2. Persistence and degradability**

Component	Persitence/Degradability:	Test	Value	Notes:
bis-[4-(2,3-epoxipropoxy)phenyl]propane	Non-readily biodegradable	Oxygen consumption		OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Readily biodegradable	Oxygen consumption	87.000	%; OECD Guideline 301 F (Ready Biodegradability: Manometric Respirometry Test)
Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-({2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy}methyl)oxirane	Non-readily biodegradable		16.000	28days

**12.3. Bioaccumulative potential**

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

oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Bioaccumulative	BCF - Bioconcentration factor	160.000
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Reaction mass of 2,2'-[methylenebis(2,1-phenyleneoxymethylene)]bis(oxirane) and 2,2'-[methylenebis(4,1-phenyleneoxymethylene)]bis(oxirane) and 2-(2-[4-(oxiran-2-ylmethoxy)benzyl]phenoxy)methyl)oxirane	Bioaccumulative	BCF - Bioconcentration factor	150.000
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#### 12.4. Mobility in soil

Data not available.

#### 12.5. Results of PBT and vPvB assessment

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

#### 12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

#### 12.7. Other adverse effects

Data not available.

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

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

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

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

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### SECTION 14: Transport information

#### 14.1. UN number or ID number

3082

#### 14.2. UN proper shipping name

ADR-Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

IATA-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

IMDG-Technical name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (bis-[4-(2,3-epoxipropoxy)phenyl]propane - Bisphenol-F-epichlorohydrin resin)

#### 14.3. Transport hazard class(es)

ADR-Class: 9

IATA-Class: 9

IMDG-Class: 9

#### 14.4. Packing group

ADR-Packing Group: III

IATA-Packing group: III

IMDG-Packing group: III

#### 14.5. Environmental hazards

Most important toxic component: bis-[4-(2,3-epoxipropoxy)phenyl]propane

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-F

#### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 9

ADR - Hazard identification number: 90

ADR-Special Provisions: 274 335 375 601

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 964  
IATA-Cargo Aircraft: 964  
IATA-Label: 9  
IATA-Subsidiary hazards: -  
IATA-Erg: 9L  
IATA-Special Provisions: A97 A158 A197 A215

Sea (IMDG):

IMDG-Stowage Code: Category A  
IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 274 335 969

#### 14.7. Maritime transport in bulk according to IMO instruments

N.A.

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### SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Regulation (EU) n. 2020/878

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

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

Restrictions related to the product: None.

Restrictions related to the substances contained: 75

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

<b>Seveso III category according to Annex 1, part 1</b>	<b>Lower-tier threshold (tonnes)</b>	<b>Upper-tier threshold (tonnes)</b>
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Product belongs to category: E2	200	500
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#### Explosives precursors – Regulation 2019/1148

No substances listed

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

No substances listed

#### German Water Hazard Class.

Class 2: hazardous for water.

#### German Lagerklasse according to TRGS 510:

LGK 11

SVHC Substances:

No SVHC substances present in concentration  $\geq 0.1\%$

## 15.2. Chemical safety assessment

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

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

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

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

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## SECTION 16: Other information

Code	Description
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
3.7/1B	Repr. 1B	Reproductive toxicity, Category 1B
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
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Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1B, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method
Repr. 1B, H360F	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

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

CAV: Poison Center

CE: European Community

CLP: Classification, Labeling, Packaging.

CMR: Carcinogenic, Mutagenic and Reprotoxic

COD: Chemical Oxygen Demand

COV: Volatile Organic Compound

CSA: Chemical Safety Assessment

CSR: Chemical Safety Report

DMEL: Derived Minimal Effect Level

DNEL: Derived No Effect Level.

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

**Paragraphs modified from the previous revision:**

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

# Exposure Scenario

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

### Exposure Scenario, 07/06/2021

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

<b>Exposure Scenario name</b>	Professional application of coatings and inks - Etching agent - Resins (prepolymers) - Adhesion promotor
<b>Date - Version</b>	27/05/2021 - 1.0
<b>Life Cycle Stage</b>	Widespread use by professional workers
<b>Main user group</b>	Professional uses
<b>Sector(s) of use</b>	Professional uses (SU22)
<b>Product Categories</b>	ESC2_0000001
<b>Article Category(ies)</b>	Other articles made of stone, plaster, cement, glass or ceramic (AC4g)

### Environment Contributing Scenario

<b>CS1</b>	ERC8c - ERC8f
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### Worker Contributing Scenario

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

## 1.2 Conditions of use affecting exposure

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

<b>Environmental release categories</b>	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 <sup>3</sup> (%):

#### *Conditions and measures related to sewage treatment plant*

#### **STP type:**

Municipal Sewage Treatment Plant

**STP effluent (m<sup>3</sup>/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 m<sup>3</sup>/day

Covers indoor and outdoor use

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

#### Process Categories

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

#### *Product (article) characteristics*

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

#### Duration:

Covers daily exposures up to 8 hours

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

#### Technical and organisational measures

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

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

#### Personal protection

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

#### *Other conditions affecting worker exposure*

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

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

#### Process Categories

Roller application or brushing (PROC10)

#### *Product (article) characteristics*

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

#### Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

#### Duration:

Covers daily exposures up to 8 hours

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

#### Technical and organisational measures

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

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

#### Personal protection

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

#### *Other conditions affecting worker exposure*

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

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

#### Process Categories

Non industrial spraying (PROC11)

#### *Product (article) characteristics*

#### Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

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

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

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

Wear suitable face shield.

Wear an impervious suit.

Wear a respirator conforming to EN140.

**Other conditions affecting worker exposure**

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

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

Manual activities involving hand contact (PROC19)

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

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

Covers daily exposures up to 8 hours

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

Avoid carrying out activities involving exposure for more than 1 hour per day.

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

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

**Other conditions affecting worker exposure**

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

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8c, ERC8f)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.0022 mg/L	EUSES	= 0.00022
marine sediment	= 0.00127 mg/L	EUSES	= 0.0128
freshwater sediment	= 0.012 mg/L	EUSES	= 0.0369
marine water	= 2.34E-05 mg/L	EUSES	= 0.029
soil	= 0.00142 mg/kg dry weight	EUSES	= 0.00722

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.84 mg/m <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	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 <sup>3</sup>	ECETOC TRA worker v2.0	< 0.001
dermal, systemic, long-term	= 1.414 mg/kg bw/day	ECETOC TRA worker v3	< 0.42
combined routes, systemic, long-term	N/A	ECETOC TRA worker v3	= 0.42

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

### Guidance to check compliance with the exposure scenario:

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

# Exposure Scenario

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

### Exposure Scenario, 08/06/2021

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

### Table of contents

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

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

## 1.1 TITLE SECTION

<b>Exposure Scenario name</b>	Professional application of coatings and inks by brush or roller - Professional application of coatings and inks
<b>Date - Version</b>	07/04/2021 - 1.0
<b>Life Cycle Stage</b>	Widespread use by professional workers
<b>Main user group</b>	Professional uses
<b>Sector(s) of use</b>	Professional uses (SU22)
<b>Product Categories</b>	Adhesives, sealants (PC1) - Coatings and paints, thinners, paint removers (PC9a) - Fillers, putties, plasters, modelling clay (PC9b)

### Environment Contributing Scenario

<b>CS1</b>	ERC8c
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### Worker Contributing Scenario

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

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8c)

<b>Environmental release categories</b>	Widespread use leading to inclusion into/onto article (indoor) (ERC8c)
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#### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 0,5 kPa at STP

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

**Release type:** Intermittent release

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

<b>Process Categories</b>	Mixing or blending in batch processes (PROC5)
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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

#### *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.

<b><i>Other conditions affecting worker exposure</i></b>	
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures. <b>Body parts exposed:</b> Assumes that potential dermal contact is limited to hands and forearms.	
<b>1.2. CS3: Worker Contributing Scenario: Large surfaces - Surfaces - Rolling, Brushing (PROC10)</b>	
<b>Process Categories</b>	Roller application or brushing (PROC10)
<b><i>Product (article) characteristics</i></b>	
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 25 %.	
<b><i>Amount used, frequency and duration of use/exposure</i></b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b><i>Technical and organisational conditions and measures</i></b>	
<b>Technical and organisational measures</b> 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.	
<b><i>Conditions and measures related to personal protection, hygiene and health evaluation</i></b>	
<b>Personal protection</b> Wear suitable gloves tested to EN374. Wear a respirator conforming to EN140.	
<b><i>Other conditions affecting worker exposure</i></b>	
Indoor use Professional use <b>Temperature:</b> Covers use at ambient temperatures.	
<b>1.2. CS4: Worker Contributing Scenario: Large surfaces - Surfaces - Roller, spreader, flow application (PROC11)</b>	
<b>Process Categories</b>	Non industrial spraying (PROC11)
<b><i>Product (article) characteristics</i></b>	
<b>Physical form of product:</b> Liquid, vapour pressure < 0,5 kPa at STP	
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.	
<b><i>Amount used, frequency and duration of use/exposure</i></b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b>Frequency:</b> For each use, avoid using for more than .... < 4 h/event	
<b><i>Technical and organisational conditions and measures</i></b>	
<b>Technical and organisational measures</b> Ensure operatives are trained to minimise exposures. Provide extract ventilation to points where emissions occur. Avoid direct eye contact with product, also via contamination on hands. Use long handled brushes and rollers. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.	
<b><i>Conditions and measures related to personal protection, hygiene and health evaluation</i></b>	

**Personal protection**

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

**Other conditions affecting worker exposure**

Indoor use  
Professional use

**Temperature:** Covers use at ambient temperatures.

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

Manual activities involving hand contact (PROC19)

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

Liquid, vapour pressure < 0,5 kPa at STP

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

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

Covers daily exposures up to 8 hours

**Frequency:**

For each use, avoid using for more than .... < 1 h/event

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

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

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

Wear suitable gloves tested to EN374.

**Other conditions affecting worker exposure**

Indoor use  
Professional use

**Temperature:** Covers use at ambient temperatures.

**1.3 Exposure estimation and reference to its source****1.3. CS2: Worker Contributing Scenario: Mixing operations (PROC5)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 9.3 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	= 0.674
dermal, systemic, long-term	= 0.007 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.002

**Additional information on exposure estimation:**

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
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inhalative, local, short-term	= 2.325 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	= 0.168
dermal, systemic, long-term	= 0.137 mg/kg bw/day	ECETOC TRA worker v2.0	= 0.035

**Additional information on exposure estimation:**

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

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

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

**Additional information on exposure estimation:**

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

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

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

**Additional information on exposure estimation:**

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

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

**Guidance to check compliance with the exposure scenario:**

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

## Safety Data Sheet

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

### EPOFILL (B)

Date of first edition: 10/12/2021

Safety Data Sheet dated 15/05/2025

version 10

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

### 1.1. Product identifier

Mixture identification:

Trade name: EPOFILL (B)

Trade code: S100B0021 41

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

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

Uses advised against: All uses other than recommended ones

### 1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

### 1.4. Emergency telephone number

European emergency phone number 112

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

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

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

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

## SECTION 2: Hazards identification



### 2.1. Classification of the substance or mixture

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

Acute Tox. 4 Harmful if swallowed.  
Skin Corr. 1B Causes severe skin burns and eye damage.  
Eye Dam. 1 Causes serious eye damage.  
Skin Sens. 1A May cause an allergic skin reaction.  
Aquatic Chronic 2 Toxic to aquatic life with long lasting effects.  
Adverse physicochemical, human health and environmental effects:  
No other hazards

### 2.2. Label elements

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

#### Hazard pictograms and Signal Word



Danger

#### Hazard statements

H302 Harmful if swallowed.  
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

P260	Do not breathe vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with applicable regulations.

### Contains

3-aminomethyl-3,5,5-trimethylcyclohexylamine

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

Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

benzyl alcohol

M-phenylenebis(methylamine)

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with ethylenediamine

### 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  $\geq 0.1\%$

Other Hazards: No other hazards

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

N.A.

### 3.2. Mixtures

Mixture identification: EPOFILL (B)

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

Qty	Name	Ident. Numb.	Classification	Registration Number
$\geq 20 < 50$ %	benzyl alcohol	CAS:100-51-6 EC:202-859-9 Index:603-057-00-5	Acute Tox. 4, H302; Eye Irrit. 2, H319; Skin Sens. 1B, H317  Acute Toxicity Estimate : ATE - Oral : 1200 mg/kg bw	01-2119492630-38
$\geq 10 < 20$ %	Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)	CAS:57214-10-5 EC:500-137-0	Aquatic Acute 1, H400; Aquatic Chronic 1, H410	
$\geq 10 < 20$ %	3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS:2855-13-2 EC:220-666-8 Index:612-067-00-9	Acute Tox. 4, H302; Skin Corr. 1B, H314; Eye Dam. 1, H318; Skin Sens. 1A, H317  Specific Concentration Limits: C $\geq 0.001\%$ : Skin Sens. 1A H317  Acute Toxicity Estimate: ATE - Oral: 1030mg/kg bw	01-2119514687-32
$\geq 10 < 20$ %	Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	EC:701-046-0	Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1A, H317; Aquatic Chronic 2, H411, M-Chronic:1	01-2119972321-42
$\geq 5 < 10$ %	2,4,6-tris(dimethylaminomethyl)phenol	CAS:90-72-2 EC:202-013-9	Acute Tox. 4, H302; Skin Corr. 1C, H314; Eye Dam. 1, H318	01-2119560597-27

≥5-<10 %	M-phenylenebis(methylamine)	CAS:1477-55-0 EC:216-032-5	Acute Tox. 4, H302; Acute Tox. 4, H332; Aquatic Chronic 3, H412; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1B, H314, EUH071	01-2119480150-50
≥5-<10 %	Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	CAS:68082-29-1 EC:500-191-5	Skin Irrit. 2, H315; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Skin Sens. 1A, H317, M-Chronic:1	01-2119972320-44
≥3-<5 %	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with ethylenediamine	CAS:72480-18-3 EC:500-253-1	Acute Tox. 4, H302; Skin Sens. 1, H317; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	01-2120766318-46

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

In case of skin contact:

- Immediately take off all contaminated clothing.
- OBTAIN IMMEDIATE MEDICAL ATTENTION.
- Remove contaminated clothing immediately 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:

- Give nothing to eat or drink.

In case of Inhalation:

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

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

Eye irritation  
Eye damages  
Skin Irritation  
Erythema

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

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

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media:

- Water.
- Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

- None in particular.

### 5.2. Special hazards arising from the substance or mixture

- Do not inhale explosion and combustion gases.
- Burning produces heavy smoke.

### 5.3. Advice for firefighters

- Use suitable breathing apparatus .
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Move undamaged containers from immediate hazard area if it can be done safely.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### For non emergency personnel:

- Wear personal protection equipment.
- Remove persons to safety.
- See protective measures under point 7 and 8.

#### For emergency responders:

Wear personal protection equipment.

## 6.2. Environmental precautions

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

Retain contaminated washing water and dispose it.

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

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

## 6.3. Methods and material for containment and cleaning up

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

Wash with plenty of water.

## 6.4. Reference to other sections

See also section 8 and 13

---

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

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

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

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

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

### Advice on general occupational hygiene:

### 7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

### 7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Community Occupational Exposure Limits (OEL)

	OEL Type	Country	Occupational Exposure Limit
benzyl alcohol CAS: 100-51-6	NATIONAL	BULGARIA	Long Term: 5 mg/m <sup>3</sup> Source: НАРЕДБА № 13 ОТ 30 ДЕКЕМВРИ 2003 Г.
	NATIONAL	CZECHIA	Long Term: 40 mg/m <sup>3</sup> ; Short Term: Ceiling - 80 mg/m <sup>3</sup> Source: Nařízení vlády č. 361-2007 Sb
	NATIONAL	FINLAND	Long Term: 45 mg/m <sup>3</sup> - 10 ppm Source: HTP-ARVOT 2020
	NATIONAL	LATVIA	Long Term: 5 mg/m <sup>3</sup> Source: KN325P1
	NATIONAL	LITHUANIA	Long Term: 5 mg/m <sup>3</sup> O Ū Source: 2011 m. rugsėjo 1 d. Nr. V-824/A1-389
	NATIONAL	POLAND	Long Term: 240 mg/m <sup>3</sup> Source: Dz.U. 2018 poz. 1286
	SUVA	SWITZERLAND	Long Term: 22 mg/m <sup>3</sup> - 5 ppm R/H, SSC, VR / AW, NIOSH, La substance peut être présente sous forme de vapeur et d'aérosol en même temps / Der Stoff kann gleichzeitig als Dampf und Aerosol vorliegen Source: suva.ch/valeurs-limites
	NATIONAL	GERMANY	Long Term: 22 mg/m <sup>3</sup> DFG, H, Y, 11, 2 (I) Source: TRGS 900
	NATIONAL	SLOVENIA	Long Term: 22 mg/m <sup>3</sup> - 5 ppm; Short Term: 44 mg/m <sup>3</sup> - 10 ppm K, Y Source: UL št. 72, 11. 5. 2021

M-phenylenebis(methylamine) CAS: 1477-55-0	ACGIH	Short Term: Ceiling - 0.018 ppm Skin - Eye, skin, and GI irr
	NATIONAL BELGIUM	Short Term: 0.1 mg/m3 D, M Source: Code du bien-être au travail, Livre VI, Titre 1er, Annexe VI.1-1
	NATIONAL IRELAND	Long Term: 0.1 mg/m3 Source: 2021 Code of Practice
	NATIONAL AUSTRIA	Long Term: 0.1 mg/m3; Short Term: Ceiling - 0.1 mg/m3 Mow, MAK Source: GKV, BGBl. II Nr. 156/2021
	NATIONAL DENMARK	Short Term: Ceiling - 0.1 mg/m3 - 0.02 ppm LH Source: BEK nr 2203 af 29/11/2021
	NATIONAL FINLAND	Short Term: Ceiling - 0.1 mg/m3 kattoarvo, iho Source: HTP-ARVOT 2020
	NATIONAL FRANCE	Short Term: 0.1 mg/m3 Source: INRS outil65
	NATIONAL NORWAY	Short Term: Ceiling - 0.1 mg/m3 T Source: FOR-2021-06-28-2248
	SUVA SWITZERLAND	Long Term: 0.1 mg/m3 R/H, S, TGI Peau Yeux / GIT Haut Auge Source: suva.ch/valeurs-limites

#### Predicted No Effect Concentration (PNEC) values

benzyl alcohol  
CAS: 100-51-6

Exposure Route: Fresh Water; PNEC Limit: 1 mg/l

Exposure Route: Marine water; PNEC Limit: 0.1 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 5.27 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 0.527 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 2.3 mg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 39 mg/l

Exposure Route: Soil; PNEC Limit: 0.456 mg/kg

3-aminomethyl-3,5,5-trimethylcyclohexylamine  
CAS: 2855-13-2

Exposure Route: Fresh Water; PNEC Limit: 60 µg/l

Exposure Route: Marine water; PNEC Limit: 6 µg/l

Exposure Route: Freshwater sediments; PNEC Limit: 5.784 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 578 µg/kg

Exposure Route: Soil (agricultural); PNEC Limit: 1.121 mg/kg

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 0.23 mg/l

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.18 mg/l

Reaction product of fatty acids, C18 alkyl with amines, polyethylenepolytetraethylenepentamine fraction

Exposure Route: Fresh Water; PNEC Limit: 2.63 µg/l

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 26.3 µg/l

Exposure Route: Marine water; PNEC Limit: 263 ng/L

Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 7.21 mg/l

Exposure Route: Freshwater sediments; PNEC Limit: 263.01 mg/kg

Exposure Route: Marine water sediments; PNEC Limit: 26.301 mg/kg

Exposure Route: Soil; PNEC Limit: 58.58 mg/kg

Exposure Route: Fresh Water; PNEC Limit: 84 µg/l

2,4,6-tris(dimethylaminomethyl)phenol

CAS: 90-72-2

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 840 µg/l  
Exposure Route: Marine water; PNEC Limit: 8.4 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 200 µg/l  
Exposure Route: Fresh Water; PNEC Limit: 94 µg/l

M-phenylenebis (methylamine)  
CAS: 1477-55-0

Exposure Route: Intermittent releases (fresh water); PNEC Limit: 152 µg/l  
Exposure Route: Marine water; PNEC Limit: 9.4 µg/l  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 10 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 430 µg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 43 µg/kg  
Exposure Route: Soil; PNEC Limit: 45 µg/kg

Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine  
CAS: 68082-29-1

Exposure Route: Fresh Water; PNEC Limit: 4.34 µg/l  
Exposure Route: Intermittent releases (fresh water); PNEC Limit: 43.4 µg/l  
Exposure Route: Marine water; PNEC Limit: 434 ng/L  
Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 3.84 mg/l  
Exposure Route: Freshwater sediments; PNEC Limit: 434.02 mg/kg  
Exposure Route: Marine water sediments; PNEC Limit: 43.4 mg/kg  
Exposure Route: Soil; PNEC Limit: 86.78 mg/kg

#### Derived No Effect Level (DNEL) values

benzyl alcohol  
CAS: 100-51-6

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 22 mg/m<sup>3</sup>; Consumer: 8.1 mg/m<sup>3</sup>  
Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 450 mg/m<sup>3</sup>; Consumer: 40.5 mg/m<sup>3</sup>  
Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 9.5 mg/kg; Consumer: 5.7 mg/kg  
Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 47 mg/kg; Consumer: 28.5 mg/kg  
Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 5 mg/kg  
Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 25 mg/kg

3-aminomethyl-3,5,5-trimethylcyclohexylamine  
CAS: 2855-13-2

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects  
Worker Professional: 20.1 mg/m<sup>3</sup>  
Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Worker Professional: 20.1 mg/m<sup>3</sup>  
Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 526 µg/kg

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

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 3.9 mg/m<sup>3</sup>; Consumer: 970 µg/m<sup>3</sup>  
Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 1.1 mg/kg; Consumer: 560 µg/kg  
Exposure Route: Human Oral; Exposure Frequency: Long Term, systemic effects  
Consumer: 560 µg/kg

M-phenylenebis

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 1.2 mg/m<sup>3</sup>

(methylamine)  
CAS: 1477-55-0

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Worker Professional: 200 µg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 330 µg/kg

Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine  
CAS: 68082-29-1

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Worker Professional: 3.9 mg/m<sup>3</sup>; Consumer: 970 µg/m<sup>3</sup>

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

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

## 8.2. Exposure controls

Eye protection:

Eye glasses with side protection.(EN166)

Protection for skin:

Safety shoes. Chemical protection clothing. Safety shoes

Protection for hands:

Protection for hands:

Suitable materials for safety gloves; EN 374:

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

Respiratory protection:

Gas filter type A .

Thermal Hazards:

N.A.

Environmental exposure controls:

N.A.

---

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state: Liquid

Colour: Light yellow

Odour: Like: Amines

Odour threshold: N.A.

pH: Not Relevant

Kinematic viscosity: N.A.

Melting point/freezing point: N.A.

Boiling point or initial boiling point and boiling range: N.A.

Flash point: 93 °C (199 °F)

Lower and upper explosion limit: N.A.

Relative vapour density: N.A.

Vapour pressure: N.A.

Density and/or relative density: 1.05 g/cm<sup>3</sup>

Solubility in water: Soluble

Solubility in oil: N.A.

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

Auto-ignition temperature: N.A.

Decomposition temperature: N.A.

Flammability: N.A.

Volatile Organic compounds - VOCs = 26.2 % ; 275.1 g/l

#### Particle characteristics:

Particle size: N.A.

### 9.2. Other information

Viscosity: 265.00 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.

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## SECTION 11: Toxicological information

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

#### Toxicological Information of the Preparation

a) acute toxicity	The product is classified: Acute Tox. 4(H302)
b) skin corrosion/irritation	The product is classified: Skin Corr. 1B(H314)
c) serious eye damage/irritation	The product is classified: Eye Dam. 1(H318)
d) respiratory or skin sensitisation	The product is classified: Skin Sens. 1A(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	Not classified
	Based on available data, the classification criteria are not met
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	Not classified
	Based on available data, the classification criteria are not met
i) STOT-repeated exposure	Not classified
	Based on available data, the classification criteria are not met
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

#### Toxicological information on main components of the mixture:

benzyl alcohol	a) acute toxicity	ATE - Oral : 1200 mg/kg bw LD50 Oral Rat = 1620 mg/kg LC50 Inhalation of aerosol Rat > 4178 mg/m <sup>3</sup> 4h LD50 Skin Rabbit > 2000 mg/kg 24h LC50 Inhalation Mist Rat = 4.18 mg/l 4h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes 24h	
	d) respiratory or skin sensitisation	Skin Sensitization Negative	Mouse
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Oral Rat Negative	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 200 mg/kg	Mouse
	3-aminomethyl-3,5,5-trimethylcyclohexylamine	a) acute toxicity	ATE - Oral : 1030 mg/kg bw LD50 Oral Rat = 1030 mg/kg LC50 Inhalation of aerosol Rat > 5.01 mg/l 4h LD50 Skin Rat > 2000 mg/kg
b) skin corrosion/irritation		Skin Corrosive Rabbit Positive	
c) serious eye damage/irritation		Eye Irritant Rabbit Yes	

	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Positive	
	f) carcinogenicity	Genotoxicity Negative Carcinogenicity Negative	Mouse, oral route
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rat > 2000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Negative	
	c) serious eye damage/irritation	Eye Corrosive Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg	
2,4,6-tris (dimethylaminomethyl) phenol	a) acute toxicity	LD50 Oral Rat = 2169 mg/kg	
		LD50 Skin Rat > 1 ml/Kg 6h	
	b) skin corrosion/irritation	Skin Corrosive Rabbit Positive 4h	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 15 mg/kg	
M-phenylenebis (methylamine)	a) acute toxicity	LD50 Oral Rat = 1001 mg/kg	
		LC50 Inhalation Mist Rat = 1.34 mg/l 4h LD50 Skin Rat > 3100 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Rat Positive 4h	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	f) carcinogenicity	Genotoxicity Negative	Mouse
	g) reproductive toxicity	No Observed Effect Level Oral Rat = 450 mg/kg	
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rat > 2000 mg/kg 24h	
	c) serious eye damage/irritation	Eye Irritant Yes 1h Eye Corrosive Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Positive	Mouse
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 1000 mg/kg	

## 11.2. Information on other hazards

### Endocrine disrupting properties:

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

## 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
benzyl alcohol	CAS: 100-51-6 - EINECS: 202- 859-9 - INDEX: 603-057-00-5	a) Aquatic acute toxicity : LC50 Fish <i>Oryzias latipes</i> = 460 mg/L 96h OECD SIDS (2001)
		b) Aquatic chronic toxicity : NOEC Fish = 48.897 mg/L ECOSAR QSAR
3-aminomethyl-3,5,5-trimethylcyclohexylamine	CAS: 2855-13-2 - EINECS: 220- 666-8 - INDEX: 612-067-00-9	a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 230 mg/L 48h OECD SIDS (2001)
		b) Aquatic chronic toxicity : NOEC <i>Daphnia magna</i> = 51 mg/L OECD Guideline 211
		a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchnerella subcapitata</i> = 770 mg/L 72h OECD SIDS on Benzoates (2001)
		c) Bacteria toxicity : EC50 <i>Nitrosomonas</i> = 390 mg/L
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	EINECS: 701- 046-0	a) Aquatic acute toxicity : LC50 Fish <i>Leuciscus idus</i> = 110 mg/L 96h ,,according to 84/449/EEC, C.1, 1984
		a) Aquatic acute toxicity : EC50 <i>Daphnia magna</i> = 23 mg/L 48h OECD 202
		a) Aquatic acute toxicity : EC50 Algae <i>Scenedesmus subspicatus</i> > 50 mg/L 72h
		b) Aquatic chronic toxicity : NOEC <i>Daphnia</i> = 3 mg/L 504h
2,4,6-tris(dimethylaminomethyl)phenol	CAS: 90-72-2 - EINECS: 202- 013-9 - INDEX: 603-069-00-0	c) Bacteria toxicity : EC10 <i>Pseudomonas putida</i> = 1120 mg/L 18h
		a) Aquatic acute toxicity : LC50 Fish Zebrafish = 7.07 mg/L 96h OECD 203
		a) Aquatic acute toxicity : LC50 <i>Daphnia magna</i> = 5.18 mg/L 48h OECD 202
		a) Aquatic acute toxicity : EC50 Algae <i>Pseudokirchneriella subcapitata</i> = 2.63 mg/L 72h OECD 201
M-phenylenebis(methylamine)	CAS: 1477-55-0 - EINECS: 216- 032-5	a) Aquatic acute toxicity : EC50 Sludge Activated sludge = 721 mg/L 3h OECD 209
		c) Bacteria toxicity : NOEC 1.41 mg/L
		a) Aquatic acute toxicity : LC50 Fish <i>Cyprinus carpio</i> = 175 mg/L 96h
		a) Aquatic acute toxicity : LC50 <i>Salmo gairdneri</i> < 240 mg/L 96h
		a) Aquatic acute toxicity : LC50 <i>Daphnia palemonetes vulgaris</i> = 718 mg/L 96h
		a) Aquatic acute toxicity : EC50 Algae freshwater algae = 84 mg/L
		a) Aquatic acute toxicity : LC50 Fish <i>Oryzias latipes</i> = 87.6 mg/L 96h OECD 203

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 15.2 mg/L 48h OECD 202

b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 4.7 mg/L OECD 211 - 21days

a) Aquatic acute toxicity : EC50 Algae Selenastrum capricornutum = 32.1 mg/L 72h OECD 201

a) Aquatic acute toxicity : EC50 Sludge activated sludge > 1000 mg/L OECD 209

Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine

CAS: 68082-29-1 - EINECS: 500-191-5

a) Aquatic acute toxicity : LC50 Fish = 10 mg/L 96h

a) Aquatic acute toxicity : EC100 Daphnia = 10 mg/L 24h

a) Aquatic acute toxicity : EC50 Algae = 4.34 mL/L 72h

## 12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes:
benzyl alcohol	Readily biodegradable	Dissolved organic carbon	96.000	%; OECD Guideline 301A
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Non-readily biodegradable	Dissolved organic carbon	8.000	%; EU-method C.4-A
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	Non-readily biodegradable			
2,4,6-tris(dimethylaminomethyl)phenol	Non-readily biodegradable			
M-phenylenebis(methylamine)	Non-readily biodegradable	Oxygen consumption		OECD 301B
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Non-readily biodegradable			OECD 301 D

## 12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes:
benzyl alcohol	Bioaccumulative	BCF - Bioconcentration factor	1.000	L/kg ww
Reaction product of fatty acids, C18 alkyl with amines, polyethylenepoly-tetraethylenepentamine fraction	Bioaccumulative	BCF - Bioconcentration factor	138.000	L/kg ww
M-phenylenebis(methylamine)	Not bioaccumulative	BCF - Bioconcentration factor		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Fatty acids, c18-unsatd., dimers, oligomeric reaction products with tall-oil fatty acids and triethylenetetramine	Bioaccumulative	BCF - Bioconcentration factor	77.400	L/kg ww; QSAR

## 12.4. Mobility in soil

Component	Mobility in soil
3-aminomethyl-3,5,5-trimethylcyclohexylamine	Not mobile

## 12.5. Results of PBT and vPvB assessment

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

## 12.6. Endocrine disrupting properties

No endocrine disruptor substances present in concentration  $\geq 0.1\%$

## 12.7. Other adverse effects

N.A.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

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

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

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## 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. (3-aminomethyl-3,5,5-trimethylcyclohexylamine - 2,4,6-tris(dimethylaminomethyl)phenol)

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

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

### 14.3. Transport hazard class(es)

ADR-Class: 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

Most important toxic component: Formaldehyde, oligomeric reaction products with phenol and m-phenylenebis(methylamine)

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-A, S-B

### 14.6. Special precautions for user

Road and Rail (ADR-RID):

ADR-Label: 8

ADR - Hazard identification number: 80

ADR-Special Provisions: 274

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

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E1

Air (IATA):

IATA-Passenger Aircraft: 852

IATA-Cargo Aircraft: 856

IATA-Label: 8

IATA-Subsidiary hazards: -

IATA-Erg: 8L

IATA-Special Provisions: A3 A803

Sea (IMDG):

IMDG-Stowage and handling: Category A

IMDG-Segregation: SG35 SGG18

IMDG-Subsidiary hazards: -

IMDG-Special Provisions: 223 274

### 14.7. Maritime transport in bulk according to IMO instruments

N.A.

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## SECTION 15: Regulatory information

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

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

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

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

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

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

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

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

Regulation (EU) n. 487/2013 (ATP 4 CLP)  
 Regulation (EU) n. 944/2013 (ATP 5 CLP)  
 Regulation (EU) n. 605/2014 (ATP 6 CLP)  
 Regulation (EU) n. 2015/1221 (ATP 7 CLP)  
 Regulation (EU) n. 2016/918 (ATP 8 CLP)  
 Regulation (EU) n. 2016/1179 (ATP 9 CLP)  
 Regulation (EU) n. 2017/776 (ATP 10 CLP)  
 Regulation (EU) n. 2018/669 (ATP 11 CLP)  
 Regulation (EU) n. 2018/1480 (ATP 13 CLP)  
 Regulation (EU) n. 2019/521 (ATP 12 CLP)  
 Regulation (EU) n. 2020/217 (ATP 14 CLP)  
 Regulation (EU) n. 2020/1182 (ATP 15 CLP)  
 Regulation (EU) n. 2021/643 (ATP 16 CLP)  
 Regulation (EU) n. 2021/849 (ATP 17 CLP)  
 Regulation (EU) n. 2022/692 (ATP 18 CLP)  
 Regulation (EU) n. 2023/707  
 Regulation (EU) n. 2023/1434 (ATP 19 CLP)  
 Regulation (EU) n. 2023/1435 (ATP 20 CLP)  
 Regulation (EU) n. 2024/197 (ATP 21 CLP)  
 Regulation (EU) n. 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)**

Product belongs to category: E2    200    500

**Explosives precursors – Regulation 2019/1148**

No substances listed

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

No substances listed

**German Water Hazard Class.**

3: Severe hazard to waters

**German Lagerklasse according to TRGS 510:**

LGK 8A

**SVHC Substances:**

No SVHC substances present in concentration >= 0.1%

**15.2. Chemical safety assessment**

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

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

benzyl alcohol

3-aminomethyl-3,5,5-trimethylcyclohexylamine

2,4,6-tris(dimethylaminomethyl)phenol

**SECTION 16: Other information**

Code	Description
EUH071	Corrosive to the respiratory tract.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.

H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
3.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
3.1/4/Oral	Acute Tox. 4	Acute toxicity (oral), Category 4
3.2/1B	Skin Corr. 1B	Skin corrosion, Category 1B
3.2/1C	Skin Corr. 1C	Skin corrosion, Category 1C
3.2/2	Skin Irrit. 2	Skin irritation, Category 2
3.3/1	Eye Dam. 1	Serious eye damage, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.4.2/1	Skin Sens. 1	Skin Sensitisation, Category 1
3.4.2/1A	Skin Sens. 1A	Skin Sensitisation, Category 1A
3.4.2/1B	Skin Sens. 1B	Skin Sensitisation, Category 1B
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2
4.1/C3	Aquatic Chronic 3	Chronic (long term) aquatic hazard, category 3

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

**Classification according to Regulation (EC) Nr. 1272/2008      Classification procedure**

Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1A, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

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

Main bibliographic sources:

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

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

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

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

This MSDS cancels and replaces any preceding release.

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

- ACGIH: American Conference of Governmental Industrial Hygienists
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
- AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- ATE: Acute Toxicity Estimate
- ATEmix: Acute toxicity Estimate (Mixtures)
- BCF: Biological Concentration Factor
- BEI: Biological Exposure Index
- BOD: Biochemical Oxygen Demand
- CAS: Chemical Abstracts Service (division of the American Chemical Society).
- CAV: Poison Center
- CE: European Community
- CLP: Classification, Labeling, Packaging.
- CMR: Carcinogenic, Mutagenic and Reprotoxic
- COD: Chemical Oxygen Demand
- COV: Volatile Organic Compound
- CSA: Chemical Safety Assessment
- CSR: Chemical Safety Report
- DMEL: Derived Minimal Effect Level
- DNEL: Derived No Effect Level.
- DPD: Dangerous Preparations Directive
- DSD: Dangerous Substances Directive
- EC50: Half Maximal Effective Concentration

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

**Paragraphs modified from the previous revision:**

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



# Exposure Scenario

## Benzyl alcohol

### Exposure Scenario, 30/06/2021

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

### Table of contents

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

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

## 1.1 TITLE SECTION

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

### Environment Contributing Scenario

<b>CS1</b>	ERC8a - ERC8d
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### Worker Contributing Scenario

<b>CS2</b>	PROC8a - PROC10
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## 1.2 Conditions of use affecting exposure

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

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

#### *Product (article) characteristics*

#### **Physical form of product:**

Liquid, vapour pressure < 10 Pa (Standard Temperature and Pressure)

#### **Vapour pressure:**

= 7 Pa

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

#### **Amounts used:**

Annual site tonnage = 1000 t(tonnes)/year

**Release type:** Continuous release

**Emission days:** 365 days per year

#### *Conditions and measures related to sewage treatment plant*

#### **STP type:**

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 87.36 %

**STP effluent (m<sup>3</sup>/day):** 2000

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

#### **Waste treatment**

Product residual disposal complies with applicable regulations.

### 1.2. CS2: Worker Contributing Scenario (PROC8a, PROC10)

<b>Process Categories</b>	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Roller application or brushing (PROC8a, PROC10)
---------------------------	---

#### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

**Vapour pressure:**

&lt; 7 Pa

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

Covers use up to = 8 h/day

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

Supervision in place to check that the risk management measures in place are being used correctly and operation conditions followed.  
Provide a basic standard of general ventilation (1 to 3 air changes per hour).

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

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 90 %
---------------------------------------	--

**Other conditions affecting worker exposure**

Covers indoor and outdoor use

Professional use

**Temperature:** Assumes use at not more than 20 °C above ambient temperature.**Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8a, ERC8d)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	N/A	EUSES v2.1	< 0.01
freshwater sediment	N/A	EUSES v2.1	< 0.01
marine water	N/A	EUSES v2.1	< 0.01
marine sediment	N/A	EUSES v2.1	< 0.01
soil	N/A	EUSES v2.1	= 0.019
Man via environment - Inhalation	N/A	EUSES v2.1	< 0.01
Man via environment - Oral	N/A	EUSES v2.1	< 0.01

**1.3. CS2: Worker Contributing Scenario (PROC8a, PROC10)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
combined routes, systemic, long-term	N/A	ECETOC TRA worker v3	0.977

**1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES****Guidance to check compliance with the exposure scenario:**

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

# Exposure Scenario

## 3-aminomethyl-3,5,5-trimethylcyclohexylamine

### Exposure Scenario, 01/06/2022

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

### Table of contents

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

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

## 1.1 TITLE SECTION

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

### Environment Contributing Scenario

<b>CS1</b>	ERC8c
<b>CS2</b>	ERC8f

### Worker Contributing Scenario

<b>CS3 Material transfers</b>	PROC8a
<b>CS4 Rolling, Brushing</b>	PROC10
<b>CS5 Material transfers</b>	PROC8a
<b>CS6 Rolling, Brushing</b>	PROC10

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario (ERC8c)

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

#### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

#### **Control measures to prevent releases**

	Water - minimum efficiency of: 0.015 %
--	--

### 1.2. CS2: Environment Contributing Scenario (ERC8f)

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

#### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

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

#### **Control measures to prevent releases**

	Water - minimum efficiency of: 0.015 %
--	--

## 1.2. CS3: Worker Contributing Scenario: Material transfers (PROC8a)

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

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers use up to 4 h/day

**Frequency:**

Covers use up to &lt;= 240 days per year

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

Local exhaust ventilation	Inhalation - minimum efficiency of: 80 %
---------------------------	--

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

**Personal protection**

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

### *Other conditions affecting worker exposure*

Indoor use

Professional use

**Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

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

<b>Process Categories</b>	Roller application or brushing (PROC10)
---------------------------	---

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers use up to 4 h/day

**Frequency:**

Covers use up to &lt;= 240 days per year

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Local exhaust ventilation	Inhalation - minimum efficiency of: 80 %
---------------------------	--

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

#### **Personal protection**

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

### *Other conditions affecting worker exposure*

Indoor use

Professional use

#### **Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

### **1.2. CS5: Worker Contributing Scenario: Material transfers (PROC8a)**

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

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers use up to 1 h

#### **Frequency:**

Covers use up to <= 240 days per year

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

#### **Personal protection**

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

### *Other conditions affecting worker exposure*

Outdoor use

Professional use

#### **Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

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

**Process Categories** Roller application or brushing (PROC10)

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Covers use up to 1 h

**Frequency:**

Covers use up to <= 240 days per year

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

**Personal protection**

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

### *Other conditions affecting worker exposure*

Outdoor use

Professional use

**Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

## 1.3 Exposure estimation and reference to its source

### 1.3. CS1: Environment Contributing Scenario (ERC8c)

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

### 1.3. CS2: Environment Contributing Scenario (ERC8f)

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

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	13.714 mg/kg bw/day	N/A	0.274
inhalative	106.438 mg/m <sup>3</sup>	N/A	N/A

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	27.429 mg/kg bw/day	N/A	0.549
inhalative	106.438 mg/m <sup>3</sup>	N/A	N/A

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	13.714 mg/kg bw/day	N/A	0.274
inhalative	24.835 mg/m <sup>3</sup>	N/A	0.497

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal	27.429 mg/kg bw/day	N/A	0.549
inhalative	24.835 mg/m <sup>3</sup>	N/A	0.497

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

**Guidance to check compliance with the exposure scenario:**

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

## Exposure Scenario

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

### Exposure Scenario, 08/11/2024

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

### Table of contents

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

## 1. ES 1

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

## 1.1 TITLE SECTION

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

## Environment Contributing Scenario

CS1	ERC8c
CS2	ERC8f

## Worker Contributing Scenario

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

## 1.2 Conditions of use affecting exposure

## 1.2. CS1: Environment Contributing Scenario (ERC8c)

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

*Product (article) characteristics*

## Physical form of product:

Liquid

## Vapour pressure:

Vapour pressure &lt; 0.01 Pa at standard temperature and pressure

## Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

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

## Amounts used:

Daily amount per site &lt;= 5.494E-05 tonnes/day

*Conditions and measures related to sewage treatment plant*

## STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 91.34 %

STP effluent (m<sup>3</sup>/day): 0.002*Other conditions affecting environmental exposure*Receiving surface water flow: 0.00018 m<sup>3</sup>/day

## 1.2. CS2: Environment Contributing Scenario (ERC8f)

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

## Physical form of product:

Liquid

**Vapour pressure:**

Vapour pressure < 0.01 Pa at standard temperature and pressure

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

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

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

**Conditions and measures related to sewage treatment plant****STP type:**

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 91.34 %

**STP effluent (m<sup>3</sup>/day):** 0.002

**Other conditions affecting environmental exposure**

**Receiving surface water flow:** 0.00018 m<sup>3</sup>/day

**1.2. CS3: Worker Contributing Scenario: Material transfers (PROC8a)****Process Categories**

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

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

Liquid

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

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

Exposure duration < 4 h

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

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

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

Wear suitable gloves tested to EN374.

Dermal - minimum efficiency of: = 95 %

**Other conditions affecting worker exposure**

Covers indoor and outdoor use

Professional use

**Temperature:** Assumes process temperature up to .... 40°C

**Body parts exposed:**

Palm of one hand

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

Roller application or brushing (PROC10)

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

Liquid

**Vapour pressure:**

Vapour pressure < 0.01 Pa at standard temperature and pressure

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

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

Exposure duration < 480 min

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

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

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

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 95 %
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**Other conditions affecting worker exposure**

Indoor use

Professional use

**Room size:** Covers use in room size of = 300 m<sup>3</sup>

**Temperature:** Covers use at ambient temperatures.

**Body parts exposed:**

Palm of one hand

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

**Additional Good Practice Advice:**

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

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

Roller application or brushing (PROC10)

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

Liquid

**Vapour pressure:**

Vapour pressure < 0.01 Pa at standard temperature and pressure

**Concentration of substance in product:**

Covers percentage substance in the product up to 25 %.

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

Exposure duration < 480 min

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

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

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

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: = 95 %
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**Other conditions affecting worker exposure**

Outdoor use

Professional use

**Temperature:** Assumes process temperature up to .... 25°C

**Body parts exposed:**

Palm of one hand

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.***Additional Good Practice Advice:**

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

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario (ERC8c)**

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

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 8.15E-05 mg/L	NGOA	= 0.031
freshwater sediment	= 8.15 mg/kg dry weight	NGOA	= 0.031
marine water	= 1.242E-05 mg/L	NGOA	= 0.047
marine sediment	= 1.242 mg/kg dry weight	NGOA	= 0.047
Agricultural soil	= 7.229 mg/kg dry weight	NGOA	= 0.138
Sewage treatment plant	= 0.000357 mg/L	NGOA	< 0.01
Man via environment - Inhalation	= 8.41E-07 mg/m <sup>3</sup>	NGOA	< 0.01

**1.3. CS2: Environment Contributing Scenario (ERC8f)**

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

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

Agricultural soil	= 7.229 mg/kg dry weight	NGOA	= 0.138
Sewage treatment plant	= 0.000357 mg/L	NGOA	< 0.01
Man via environment - Inhalation	= 8.41E-07 mg/m <sup>3</sup>	NGOA	< 0.01

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.656 mg/m <sup>3</sup>	ECETOC TRA worker v3	= 0.168
dermal, systemic, long-term	= 0.171 mg/kg bw/day	ECETOC TRA worker v3	= 0.156
combined routes, systemic, long-term	NGOA	NGOA	= 0.324

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.063 mg/m <sup>3</sup>	ART v1.5	= 0.016
dermal, systemic, long-term	= 0.0343 mg/kg bw/day	ECETOC TRA worker v3	= 0.312
combined routes, systemic, long-term	NGOA	NGOA	= 0.328

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 0.0093 mg/m <sup>3</sup>	ART v1.5	= 0.002
dermal, systemic, long-term	= 0.0343 mg/kg bw/day	ECETOC TRA worker v3	= 0.312
combined routes, systemic, long-term	NGOA	NGOA	= 0.314

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

### Guidance to check compliance with the exposure scenario:

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

# Exposure Scenario

## 2,4,6-tris(dimethylaminomethyl)phenol

### Exposure Scenario, 05/11/2021

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

### Table of contents

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

## 1. ES 1

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

## 1.1 TITLE SECTION

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

## Environment Contributing Scenario

CS1	ERC8b - ERC8e
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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 &lt;= 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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(PROC8a)

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

= 0.197 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Duration of contact < 30 min

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

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

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

**Personal protection**

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

### *Other conditions affecting worker exposure*

**Body parts exposed:**

Assumes that potential dermal contact is limited to hands.

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

**Process Categories**      Roller application or brushing (PROC10)

### *Product (article) characteristics*

**Physical form of product:**

Liquid

**Vapour pressure:**

= 0.197 Pa

**Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

### *Amount used, frequency and duration of use/exposure*

**Duration:**

Duration of contact < 440 min

### *Technical and organisational conditions and measures*

**Technical and organisational measures**

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

<b>Process Categories</b>	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.
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### *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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Use suitable eye protection.
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### *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)**

<b>Process Categories</b>	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/m <sup>3</sup>	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 <sup>3</sup>	EASY TRA v3.6	0.004
inhalative, systemic, short-term	0.464 mg/m <sup>3</sup>	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 <sup>3</sup>	ECETOC TRA worker v3	0.584
inhalative, systemic, short-term	0.4641238 mg/m <sup>3</sup>	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 <sup>3</sup>	ECETOC TRA worker v3	0.073
inhalative, systemic, short-term	0.867 mg/m <sup>3</sup>	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 <sup>3</sup>	ART v1.5	0.022
inhalative, systemic, short-term	0.023 mg/m <sup>3</sup>	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 <sup>3</sup>	ART v1.5	0.037
inhalative, systemic, short-term	0.039 mg/m <sup>3</sup>	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.