

# SAFETY DATA SHEET



TEKNOPOX FILLER 2112 - All variants

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

### 1.1 Product identifier

**Product name** : TEKNOPOX FILLER 2112 - All variants

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

**Product use** : Paint.

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

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

**e-mail address of person responsible for this SDS** : Prod-safe@teknos.com

#### National contact

Teknos Group Oy, Takkatie 3, FI-00370 HELSINKI, FINLAND. Tel. +358 9 506 091.

### 1.4 Emergency telephone number

#### National advisory body/Poison Centre

**Telephone number** : In an emergency, call 112

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Irrit. 2, H315  
Eye Irrit. 2, H319  
Skin Sens. 1, H317  
Aquatic Chronic 2, H411

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : Warning

**Hazard statements** : H315 - Causes skin irritation.  
H317 - May cause an allergic skin reaction.  
H319 - Causes serious eye irritation.  
H411 - Toxic to aquatic life with long lasting effects.

#### Precautionary statements

**Prevention** : P280 - Wear protective gloves. Wear eye or face protection.  
P273 - Avoid release to the environment.  
P261 - Avoid breathing vapour.  
P264 - Wash thoroughly after handling.

**Response** : P391 - Collect spillage.

**Storage** : Not applicable.

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**Version** : 9 1/28

TEKNOPOX FILLER 2112 - All variants

**Label No** : 77690

## SECTION 2: Hazards identification

- Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazardous ingredients** : Contains: Bis[4-(2,3-epoxypropoxy)phenyl]propane; Oxirane, mono[(C12-14-alkyloxy)methyl]derivs.; 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 and Phenol, methylstyrenated
- Supplemental label elements** : Contains epoxy constituents. May produce an allergic reaction. Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
- Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** :

### 2.3 Other hazards

- Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : This mixture contains substances that are assessed to be a PBT or a vPvB, refer to Section 3.2.
- Other hazards which do not result in classification** : None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Bis[4-(2,3-epoxypropoxy)phenyl]propane	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≥25 - ≤50	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5%	[1]
Oxirane, mono[(C12-14-alkyloxy)methyl]derivs.	REACH #: 01-2119485289-22 EC: 271-846-8 CAS: 68609-97-2 Index: 603-103-00-4	≤10	Skin Irrit. 2, H315 Skin Sens. 1, H317	-	[1]
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	REACH #: 01-2119454392-40 EC: 500-006-8 CAS: 9003-36-5	≤10	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	-	[1]
Benzyl alcohol	REACH #: 01-2119492630-38 EC: 202-859-9 CAS: 100-51-6 Index: 603-057-00-5	≤3	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Irrit. 2, H319	ATE [Oral] = 1230 mg/kg ATE [Inhalation (dusts and mists)] = 4.2 mg/l	[1]
Phenol, methylstyrenated	REACH #: 01-2119555274-38 EC: 700-960-7 CAS: 68512-30-1	≤3	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 3, H412	-	[1] [3]

## SECTION 3: Composition/information on ingredients

Toluene	REACH #: 01-2119471310-51 EC: 203-625-9 CAS: 108-88-3 Index: 601-021-00-3	<3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361d STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304	-	[1] [2]
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7	≤3	Carc. 2, H351 (inhalation)	-	[1] [*]
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	REACH #: 01-2119979085-27 EC: 309-629-8 CAS: 100545-48-0	<1	Skin Sens. 1B, H317 Aquatic Chronic 3, H412  <b>See Section 16 for the full text of the H statements declared above.</b>	-	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

### Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[\*] The classification as a carcinogen by inhalation applies only to mixtures placed on the market in powder form containing 1% or more of titanium dioxide particles with aerodynamic diameter ≤ 10 µm not bound within a matrix.

Occupational exposure limits, if available, are listed in Section 8.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

## SECTION 4: First aid measures

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

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

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

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
halogenated compounds  
metal oxide/oxides

### 5.3 Advice for firefighters

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

## SECTION 6: Accidental release measures

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

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## SECTION 6: Accidental release measures

**6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

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

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

**6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 7.1 Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

#### Seveso Directive - Reporting thresholds

##### Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
E2	200 tonne	500 tonne

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
Bis[4-(2,3-epoxypropoxy)phenyl]propane	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [1,2-Epoxy-3-(tolylxy)propane (all isomers)]</b> TWA: 10 ppm 8 hours. TWA: 70 mg/m <sup>3</sup> 8 hours. PEAK: 20 ppm, 4 times per shift, 15 minutes. PEAK: 140 mg/m <sup>3</sup> , 4 times per shift, 15 minutes.
Oxirane, mono[(C12-14-alkyloxy)methyl]derivs.	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [1,2-Epoxy-3-(tolylxy)propane (all isomers)]</b> TWA: 10 ppm 8 hours. TWA: 70 mg/m <sup>3</sup> 8 hours. PEAK: 20 ppm, 4 times per shift, 15 minutes. PEAK: 140 mg/m <sup>3</sup> , 4 times per shift, 15 minutes.
Toluene	<b>Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 190 mg/m <sup>3</sup> 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. PEAK: 380 mg/m <sup>3</sup> , 4 times per shift, 15 minutes.
Toluene	<b>Limit values (Belgium, 5/2021). Absorbed through skin.</b> TWA: 20 ppm 8 hours. TWA: 77 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 384 mg/m <sup>3</sup> 15 minutes.
Benzyl alcohol	<b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021).</b> Limit value 8 hours: 5 mg/m <sup>3</sup> 8 hours.
Toluene	<b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Absorbed through skin.</b> Limit value 15 min: 384 mg/m <sup>3</sup> 15 minutes. Limit value 8 hours: 192 mg/m <sup>3</sup> 8 hours. Limit value 15 min: 100 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.
Toluene	<b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021). Absorbed through skin.</b> STELV: 384 mg/m <sup>3</sup> 15 minutes. STELV: 100 ppm 15 minutes. ELV: 192 mg/m <sup>3</sup> 8 hours. ELV: 50 ppm 8 hours.
Toluene	<b>Department of labour inspection (Cyprus, 7/2021). Absorbed through skin.</b> STEL: 100 ppm 15 minutes. STEL: 384 mg/m <sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 192 mg/m <sup>3</sup> 8 hours.
Benzyl alcohol	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022).</b> TWA: 40 mg/m <sup>3</sup> 8 hours. TWA: 8.88 ppm 8 hours. STEL: 80 mg/m <sup>3</sup> 15 minutes. STEL: 17.76 ppm 15 minutes.
Toluene	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin.</b> TWA: 192 mg/m <sup>3</sup> 8 hours. TWA: 50.112 ppm 8 hours.

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Toluene

STEL: 384 mg/m<sup>3</sup> 15 minutes.  
STEL: 100.224 ppm 15 minutes.

**Working Environment Authority (Denmark, 6/2022). Absorbed through skin.**

TWA: 25 ppm 8 hours.  
TWA: 94 mg/m<sup>3</sup> 8 hours.  
STEL: 384 mg/m<sup>3</sup> 15 minutes.  
STEL: 100 ppm 15 minutes.

Toluene

**Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin.**

TWA: 192 mg/m<sup>3</sup> 8 hours.  
TWA: 50 ppm 8 hours.  
STEL: 384 mg/m<sup>3</sup> 15 minutes.  
STEL: 100 ppm 15 minutes.

Toluene

**EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values**

TWA: 192 mg/m<sup>3</sup> 8 hours.  
TWA: 50 ppm 8 hours.  
STEL: 384 mg/m<sup>3</sup> 15 minutes.  
STEL: 100 ppm 15 minutes.

Benzyl alcohol

**Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021).**

TWA: 45 mg/m<sup>3</sup> 8 hours.  
TWA: 10 ppm 8 hours.

Toluene

**Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin. Ototoxicant.**

TWA: 25 ppm 8 hours.  
TWA: 81 mg/m<sup>3</sup> 8 hours.  
STEL: 100 ppm 15 minutes.  
STEL: 380 mg/m<sup>3</sup> 15 minutes.

Toluene

**Ministry of Labor (France, 10/2022). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)**

TWA: 20 ppm 8 hours.  
TWA: 76.8 mg/m<sup>3</sup> 8 hours.  
STEL: 100 ppm 15 minutes.  
STEL: 384 mg/m<sup>3</sup> 15 minutes.

Bis[4-(2,3-epoxypropoxy)phenyl]propane  
Benzyl alcohol

**DFG MAC-values list (Germany, 7/2022). Skin sensitiser.**

**DFG MAC-values list (Germany, 7/2022). Absorbed through skin.**

PEAK: 44 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.  
PEAK: 10 ppm, 4 times per shift, 15 minutes.  
TWA: 22 mg/m<sup>3</sup> 8 hours.  
TWA: 5 ppm 8 hours.

**TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.**

PEAK: 10 ppm 15 minutes.  
PEAK: 44 mg/m<sup>3</sup> 15 minutes.  
TWA: 22 mg/m<sup>3</sup> 8 hours.  
TWA: 5 ppm 8 hours.

Toluene

**TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.**

TWA: 190 mg/m<sup>3</sup> 8 hours.  
PEAK: 380 mg/m<sup>3</sup> 15 minutes.  
TWA: 50 ppm 8 hours.  
PEAK: 100 ppm 15 minutes.

**DFG MAC-values list (Germany, 7/2022). Absorbed through skin.**

TWA: 50 ppm 8 hours.  
PEAK: 100 ppm, 4 times per shift, 15 minutes.  
TWA: 190 mg/m<sup>3</sup> 8 hours.  
PEAK: 380 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.

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Toluene	<b>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 192 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 384 mg/m <sup>3</sup> 15 minutes.
Toluene	<b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser.</b> TWA: 192 mg/m <sup>3</sup> 8 hours. PEAK: 384 mg/m <sup>3</sup> 15 minutes. PEAK: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.
Toluene	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin.</b> STEL: 188 mg/m <sup>3</sup> 15 minutes. STEL: 50 ppm 15 minutes. TWA: 94 mg/m <sup>3</sup> 8 hours. TWA: 25 ppm 8 hours.
Toluene	<b>NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values</b> OELV-8hr: 50 ppm 8 hours. OELV-8hr: 192 mg/m <sup>3</sup> 8 hours. OELV-15min: 100 ppm 15 minutes. OELV-15min: 384 mg/m <sup>3</sup> 15 minutes.
Toluene	<b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin.</b> 8 hours: 50 ppm 8 hours. 8 hours: 192 mg/m <sup>3</sup> 8 hours.
Benzyl alcohol	<b>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
Toluene	<b>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). Absorbed through skin.</b> TWA: 50 mg/m <sup>3</sup> 8 hours. STEL: 150 mg/m <sup>3</sup> 15 minutes. TWA: 14 ppm 8 hours. STEL: 40 ppm 15 minutes.
Benzyl alcohol	<b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). Absorbed through skin.</b> TWA: 5 mg/m <sup>3</sup> 8 hours.
Toluene	<b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). Absorbed through skin.</b> TWA: 192 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. STEL: 384 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.
Toluene	<b>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). Absorbed through skin.</b> STEL: 100 ppm 15 minutes. STEL: 384 mg/m <sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 192 mg/m <sup>3</sup> 8 hours.
Toluene	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 192 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. STEL: 384 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.



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Toluene	<p><b>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022).</b>          OEL, 8-h TWA: 150 mg/m<sup>3</sup> 8 hours.          STEL, 15-min: 384 mg/m<sup>3</sup> 15 minutes.          STEL, 15-min: 100 ppm 15 minutes.          OEL, 8-h TWA: 39 ppm 8 hours.</p>
Toluene	<p><b>FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through skin. Notes: indicative limit value</b>          TWA: 25 ppm 8 hours.          TWA: 94 mg/m<sup>3</sup> 8 hours.</p>
Benzyl alcohol	<p><b>Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021).</b>          TWA: 240 mg/m<sup>3</sup> 8 hours.</p>
Toluene	<p><b>Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). Absorbed through skin.</b>          TWA: 100 mg/m<sup>3</sup> 8 hours.          STEL: 200 mg/m<sup>3</sup> 15 minutes.</p>
Toluene	<p><b>Portuguese Institute of Quality (Portugal, 11/2014). Absorbed through skin.</b>          TWA: 20 ppm 8 hours.</p>
Toluene	<p><b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.</b>          VLA: 192 mg/m<sup>3</sup> 8 hours.          VLA: 50 ppm 8 hours.          Short term: 384 mg/m<sup>3</sup> 15 minutes.          Short term: 100 ppm 15 minutes.</p>
Toluene	<p><b>Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.</b>          TWA: 192 mg/m<sup>3</sup> 8 hours.          TWA: 50 ppm 8 hours.          STEL: 384 mg/m<sup>3</sup> 15 minutes.          STEL: 100 ppm 15 minutes.</p>
Benzyl alcohol	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021). Absorbed through skin.</b>          KTV: 10 ppm, 4 times per shift, 15 minutes.          KTV: 44 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.          TWA: 5 ppm 8 hours.          TWA: 22 mg/m<sup>3</sup> 8 hours.</p>
Toluene	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021). Absorbed through skin.</b>          TWA: 192 mg/m<sup>3</sup> 8 hours.          TWA: 50 ppm 8 hours.          KTV: 384 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.          KTV: 100 ppm, 4 times per shift, 15 minutes.</p>
Toluene	<p><b>National institute of occupational safety and health (Spain, 4/2022). Absorbed through skin.</b>          TWA: 50 ppm 8 hours.          TWA: 192 mg/m<sup>3</sup> 8 hours.          STEL: 100 ppm 15 minutes.          STEL: 384 mg/m<sup>3</sup> 15 minutes.</p>

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Toluene	<b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin. Ototoxicant.</b> TWA: 50 ppm 8 hours. TWA: 192 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 384 mg/m <sup>3</sup> 15 minutes.
Benzyl alcohol	<b>SUVA (Switzerland, 1/2023). Absorbed through skin.</b> TWA: 5 ppm 8 hours. Form: vapour and aerosols TWA: 22 mg/m <sup>3</sup> 8 hours. Form: vapour and aerosols
Toluene	<b>SUVA (Switzerland, 1/2023). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 190 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 760 mg/m <sup>3</sup> 15 minutes.
Toluene	<b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b> STEL: 384 mg/m <sup>3</sup> 15 minutes. TWA: 191 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.

### Biological exposure indices

Product/ingredient name	Exposure indices
Toluene	<b>VGU BEI (Austria, 9/2020)</b> BEI Fitness: 250 µg/l, toluene [in blood]. Sampling time: one year. BEI Fitness: 0.8 mg/l, o-cresol [in urine]. Sampling time: one year. BEI Fitness: 130000 /µl, platelets (non-pathological differential blood count) [in blood]. Sampling time: one year. BEI Fitness: 150000 /µl, platelets [in blood]. Sampling time: one year. BEI Fitness: 3700 to 13000 /µl, leukocytes (non-pathological differential blood count) [in blood]. Sampling time: one year. BEI Fitness: 4000 to 13000 /µl, leukocytes [in blood]. Sampling time: one year. BEI Fitness - men: 3.8 million/µl, erythrocytes [in blood]. Sampling time: one year. BEI Fitness - women: 3.2 million/µl, erythrocytes [in blood]. Sampling time: one year. BEI Fitness - men: 12 g/dl, hemoglobin [in blood]. Sampling time: one year. BEI Fitness - women: 10 g/dl, hemoglobin [in blood]. Sampling time: one year.
No exposure indices known.	
Toluene	<b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021)</b> BLV: 1.6 mmol/mmol creatinine, hippuric acid [in urine]. Sampling time: after the end of the exposure or the end of the work shift.
Toluene	<b>Ministry of Economy, Labour and Entrepreneurship ILV/STEL (Croatia, 10/2018)</b> BEI: 20 ppm, toluene [in end exhaled air]. Sampling time: during exposure. BEI: 0.83 µmol/l, toluene [in end exhaled air]. Sampling time: during exposure. BEI: 1 mg/l, toluene [in blood]. Sampling time: at the end of the work shift. BEI: 10.85 µmol/l, toluene [in blood]. Sampling time: at the end of the work shift. BEI: 1.05 mmol/mol creatinine, o-cresol [in urine]. Sampling time: at the end of the work shift. BEI: 1 mg/g creatinine, o-cresol [in urine]. Sampling time: at the end of the work shift. BEI: 1.58 mol/mol creatinine, hippuric acid [in urine]. Sampling

## SECTION 8: Exposure controls/personal protection

No exposure indices known.

Toluene

time: at the end of the work shift.

BEI: 2.5 g/g creatinine, hippuric acid [in urine]. Sampling time: at the end of the work shift.

### Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 9/2015)

Biological limit values: 1000 µmol/mmol creatinine, hippuric acid [in urine]. Sampling time: end of the shift.

Biological limit values: 1600 mg/g, hippuric acid [in urine]. Sampling time: end of the shift.

Biological limit values: 1.6 µmol/mmol creatinine, o-kresol (after hydrolysis) [in urine]. Sampling time: end of the shift.

Biological limit values: 1.5 mg/g creatinine, o-kresol (after hydrolysis) [in urine]. Sampling time: end of the shift.

No exposure indices known.

No exposure indices known.

No exposure indices known.

Toluene

### Institute of Occupational Health, Ministry of Social Affairs (Finland, 9/2020)

BEI: 500 nmol/l, toluene [in blood]. Sampling time: the morning after the working day.

No exposure indices known.

Toluene

### DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228).

BEI: 600 µg/l, toluene [in blood]. Sampling time: immediately after exposure.

BEI: 1.5 mg/l, o-cresol (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift / for long-term exposures: at the end of the shift after several shifts.

BEI: 75 µg/l, toluene [in urine]. Sampling time: end of exposure or end of shift.

### TRGS 903 - BEI Values (Germany, 2/2022)

BEI: 600 µg/l, toluene [in whole blood]. Sampling time: immediately after exposure.

BEI: 1.5 mg/l, o-cresol (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift; for long-term exposures: at the end of shift after several shifts.

BEI: 75 µg/l, toluene [in urine]. Sampling time: end of exposure or end of shift.

No exposure indices known.

Toluene

### 5/2020. (II. 6.) ITM Decree (Hungary, 12/2022)

BEI: 1 mg/g creatinine, o-cresol [in urine]. Sampling time: at the end of the shift.

BEI: 1 µmol/mmol creatinine, o-cresol [in urine]. Sampling time: at the end of the shift.

No exposure indices known.

Toluene

### NAOSH (Ireland, 1/2011)

BMGV: 0.3 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.

BMGV: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.

BMGV: 0.02 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.

No exposure indices known.

## SECTION 8: Exposure controls/personal protection

Toluene

No exposure indices known.

No exposure indices known.

No exposure indices known.

No exposure indices known.

No exposure indices known.

No exposure indices known.

Toluene

Toluene

Toluene

Toluene

### Minister Cabinet Regulations No.325 - BEI (Latvia, 7/2018)

BEI: 0.05 mg/l, toluene [in blood].

BEI: 1.6 g/g creatinine, hippuric acid [in urine]. Sampling time: end of the shift.

### Portuguese Institute of Quality (Portugal, 11/2014)

BEI: 0.3 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift.

BEI: 0.03 mg/l, toluene [in urine]. Sampling time: end of shift.

BEI: 0.02 mg/l, toluene [in blood]. Sampling time: end of shift at the end of the workweek.

### HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 3/2020)

OBLV: 3 mg/l, o-cresol [in urine]. Sampling time: end of shift.

OBLV: 2 g/l, hippuric acid [in urine]. Sampling time: end of shift.

### Government regulation SR c. 355/2006 (Slovakia, 9/2020)

BLV: 1010 µmol/mmol creatinine, hippuric acid [in urine].

Sampling time: at the end of exposure or work shift.

BLV: 1.08 µmol/mmol creatinine, o-cresol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.

BLV: 1600 mg/g creatinine, hippuric acid [in urine]. Sampling time: at the end of exposure or work shift.

BLV: 1.03 mg/g creatinine, o-cresol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.

BLV: 13399 µmol/l, hippuric acid [in urine]. Sampling time: at the end of exposure or work shift.

BLV: 14.3 µmol/l, o-cresol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.

BLV: 6517 nmol/l, toluene [in blood]. Sampling time: at the end of exposure or work shift.

BLV: 2401 mg/l, hippuric acid [in urine]. Sampling time: at the end of exposure or work shift.

BLV: 1.5 mg/l, o-cresol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.

BLV: 600 µg/l, toluene [in blood]. Sampling time: at the end of exposure or work shift.

### Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021)

BAT: 1.5 mg/l, o-cresol (after hydrolysis) [in urine]. Sampling time: at the end of the work shift, at long-term exposure: at the end of the work shift after several consecutive workdays.

BAT: 600 µg/l, toluene [in blood]. Sampling time: immediately after exposure.

BAT: 75 µg/l, toluene [in urine]. Sampling time: at the end of the work shift.

## SECTION 8: Exposure controls/personal protection

<p>Toluene</p> <p>No exposure indices known.</p>	<p><b>National institute of occupational safety and health (Spain, 4/2022)</b>            VLB: 0.05 mg/l, toluene [in blood]. Sampling time: prior to last shift of workweek.            VLB: 0.6 mg/g creatinine, o-cresol [in urine]. Sampling time: end of shift.            VLB: 0.08 mg/l, toluene [in urine]. Sampling time: end of shift.</p>
<p>Toluene</p> <p>No exposure indices known.</p>	<p><b>SUVA (Switzerland, 1/2023)</b>            BEI: 2 g/g creatinine, hippuric acid [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.            BEI: 1.26 mmol/mmol creatinine, hippuric acid [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.            BEI: 0.5 mg/l, o-cresol [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.            BEI: 4.62 µmol/l, o-cresol [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.            BEI: 600 µg/l, toluene [in blood]. Sampling time: immediately after exposure or after working hours.            BEI: 6.48 µmol/l, toluene [in blood]. Sampling time: immediately after exposure or after working hours.            BEI: 75 µg/l, toluene [in urine]. Sampling time: immediately after exposure or after working hours.</p>

**Recommended monitoring procedures** : Reference should be made to monitoring standards, such as the following:  
 European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Bis[4-(2,3-epoxypropoxy)phenyl]propane	DNEL	Long term Dermal	89.3 µg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.75 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0.87 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Inhalation	4.93 mg/m <sup>3</sup>	Workers	Systemic
Oxirane, mono[(C12-14-alkyloxy)methyl]derivs.	DNEL	Long term Oral	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0.5 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	0.87 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Long term Dermal	1 mg/kg bw/day	Workers	Systemic
Reaction mass of 2,2'-[methylenebis	DNEL	Long term Inhalation	3.6 mg/m <sup>3</sup>	Workers	Systemic
	DMEL	Short term Dermal	8.3 µg/cm <sup>2</sup>	Workers	Local

## SECTION 8: Exposure controls/personal protection

(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	DNEL	Long term Oral	6.25 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	8.7 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Inhalation	29.39 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Long term Dermal	62.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	104.15 mg/kg bw/day	Workers	Systemic	
	Benzyl alcohol	DNEL	Long term Oral	4 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	4 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	5.4 mg/m <sup>3</sup>	General population	Systemic
		DNEL	Long term Dermal	8 mg/kg bw/day	Workers	Systemic
		DNEL	Short term Oral	20 mg/kg bw/day	General population	Systemic
		DNEL	Short term Dermal	20 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	22 mg/m <sup>3</sup>	Workers	Systemic
		DNEL	Short term Inhalation	27 mg/m <sup>3</sup>	General population	Systemic
		DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
		DNEL	Short term Inhalation	110 mg/m <sup>3</sup>	Workers	Systemic
	Phenol, methylstyrenated	DNEL	Long term Oral	0.2 mg/kg bw/day	General population	Systemic
DNEL		Long term Inhalation	0.348 mg/m <sup>3</sup>	General population	Systemic	
DNEL		Long term Inhalation	1.41 mg/m <sup>3</sup>	Workers	Systemic	
DNEL		Long term Dermal	1.67 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	3.5 mg/kg bw/day	Workers	Systemic	
Toluene		DNEL	Long term Oral	8.13 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	56.5 mg/m <sup>3</sup>	General population	Local	
	DNEL	Long term Inhalation	56.5 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Inhalation	192 mg/m <sup>3</sup>	Workers	Local	
	DNEL	Long term Inhalation	192 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Long term Dermal	226 mg/kg bw/day	General population	Systemic	
	DNEL	Short term Inhalation	226 mg/m <sup>3</sup>	General population	Local	
	DNEL	Short term Inhalation	226 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Dermal	384 mg/kg bw/day	Workers	Systemic	
	DNEL	Short term Inhalation	384 mg/m <sup>3</sup>	Workers	Local	

## SECTION 8: Exposure controls/personal protection

Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	DNEL	Short term Inhalation	384 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Long term Inhalation	0.055 mg/m <sup>3</sup>	General population	Local
	DNEL	Long term Inhalation	0.308 mg/m <sup>3</sup>	Workers	Local

### PNECs

Product/ingredient name	Compartment Detail	Value	Method Detail
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	Fresh water	0.003 mg/l	-
	Fresh water sediment	0.294 mg/kg	-
	Marine water sediment	0.029 mg/kg	-
	Sewage Treatment Plant	10 mg/l	-
	Soil	0.237 mg/kg	-

## 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Recommendations : Wear suitable gloves tested to EN374.

< 1 hour (breakthrough time): Nitrile gloves. thickness > 0.3 mm

> 8 hours (breakthrough time): 4H / Silver Shield® gloves.

Wash hands before breaks and immediately after handling the product.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## SECTION 8: Exposure controls/personal protection

Filter type: A

Filter type (spray application): A P

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### 9.1 Information on basic physical and chemical properties

#### Appearance

**Physical state** : Liquid.  
**Colour** : Various  
**Odour** : Slight  
**Odour threshold** : Not available.  
**Melting point/freezing point** : Not available.  
**Initial boiling point and boiling range** :

Ingredient name	°C	°F	Method
Toluene	110.6	231.1	
Benzyl alcohol	205.3	401.5	

**Flammability** : Not available.  
**Lower and upper explosion limit** : Lower: 1.1%  
Upper: 13%  
**Flash point** : Closed cup: >100°C (>212°F)  
**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
Phenol, methylstyrenated	>385	>725	DIN 51794
Benzyl alcohol	436	816.8	

**Decomposition temperature** : Not available.  
**pH** : Not applicable.  
**Viscosity** : Not available.  
**Solubility(ies)** :  
Not available.

**Solubility in water** : Not available.  
**Partition coefficient: n-octanol/ water** : Not applicable.  
**Vapour pressure** :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Toluene	23.17	3.1				
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	0.62	0.083	EU A.4			

**Relative density** : Not available.  
**Density** : 1.2 g/cm<sup>3</sup>



## SECTION 9: Physical and chemical properties

Vapour density	: Not available.
Explosive properties	: Not available.
Oxidising properties	: Not available.
<u>Particle characteristics</u>	
Median particle size	: Not applicable.

## SECTION 10: Stability and reactivity

10.1 Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: The product is stable.
10.3 Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: No specific data.
10.5 Incompatible materials	: No specific data.
10.6 Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Bis[4-(2,3-epoxypropoxy)phenyl]propane Oxirane, mono[(C12-14-alkyloxy)methyl] derivs. 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	LD50 Dermal	Rabbit	20 g/kg	-
	LD50 Oral	Rat	17100 mg/kg	-
	LD50 Dermal	Rat	>2000 mg/kg	-
Benzyl alcohol	LD50 Oral	Rat	>5000 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat - Male, Female	4200 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	2000 mg/kg	-
Toluene	LD50 Oral	Rat	1230 mg/kg	-
	LC50 Inhalation Vapour	Rat	49 g/m <sup>3</sup>	4 hours
	LD50 Oral	Rat	636 mg/kg	-

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

#### Acute toxicity estimates

Route	ATE value
Oral Inhalation (dusts and mists)	45222.13 mg/kg 154.42 mg/l

#### Irritation/Corrosion

## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Bis[4-(2,3-epoxypropoxy)phenyl]propane	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	Skin - Moderate irritant	Rabbit	-	24 hours 500 uL	-
	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	Rabbit	-	24 hours 500 uL	-
Benzyl alcohol	Skin - Mild irritant	Man	-	48 hours 16 mg	-
	Skin - Moderate irritant	Pig	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 100 mg	-
Toluene	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant Eyes - Severe irritant	Rabbit Rabbit	- -	870 ug 24 hours 2 mg	- -
	Skin - Mild irritant	Pig	-	24 hours 250 uL	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
titanium dioxide	Skin - Mild irritant	Human	-	72 hours 300 ug l	-

**Conclusion/Summary** : Causes skin irritation.

### Sensitisation

**Conclusion/Summary** : May cause an allergic skin reaction.

### Mutagenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Carcinogenicity

It has been observed that the carcinogenic hazard of this product arises when respirable dust is inhaled in quantities leading to significant impairment of particle clearance mechanisms in the lung.

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Reproductive toxicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Teratogenicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Toluene	Category 3	-	Narcotic effects

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Toluene	Category 2	-	-

### Aspiration hazard

## SECTION 11: Toxicological information

Product/ingredient name	Result
Toluene	ASPIRATION HAZARD - Category 1

**Information on likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : Causes skin irritation. May cause an allergic skin reaction.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

#### Short term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.  
**Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- Conclusion/Summary** : Not available.
- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.  
**Reproductive toxicity** : No known significant effects or critical hazards.

## 11.2 Information on other hazards

### 11.2.1 Endocrine disrupting properties

Not available.

### 11.2.2 Other information

Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
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	EC50 1.8 mg/l	Algae	72 hours
Benzyl alcohol	EC50 2.55 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
	Chronic LC50 2.54 mg/l	Fish	96 hours
Phenol, methylstyrenated	Acute LC50 10000 µg/l Fresh water	Fish - <i>Lepomis macrochirus</i>	96 hours
	Acute EC50 15 mg/l	Algae	72 hours
Toluene	Acute EC50 14 mg/l	Daphnia	48 hours
	Acute LC50 25.8 mg/l	Fish	96 hours
	Acute EC50 12500 µg/l Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i>	72 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - <i>Gammarus pseudolimnaeus</i> - Adult	48 hours
	Acute EC50 5.56 mg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate	48 hours
titanium dioxide	Acute LC50 5500 µg/l Fresh water	Fish - <i>Oncorhynchus kisutch</i> - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute LC50 3 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - <i>Fundulus heteroclitus</i>	96 hours

**Conclusion/Summary** : Toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

**Conclusion/Summary** : This product has not been tested for biodegradation.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	3.77	160 to 263	Low
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	2.7	-	Low
Benzyl alcohol	0.87	-	Low
Phenol, methylstyrenated	3.627	-	Low
Toluene	2.73	90	Low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

## SECTION 12: Ecological information

### 12.5 Results of PBT and vPvB assessment

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Bis[4-(2,3-epoxypropoxy)phenyl]propane	No	N/A	N/A	No	N/A	N/A	N/A
Oxirane, mono[(C12-14-alkyloxy)methyl] derivs.	No	N/A	No	No	No	N/A	No
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	No	N/A	N/A	No	N/A	N/A	N/A
Benzyl alcohol	No	N/A	N/A	No	N/A	N/A	N/A
Phenol, methylstyrenated	No	N/A	N/A	No	SVHC (Candidate)	Specified	Specified
Toluene	No	N/A	No	Yes	No	N/A	No
Octadecanoic acid, 12-hydroxy-, reaction products with ethylenediamine	No	N/A	N/A	No	N/A	N/A	N/A

### 12.6 Endocrine disrupting properties

Not available.

### 12.7 Other adverse effects

No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

**European waste catalogue (EWC)** : 080111\*, 200127\*

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Epoxy Resin)
14.3 Transport hazard class(es)	9 	9 	9 	9 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.

### Additional information

**ADR/RID** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**Tunnel code** (-)

**ADN** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IMDG** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.

**IATA** : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Maritime transport in bulk according to IMO instruments** : Not relevant/applicable due to nature of the product.

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

#### Annex XIV - List of substances subject to authorisation

##### Annex XIV

None of the components are listed.

#### Substances of very high concern

Intrinsic property	Ingredient name	Status	Reference number	Date of revision
<input checked="" type="checkbox"/> PVB	Phenol, methylstyrenated	Candidate	D(2023) 8585-DC	-

#### Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

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## SECTION 15: Regulatory information

Product/ingredient name	%	Designation [Usage]
TEKNOPOX FILLER 2112	≥90	3
Toluene	<3	48

Labelling :

### Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

Explosive precursors : Not applicable.

### Ozone depleting substances (1005/2009/EU)

Not listed.

### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

### Persistent Organic Pollutants

Not listed.

### Seveso Directive

This product is controlled under the Seveso Directive.

### Danger criteria

Category

E2

### National regulations

#### Austria

VbF class : Not regulated.

Limitation of the use of organic solvents : Permitted.

#### Czech Republic

Storage code : IV

#### Denmark

Danish fire class : V-1

### Executive Order No. 1795/2015

Ingredient name	Annex I Section A	Annex I Section B
glass, oxide, chemicals	Listed	-
titanium dioxide	Listed	-

MAL-code : 2-6

Protection based on MAL : According to the regulations on work involving coded products, the following stipulations apply to the use of personal protective equipment:

**General:** Gloves must be worn for all work that may result in soiling. Apron/coveralls/protective clothing must be worn when soiling is so great that regular work clothes do not adequately protect skin against contact with the product. A face shield must be worn in work involving spattering if a full mask is not required. In this case, other recommended use of eye protection is not required.

In all spraying operations in which there is return spray, the following must be worn: respiratory protection and arm protectors/apron/coveralls/protective clothing as appropriate or as instructed.

## SECTION 15: Regulatory information

**MAL-code:** 2-6

**Application:** When using scraper or knife, brush, roller etc. for pre- and post-treatments in a spray booth where the operator is outside the spray zone and when working in similar new\* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone. When spraying in new\* booths and cabins with non-atomizing guns.

- Protective clothing must be worn.

When using scraper or knife, brush, roller, etc. for pre- and post-treatments in cabins or booths of the existing\* facility type, if the operator is inside the spray zone. When using scraper or knife, brush, roller, etc. for pre- and post-treatments outside a closed facility, spray booth or spray cabin.

- Gas filter mask and protective clothing must be worn.

When spraying in existing\* spray booths, if the operator is outside the spray zone.

- Air-supplied full mask and protective clothing must be worn.

During non-atomising spraying in existing\* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone. During downtimes, cleaning and repair in closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents.

- Air-supplied half mask, protective clothing and eye protection must be worn.

During all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

- Air-supplied full mask, protective clothing and hood must be worn.

**Drying:** Items for drying/drying ovens that are temporarily placed on such things as rack trolleys, etc. must be equipped with a mechanical exhaust system to prevent fumes from wet items from passing through workers' inhalation zone.

**Polishing:** When polishing treated surfaces, a mask with dust filter must be worn. When machine grinding, eye protection must be worn. Work gloves must always be worn.

**Caution** The regulations contain other stipulations in addition to the above.

\*See Regulations.

- Restrictions on use** : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.
- List of undesirable substances** : Listed
- Carcinogenic waste** : Waste containers must be labeled: Contains a substance or substances regulated by Danish working environment legislation on cancer risks.
- Epoxy/Isocyanate** : The product is covered by the rules for epoxy resins and isocyanates in Executive Order no. 1793 of 18/12/2015 on working with substances and materials (chemical agents). Pay attention to the rules, for example: the user of the product must have undergone special training and waste must be labelled. This requirement is in addition to the training requirement described in the REACH regulation, Annex XVII, entry 74 (COMMISSION REGULATION (EU) 2020/1149).

[Finland](#)

[France](#)



## SECTION 15: Regulatory information

**Social Security Code, Articles L 461-1 to L 461-7** : Oxirane, mono[(C12-14-alkyloxy)methyl]derivs. RG 84  
Toluene RG 4bis, RG 84

**Reinforced medical surveillance** : Act of July 11, 1977 determining the list of activities which require reinforced medical surveillance: not applicable

### Germany

**Storage class (TRGS 510)** : 10

### Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

### Danger criteria

Category	Reference number
2	1.3.2

**Hazard class for water** : 2

**Technical instruction on air quality control** : TA-Luft Number 5.2.5: 46.7%  
TA-Luft Class I - Number 5.2.5: 5.4%

**AOX** : The product contains organically bound halogens and can contribute to the AOX value in waste water.

### Italy

**D.Lgs. 152/06** : Not determined.

### Netherlands

**Ministry of Social Affairs and Employment (SZW) - Carcinogenic substances and processes, mutagenic or reprotoxic substances**

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development	Harmful via breastfeeding
Toluene	-	-	-	Development 2	-

**Water Discharge Policy (ABM)** : A(2) Toxic for aquatic organisms, may have long-term hazardous effects in aquatic environment. Decontamination effort: A

### Norway

### Sweden

**Epoxy/Isocyanate** : The product is covered by the specific rules for epoxy resins and isocyanates, allergenic chemical products in provision AFS 2011:19 Chemical Hazards in the Working Environment. Pay attention to that handling the product requires certificate of undergone necessary training and can require medical examination. Waste must be labelled with named substance and as Hazardous waste. This requirement is in addition to the training requirement described in the REACH regulation, Annex XVII, entry 74 (COMMISSION REGULATION (EU) 2020/1149).

### Switzerland

**VOC content** : VOC (w/w): 5.4%

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

## SECTION 15: Regulatory information

**15.2 Chemical safety assessment** : This product contains substances for which Chemical Safety Assessments are still required.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
N/A = Not available  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
SGG = Segregation Group  
vPvB = Very Persistent and Very Bioaccumulative

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 2, H411	Calculation method

### Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

### Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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TEKNOPOX FILLER 2112

All variants

### Notice to reader

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## SECTION 16: Other information

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfil the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

