

# SAFETY DATA SHEET



TEKNOZINC 3233 - GREY

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

### 1.1 Product identifier

**Product name** : TEKNOZINC 3233 - GREY

### 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]

Flam. Liq. 3, H226

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Resp. Sens. 1, H334

Skin Sens. 1, H317

Carc. 2, H351

STOT SE 3, H335

Aquatic Acute 1, H400

Aquatic Chronic 1, H410

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** : Danger

**Hazard statements** :

- H226 - Flammable liquid and vapour.
- H315 - Causes skin irritation.
- H317 - May cause an allergic skin reaction.
- H319 - Causes serious eye irritation.
- H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H335 - May cause respiratory irritation.
- H351 - Suspected of causing cancer.

**Date of issue/Date of revision** : 30/04/2024 **Date of previous issue** : No previous validation **Version** : 2 1/41

TEKNOZINC 3233 - GREY

**Label No** : 81787

## SECTION 2: Hazards identification

H410 - Very toxic to aquatic life with long lasting effects.

### Precautionary statements

<b>Prevention</b>	: P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment.
<b>Response</b>	: P391 - Collect spillage.
<b>Storage</b>	: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
<b>Disposal</b>	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazardous ingredients</b>	: Contains: Xylene; Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol; Diphenylmethane diisocyanate (isomers and homologues) and 4-isocyanatosulphonyltoluene
<b>Supplemental label elements</b>	: Contains isocyanates. May produce an allergic reaction.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: As from August 24 2023 adequate training is required before industrial or professional use.

### 2.3 Other hazards

<b>Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII</b>	: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
<b>Other hazards which do not result in classification</b>	: 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
Zinc powder - zinc dust (stabilized)	REACH #: 01-2119467174-37 EC: 231-175-3 CAS: 7440-66-6	≥50 - ≤75	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
Xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7 Index: 601-022-00-9	<10	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 (oral, inhalation) Asp. Tox. 1, H304	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	CAS: 67815-87-6	<10	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 STOT SE 3, H335 STOT RE 2, H373 (inhalation)	ATE [Inhalation (vapours)] = 11 mg/l	[1]

### SECTION 3: Composition/information on ingredients

Diphenylmethane diisocyanate (isomers and homologues)	CAS: 9016-87-9	≤5	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (inhalation)	ATE [Inhalation (vapours)] = 11 mg/l Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5% Resp. Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5%	[1]
2-Methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
Ethylbenzene	REACH #: 01-2119489370-35 EC: 202-849-4 CAS: 100-41-4 Index: 601-023-00-4	≤3	Flam. Liq. 2, H225 Acute Tox. 4, H332 STOT RE 2, H373 (hearing organs) (oral, inhalation) Asp. Tox. 1, H304	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
4-isocyanatosulphonyltoluene	REACH #: 01-2119980050-47 EC: 223-810-8 CAS: 4083-64-1 Index: 615-012-00-7	≤3	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 STOT SE 3, H335 EUH014	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5% STOT SE 3, H335: C ≥ 5%	[1]
4,4'-methylenediphenyl diisocyanate	REACH #: 01-2119457014-47 EC: 202-966-0 CAS: 101-68-8 Index: 615-005-00-9	<1	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373 (inhalation)	ATE [Inhalation (dusts and mists)] = 1.5 mg/l Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5% Resp. Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5%	[1]
o-(p-isocyanatobenzyl) phenyl isocyanate	REACH #: 01-2119480143-45 EC: 227-534-9 CAS: 5873-54-1 Index: 615-005-00-9	<1	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	ATE [Inhalation (dusts and mists)] = 1.5 mg/l Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5% Resp. Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5%	[1]
2,2'-methylenediphenyl diisocyanate	REACH #: 01-2119927323-43 EC: 219-799-4 CAS: 2536-05-2 Index: 615-005-00-9	<0.1	Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Resp. Sens. 1, H334 Skin Sens. 1, H317 Carc. 2, H351 STOT SE 3, H335 STOT RE 2, H373	ATE [Inhalation (dusts and mists)] = 1.5 mg/l Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5% Resp. Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5%	[1]

## SECTION 3: Composition/information on ingredients

			<b>See Section 16 for the full text of the H statements declared above.</b>	C ≥ 5%	
--	--	--	---	--------	--

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

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 it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. In the event of any complaints or symptoms, avoid further exposure.
- 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. 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.

### 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** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma

## SECTION 4: First aid measures

- 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** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

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

- Hazards from the substance or mixture** : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very 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  
nitrogen oxides  
sulfur oxides  
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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- 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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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".

### 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.

## SECTION 6: Accidental release measures

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

**Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. 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. Use spark-proof tools and explosion-proof equipment. 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 sensitisation problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. 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 a segregated and approved area. 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. Eliminate all ignition sources. Separate from oxidising materials. 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
P5c E1	5000 tonne 100 tonne	50000 tonne 200 tonne

### 7.3 Specific end use(s)



## SECTION 7: Handling and storage

**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
Xylene	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [Xylenes (all isomers)]</b> PEAK: 442 mg/m <sup>3</sup> , 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 221 mg/m <sup>3</sup> 8 hours.
2-Methoxy-1-methylethyl acetate	<b>Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. CEIL: 100 ppm, 8 times per shift, 5 minutes. CEIL: 550 mg/m <sup>3</sup> , 8 times per shift, 5 minutes.
Ethylbenzene	<b>Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin.</b> TWA: 100 ppm 8 hours. TWA: 440 mg/m <sup>3</sup> 8 hours. CEIL: 200 ppm, 8 times per shift, 5 minutes. CEIL: 880 mg/m <sup>3</sup> , 8 times per shift, 5 minutes.
4,4'-methylenediphenyl diisocyanate	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [Diphenylmethane diisocyanate (all isomers)] Skin sensitiser. Inhalation sensitiser.</b> TWA: 0.005 ppm 8 hours. TWA: 0.05 mg/m <sup>3</sup> 8 hours. CEIL: 0.01 ppm, 8 times per shift, 5 minutes. CEIL: 0.1 mg/m <sup>3</sup> , 8 times per shift, 5 minutes.
o-(p-isocyanatobenzyl)phenyl isocyanate	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [Diphenylmethane diisocyanate (all isomers)] Skin sensitiser. Inhalation sensitiser.</b> TWA: 0.005 ppm 8 hours. TWA: 0.05 mg/m <sup>3</sup> 8 hours. CEIL: 0.01 ppm, 8 times per shift, 5 minutes. CEIL: 0.1 mg/m <sup>3</sup> , 8 times per shift, 5 minutes.
2,2'-methylenediphenyl diisocyanate	<b>Regulation on Limit Values - MAC (Austria, 4/2021). [Diphenylmethane diisocyanate (all isomers)] Skin sensitiser. Inhalation sensitiser.</b> TWA: 0.005 ppm 8 hours. TWA: 0.05 mg/m <sup>3</sup> 8 hours. CEIL: 0.01 ppm, 8 times per shift, 5 minutes. CEIL: 0.1 mg/m <sup>3</sup> , 8 times per shift, 5 minutes.
Xylene	<b>Limit values (Belgium, 5/2021). [Xylene] Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 221 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m <sup>3</sup> 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Limit values (Belgium, 5/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>Limit values (Belgium, 5/2021). Absorbed through skin.</b>

## SECTION 8: Exposure controls/personal protection

4,4'-methylenediphenyl diisocyanate	<p>TWA: 20 ppm 8 hours. TWA: 87 mg/m<sup>3</sup> 8 hours. STEL: 125 ppm 15 minutes. STEL: 551 mg/m<sup>3</sup> 15 minutes.</p> <p><b>Limit values (Belgium, 5/2021).</b> TWA: 0.005 ppm 8 hours. TWA: 0.052 mg/m<sup>3</sup> 8 hours.</p>
Xylene	<p><b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021).</b> [Xylene (mixture of isomers), pure] Absorbed through skin. Limit value 8 hours: 221 mg/m<sup>3</sup> 8 hours. Limit value 15 min: 442 mg/m<sup>3</sup> 15 minutes. Limit value 15 min: 100 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021).</b> Absorbed through skin. Limit value 8 hours: 275 mg/m<sup>3</sup> 8 hours. Limit value 15 min: 550 mg/m<sup>3</sup> 15 minutes. Limit value 15 min: 100 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.</p>
Ethylbenzene	<p><b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021).</b> Absorbed through skin. Limit value 8 hours: 435 mg/m<sup>3</sup> 8 hours. Limit value 15 min: 545 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021).</b> Limit value 8 hours: 0.05 mg/m<sup>3</sup> 8 hours. Limit value 15 min: 0.07 mg/m<sup>3</sup> 15 minutes.</p>
Xylene	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> [xylene (all isomers)] Absorbed through skin. STELV: 442 mg/m<sup>3</sup> 15 minutes. STELV: 100 ppm 15 minutes. ELV: 221 mg/m<sup>3</sup> 8 hours. ELV: 50 ppm 8 hours.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> [isocyanates, all except methyl isocyanate] STELV: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes. ELV: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> [isocyanates, all except methyl isocyanate] STELV: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes. ELV: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> Absorbed through skin. STELV: 550 mg/m<sup>3</sup> 15 minutes. STELV: 100 ppm 15 minutes. ELV: 275 mg/m<sup>3</sup> 8 hours. ELV: 50 ppm 8 hours.</p>
Ethylbenzene	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> Absorbed through skin. STELV: 884 mg/m<sup>3</sup> 15 minutes. STELV: 200 ppm 15 minutes. ELV: 442 mg/m<sup>3</sup> 8 hours. ELV: 100 ppm 8 hours.</p>
4-isocyanatosulphonyltoluene	<p><b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021).</b> [isocyanates, all except methyl isocyanate] STELV: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes. ELV: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.</p>



## SECTION 8: Exposure controls/personal protection

4,4'-methylenediphenyl diisocyanate	<b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021). [isocyanates, all except methyl isocyanate]</b> STELV: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minutes. ELV: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hours.
o-(p-isocyanatobenzyl)phenyl isocyanate	<b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021). [isocyanates, all except methyl isocyanate]</b> STELV: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minutes. ELV: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hours.
2,2'-methylenediphenyl diisocyanate	<b>Ministry of Economy, Labour and Entrepreneurship ELV/STELV (Croatia, 1/2021). [isocyanates, all except methyl isocyanate]</b> STELV: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minutes. ELV: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hours.
Xylene	<b>Department of labour inspection (Cyprus, 7/2021). [Xylene, mixed isomers] Absorbed through skin.</b> STEL: 100 ppm 15 minutes. STEL: 442 mg/m <sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 221 mg/m <sup>3</sup> 8 hours.
2-Methoxy-1-methylethyl acetate	<b>Department of labour inspection (Cyprus, 7/2021). Absorbed through skin.</b> STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours.
Ethylbenzene	<b>Department of labour inspection (Cyprus, 7/2021). Absorbed through skin.</b> STEL: 884 mg/m <sup>3</sup> 15 minutes. TWA: 100 ppm 8 hours. TWA: 442 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes.
Xylene	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). [xylene, technical mixture of isomers and all isomers] Absorbed through skin.</b> TWA: 200 mg/m <sup>3</sup> 8 hours. TWA: 45.4 ppm 8 hours. STEL: 400 mg/m <sup>3</sup> 15 minutes. STEL: 90.8 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin.</b> TWA: 270 mg/m <sup>3</sup> 8 hours. TWA: 49.14 ppm 8 hours. STEL: 550 mg/m <sup>3</sup> 15 minutes. STEL: 100.1 ppm 15 minutes.
Ethylbenzene	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin.</b> TWA: 200 mg/m <sup>3</sup> 8 hours. TWA: 45.4 ppm 8 hours. STEL: 500 mg/m <sup>3</sup> 15 minutes. STEL: 113.5 ppm 15 minutes.
4,4'-methylenediphenyl diisocyanate	<b>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Skin sensitiser.</b> TWA: 0.05 mg/m <sup>3</sup> 8 hours. STEL: 0.1 mg/m <sup>3</sup> 15 minutes.
Xylene	<b>Working Environment Authority (Denmark, 6/2022). [Xylenes, all isomers] Absorbed through skin.</b> TWA: 25 ppm 8 hours. TWA: 109 mg/m <sup>3</sup> 8 hours. STEL: 442 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Working Environment Authority (Denmark, 6/2022). [2-Methoxy-1-methylethyl acetate] Absorbed through skin.</b>

## SECTION 8: Exposure controls/personal protection

Ethylbenzene	<p>TWA: 50 ppm 8 hours. TWA: 275 mg/m<sup>3</sup> 8 hours. STEL: 550 mg/m<sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.</p> <p><b>Working Environment Authority (Denmark, 6/2022). Absorbed through skin. Carcinogen.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 217 mg/m<sup>3</sup> 8 hours. STEL: 434 mg/m<sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Working Environment Authority (Denmark, 6/2022). Carcinogen.</b></p> <p>TWA: 0.005 ppm 8 hours. TWA: 0.05 mg/m<sup>3</sup> 8 hours. STEL: 0.1 mg/m<sup>3</sup> 15 minutes. STEL: 0.01 ppm 15 minutes.</p>
Xylene	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Xylenes] Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. STEL: 450 mg/m<sup>3</sup> 15 minutes. TWA: 200 mg/m<sup>3</sup> 8 hours.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Isocyanates] Skin sensitiser.</b></p> <p>TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Isocyanates] Skin sensitiser.</b></p> <p>TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser.</b></p> <p>STEL: 100 ppm 15 minutes. STEL: 550 mg/m<sup>3</sup> 15 minutes. TWA: 275 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.</p>
Ethylbenzene	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser.</b></p> <p>TWA: 442 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. STEL: 884 mg/m<sup>3</sup> 15 minutes. STEL: 200 ppm 15 minutes.</p>
4-isocyanatosulphonyltoluene	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Isocyanates] Skin sensitiser.</b></p> <p>TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Skin sensitiser.</b></p> <p>TWA: 0.05 mg/m<sup>3</sup> 8 hours. TWA: 0.005 ppm 8 hours. STEL: 0.1 mg/m<sup>3</sup> 5 minutes. STEL: 0.01 ppm 5 minutes.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Isocyanates] Skin sensitiser.</b></p> <p>TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Isocyanates] Skin sensitiser.</b></p> <p>TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.</p>

## SECTION 8: Exposure controls/personal protection

Xylene	<b>EU OEL (Europe, 1/2022). [xylene, mixed isomers pure] Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 221 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m <sup>3</sup> 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 100 ppm 8 hours. TWA: 442 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m <sup>3</sup> 15 minutes.
Xylene	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Xylenes] Absorbed through skin.</b> STEL: 440 mg/m <sup>3</sup> 15 minutes. TWA: 220 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
Diphenylmethane diisocyanate (isomers and homologues)	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 270 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 220 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 880 mg/m <sup>3</sup> 15 minutes.
4-isocyanatosulphonyltoluene	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
4,4'-methylenediphenyl diisocyanate	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
o-(p-isocyanatobenzyl)phenyl isocyanate	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
2,2'-methylenediphenyl diisocyanate	<b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). [Isocyanates]</b> STEL: 0.035 mg/m <sup>3</sup> , (calculated as NCO) 15 minutes.
Xylene	<b>Ministry of Labor (France, 10/2022). [xylenes, mixed isomers, pure] Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)</b> STEL: 442 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 221 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
2-Methoxy-1-methylethyl acetate	<b>Ministry of Labor (France, 10/2022). Absorbed through skin.</b>

## SECTION 8: Exposure controls/personal protection

Ethylbenzene

**Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)**

STEL: 550 mg/m<sup>3</sup> 15 minutes.

STEL: 100 ppm 15 minutes.

TWA: 275 mg/m<sup>3</sup> 8 hours.

TWA: 50 ppm 8 hours.

**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: 88.4 mg/m<sup>3</sup> 8 hours.

STEL: 442 mg/m<sup>3</sup> 15 minutes.

STEL: 100 ppm 15 minutes.

4,4'-methylenediphenyl diisocyanate

**Ministry of Labor (France, 10/2022). Inhalation sensitiser.**

**Notes: Permissible limit values (circulars)**

TWA: 0.01 ppm 8 hours.

TWA: 0.1 mg/m<sup>3</sup> 8 hours.

STEL: 0.02 ppm 5 minutes.

STEL: 0.2 mg/m<sup>3</sup> 5 minutes.

Xylene

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

TWA: 220 mg/m<sup>3</sup> 8 hours.

PEAK: 440 mg/m<sup>3</sup> 15 minutes.

TWA: 50 ppm 8 hours.

PEAK: 100 ppm 15 minutes.

**DFG MAC-values list (Germany, 7/2022). [Xylene (all isomers)] Absorbed through skin.**

TWA: 50 ppm 8 hours.

PEAK: 100 ppm, 4 times per shift, 15 minutes.

TWA: 220 mg/m<sup>3</sup> 8 hours.

PEAK: 440 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.

Diphenylmethane diisocyanate (isomers and homologues)

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

TWA: 0.05 mg/m<sup>3</sup> 8 hours. Form: inhalable fraction

PEAK: 0.05 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. Form: inhalable fraction

CEIL: 0.1 mg/m<sup>3</sup>

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

**Skin sensitiser. Inhalation sensitiser.**

TWA: 0.05 mg/m<sup>3</sup>, (calculated as MDI) 8 hours. Form: Inhalable fraction

PEAK: 0.05 mg/m<sup>3</sup>, (calculated as MDI) 15 minutes. Form: Inhalable fraction

CEIL: 0.1 mg/m<sup>3</sup>, (calculated as MDI) Form: Inhalable fraction

2-Methoxy-1-methylethyl acetate

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

TWA: 270 mg/m<sup>3</sup> 8 hours.

PEAK: 270 mg/m<sup>3</sup> 15 minutes.

TWA: 50 ppm 8 hours.

PEAK: 50 ppm 15 minutes.

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

TWA: 50 ppm 8 hours.

PEAK: 50 ppm, 4 times per shift, 15 minutes.

TWA: 270 mg/m<sup>3</sup> 8 hours.

PEAK: 270 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.

Ethylbenzene

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

TWA: 88 mg/m<sup>3</sup> 8 hours.

PEAK: 176 mg/m<sup>3</sup> 15 minutes.

TWA: 20 ppm 8 hours.

PEAK: 40 ppm 15 minutes.

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

PEAK: 40 ppm, 4 times per shift, 15 minutes.

PEAK: 176 mg/m<sup>3</sup>, 4 times per shift, 15 minutes.

TWA: 88 mg/m<sup>3</sup> 8 hours.

TWA: 20 ppm 8 hours.

## SECTION 8: Exposure controls/personal protection

4,4'-methylenediphenyl diisocyanate	<p><b>TRGS 900 OEL (Germany, 6/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.05 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction  CEIL: 0.1 mg/m<sup>3</sup> Form: Inhalable fraction  PEAK: 0.05 mg/m<sup>3</sup> 15 minutes. Form: Inhalable fraction</p> <p><b>DFG MAC-values list (Germany, 7/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.05 mg/m<sup>3</sup> 8 hours. Form: inhalable fraction  PEAK: 0.05 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. Form: inhalable fraction  CEIL: 0.1 mg/m<sup>3</sup></p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>TRGS 900 OEL (Germany, 6/2022).</b>  CEIL: 0.1 mg/m<sup>3</sup>  PEAK: 0.05 mg/m<sup>3</sup> 15 minutes.  TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>TRGS 900 OEL (Germany, 6/2022).</b>  CEIL: 0.1 mg/m<sup>3</sup>  PEAK: 0.05 mg/m<sup>3</sup> 15 minutes.  TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>
Xylene	<p><b>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). [Xylenes (all isomers)] Absorbed through skin.</b>  TWA: 100 ppm 8 hours.  TWA: 435 mg/m<sup>3</sup> 8 hours.  STEL: 150 ppm 15 minutes.  STEL: 650 mg/m<sup>3</sup> 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). Absorbed through skin.</b>  TWA: 50 ppm 8 hours.  TWA: 275 mg/m<sup>3</sup> 8 hours.  STEL: 100 ppm 15 minutes.  STEL: 550 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<p><b>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021).</b>  TWA: 100 ppm 8 hours.  TWA: 435 mg/m<sup>3</sup> 8 hours.  STEL: 125 ppm 15 minutes.  STEL: 545 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021).</b>  TWA: 0.02 ppm 8 hours.  TWA: 0.2 mg/m<sup>3</sup> 8 hours.  STEL: 0.02 ppm 15 minutes.  STEL: 0.2 mg/m<sup>3</sup> 15 minutes.</p>
Xylene	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). [xylene, mixture of isomers] Absorbed through skin.</b>  TWA: 221 mg/m<sup>3</sup> 8 hours.  PEAK: 442 mg/m<sup>3</sup> 15 minutes.  PEAK: 100 ppm 15 minutes.  TWA: 50 ppm 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022).</b>  TWA: 275 mg/m<sup>3</sup> 8 hours.  PEAK: 550 mg/m<sup>3</sup> 15 minutes.  PEAK: 100 ppm 15 minutes.  TWA: 50 ppm 8 hours.</p>
Ethylbenzene	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser.</b>  TWA: 442 mg/m<sup>3</sup> 8 hours.  PEAK: 884 mg/m<sup>3</sup> 15 minutes.  PEAK: 200 ppm 15 minutes.  TWA: 100 ppm 8 hours.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>



## SECTION 8: Exposure controls/personal protection

o-(p-isocyanatobenzyl)phenyl isocyanate	PEAK: 0.05 mg/m <sup>3</sup> 15 minutes. PEAK: 0.005 ppm 15 minutes. TWA: 0.005 ppm 8 hours. <b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). [Diisocyanates] Skin sensitiser. Inhalation sensitiser.</b>
2,2'-methylenediphenyl diisocyanate	<b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). [Diisocyanates] Skin sensitiser. Inhalation sensitiser.</b>
Xylene	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [xylene, all isomers] Absorbed through skin.</b> STEL: 442 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 109 mg/m <sup>3</sup> 8 hours. TWA: 25 ppm 8 hours.
Diphenylmethane diisocyanate (isomers and homologues)	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [Other isocyanates]</b> TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.
2-Methoxy-1-methylethyl acetate	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin.</b> STEL: 550 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes. TWA: 275 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
Ethylbenzene	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin.</b> STEL: 884 mg/m <sup>3</sup> 15 minutes. STEL: 200 ppm 15 minutes. TWA: 200 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours.
4,4'-methylenediphenyl diisocyanate	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Skin sensitiser.</b> STEL: 0.1 mg/m <sup>3</sup> 5 minutes. STEL: 0.01 ppm 5 minutes. TWA: 0.05 mg/m <sup>3</sup> 8 hours. TWA: 0.005 ppm 8 hours.
o-(p-isocyanatobenzyl)phenyl isocyanate	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [Other isocyanates]</b> TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.
2,2'-methylenediphenyl diisocyanate	<b>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [Other isocyanates]</b> TWA: 0.005 ppm 8 hours. STEL: 0.01 ppm 5 minutes.
Xylene	<b>NAOSH (Ireland, 5/2021). [xylene mixed isomers] Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values</b> OELV-8hr: 50 ppm 8 hours. OELV-8hr: 221 mg/m <sup>3</sup> 8 hours. OELV-15min: 100 ppm 15 minutes. OELV-15min: 442 mg/m <sup>3</sup> 15 minutes.
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<b>NAOSH (Ireland, 5/2021). [isocyanates all, as -NCO except Methyl isocyanate (CAS No. 624-83-9) and Toluene (2,4 or 2,6 diisocyanate (CAS No. 584-84-9, 91-08-7)] Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b> OELV-8hr: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hours. OELV-15min: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minutes.
Diphenylmethane diisocyanate (isomers and homologues)	<b>NAOSH (Ireland, 5/2021). [isocyanates all, as -NCO except Methyl isocyanate (CAS No. 624-83-9) and Toluene (2,4 or 2,6 diisocyanate (CAS No. 584-84-9, 91-08-7)] Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b> OELV-8hr: 0.02 mg/m <sup>3</sup> , (as NCO) 8 hours. OELV-15min: 0.07 mg/m <sup>3</sup> , (as NCO) 15 minutes.



## SECTION 8: Exposure controls/personal protection

2-Methoxy-1-methylethyl acetate	<p><b>NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values</b></p> <p>                     OELV-8hr: 50 ppm 8 hours.                      OELV-8hr: 275 mg/m<sup>3</sup> 8 hours.                      OELV-15min: 100 ppm 15 minutes.                      OELV-15min: 550 mg/m<sup>3</sup> 15 minutes.                 </p>
Ethylbenzene	<p><b>NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values</b></p> <p>                     OELV-8hr: 100 ppm 8 hours.                      OELV-8hr: 442 mg/m<sup>3</sup> 8 hours.                      OELV-15min: 200 ppm 15 minutes.                      OELV-15min: 884 mg/m<sup>3</sup> 15 minutes.                 </p>
4-isocyanatosulphonyltoluene	<p><b>NAOSH (Ireland, 5/2021). [isocyanates all, as -NCO except Methyl isocyanate (CAS No. 624-83-9) and Toluene (2,4 or 2,6 diisocyanate (CAS No. 584-84-9, 91-08-7)] Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b></p> <p>                     OELV-8hr: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.                      OELV-15min: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes.                 </p>
4,4'-methylenediphenyl diisocyanate	<p><b>NAOSH (Ireland, 5/2021). Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b></p> <p>OELV-8hr: 0.005 ppm, (as NCO) 8 hours.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>NAOSH (Ireland, 5/2021). [isocyanates all, as -NCO except Methyl isocyanate (CAS No. 624-83-9) and Toluene (2,4 or 2,6 diisocyanate (CAS No. 584-84-9, 91-08-7)] Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b></p> <p>                     OELV-8hr: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.                      OELV-15min: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes.                 </p>
2,2'-methylenediphenyl diisocyanate	<p><b>NAOSH (Ireland, 5/2021). [isocyanates all, as -NCO except Methyl isocyanate (CAS No. 624-83-9) and Toluene (2,4 or 2,6 diisocyanate (CAS No. 584-84-9, 91-08-7)] Sensitization potential. Notes: Advisory Occupational Exposure Limit Values (OELVs)</b></p> <p>                     OELV-8hr: 0.02 mg/m<sup>3</sup>, (as NCO) 8 hours.                      OELV-15min: 0.07 mg/m<sup>3</sup>, (as NCO) 15 minutes.                 </p>
Xylene	<p><b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). [Xylenes, mixed isomers, pure] Absorbed through skin.</b></p> <p>                     8 hours: 50 ppm 8 hours.                      8 hours: 221 mg/m<sup>3</sup> 8 hours.                      Short Term: 100 ppm 15 minutes.                      Short Term: 442 mg/m<sup>3</sup> 15 minutes.                 </p>
2-Methoxy-1-methylethyl acetate	<p><b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin.</b></p> <p>                     8 hours: 50 ppm 8 hours.                      8 hours: 275 mg/m<sup>3</sup> 8 hours.                      Short Term: 100 ppm 15 minutes.                      Short Term: 550 mg/m<sup>3</sup> 15 minutes.                 </p>
Ethylbenzene	<p><b>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin.</b></p> <p>                     8 hours: 100 ppm 8 hours.                      8 hours: 442 mg/m<sup>3</sup> 8 hours.                      Short Term: 200 ppm 15 minutes.                      Short Term: 884 mg/m<sup>3</sup> 15 minutes.                 </p>

## SECTION 8: Exposure controls/personal protection

Xylene	<p><b>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).</b>  <b>[Xylenes] Absorbed through skin.</b>  TWA: 221 mg/m<sup>3</sup> 8 hours.  TWA: 50 ppm 8 hours.  STEL: 100 ppm 15 minutes.  STEL: 442 mg/m<sup>3</sup> 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).</b>  <b>Absorbed through skin.</b>  TWA: 50 ppm 8 hours.  TWA: 275 mg/m<sup>3</sup> 8 hours.  STEL: 100 ppm 15 minutes.  STEL: 550 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<p><b>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021).</b>  <b>Absorbed through skin.</b>  TWA: 442 mg/m<sup>3</sup> 8 hours.  TWA: 100 ppm 8 hours.  STEL: 200 ppm 15 minutes.  STEL: 884 mg/m<sup>3</sup> 15 minutes.</p>
Xylene	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[xylene, mixed isomers, pure] Absorbed through skin.</b>  STEL: 442 mg/m<sup>3</sup> 15 minutes.  TWA: 50 ppm 8 hours.  STEL: 100 ppm 15 minutes.  TWA: 221 mg/m<sup>3</sup> 8 hours.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[Isocyanates] Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.005 ppm 8 hours.  CEIL: 0.01 ppm</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[Isocyanates] Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.005 ppm 8 hours.  CEIL: 0.01 ppm</p>
2-Methoxy-1-methylethyl acetate	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>Absorbed through skin.</b>  TWA: 250 mg/m<sup>3</sup> 8 hours.  TWA: 50 ppm 8 hours.  STEL: 400 mg/m<sup>3</sup> 15 minutes.  STEL: 75 ppm 15 minutes.</p>
Ethylbenzene	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>Absorbed through skin.</b>  TWA: 442 mg/m<sup>3</sup> 8 hours.  TWA: 100 ppm 8 hours.  STEL: 884 mg/m<sup>3</sup> 15 minutes.  STEL: 200 ppm 15 minutes.</p>
4-isocyanatosulphonyltoluene	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[Isocyanates] Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.005 ppm 8 hours.  CEIL: 0.01 ppm</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.05 mg/m<sup>3</sup> 8 hours.  TWA: 0.005 ppm 8 hours.  CEIL: 0.1 mg/m<sup>3</sup>  CEIL: 0.01 ppm</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[Isocyanates] Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.005 ppm 8 hours.  CEIL: 0.01 ppm</p>
2,2'-methylenediphenyl diisocyanate	<p><b>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022).</b>  <b>[Isocyanates] Skin sensitiser. Inhalation sensitiser.</b>  TWA: 0.005 ppm 8 hours.  CEIL: 0.01 ppm</p>

## SECTION 8: Exposure controls/personal protection

Xylene	<b>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). [xylenes, mixed isomers, pure] Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 221 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m <sup>3</sup> 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). Absorbed through skin.</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). Absorbed through skin.</b> TWA: 100 ppm 8 hours. TWA: 442 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m <sup>3</sup> 15 minutes.
Xylene	<b>EU OEL (Europe, 1/2022). [xylene, mixed isomers pure] Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 221 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m <sup>3</sup> 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 100 ppm 8 hours. TWA: 442 mg/m <sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m <sup>3</sup> 15 minutes.
Xylene	<b>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). [xylenes (all isomers)] Absorbed through skin.</b> OEL, 8-h TWA: 210 mg/m <sup>3</sup> 8 hours. STEL, 15-min: 442 mg/m <sup>3</sup> 15 minutes. STEL, 15-min: 100 ppm 15 minutes. OEL, 8-h TWA: 47.5 ppm 8 hours.
2-Methoxy-1-methylethyl acetate	<b>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022).</b> OEL, 8-h TWA: 550 mg/m <sup>3</sup> 8 hours. OEL, 8-h TWA: 100 ppm 8 hours.
Ethylbenzene	<b>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). Absorbed through skin.</b> OEL, 8-h TWA: 215 mg/m <sup>3</sup> 8 hours. STEL, 15-min: 430 mg/m <sup>3</sup> 15 minutes. STEL, 15-min: 97.3 ppm 15 minutes. OEL, 8-h TWA: 48.6 ppm 8 hours.
Xylene	<b>FOR-2011-12-06-1358 (Norway, 12/2022). [Xylene, all isomers] Absorbed through skin. Notes: indicative limit value</b> TWA: 25 ppm 8 hours. TWA: 108 mg/m <sup>3</sup> 8 hours.
2-Methoxy-1-methylethyl acetate	<b>FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through skin. Notes: indicative limit value</b> TWA: 50 ppm 8 hours. TWA: 270 mg/m <sup>3</sup> 8 hours.
Ethylbenzene	<b>FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through</b>

## SECTION 8: Exposure controls/personal protection

4,4'-methylenediphenyl diisocyanate	<p><b>skin. Carcinogen. Notes: indicative limit value</b>  TWA: 5 ppm 8 hours.  TWA: 20 mg/m<sup>3</sup> 8 hours.  <b>FOR-2011-12-06-1358 (Norway, 12/2022). Skin sensitiser.</b>  TWA: 0.005 ppm 8 hours.  TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>FOR-2011-12-06-1358 (Norway, 12/2022). [Diisocyanates] Skin sensitiser.</b>  TWA: 0.005 ppm 8 hours.  STEL: 0.01 ppm 15 minutes.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>FOR-2011-12-06-1358 (Norway, 12/2022). [Diisocyanates] Skin sensitiser.</b>  TWA: 0.005 ppm 8 hours.  STEL: 0.01 ppm 15 minutes.</p>
Xylene	<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). [xylene – mixed isomers (1,2-, 1,3-, 1,4-)] Absorbed through skin.</b>  TWA: 100 mg/m<sup>3</sup> 8 hours.  STEL: 200 mg/m<sup>3</sup> 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<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: 260 mg/m<sup>3</sup> 8 hours.  STEL: 520 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<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: 200 mg/m<sup>3</sup> 8 hours.  STEL: 400 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<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: 0.03 mg/m<sup>3</sup> 8 hours.  STEL: 0.09 mg/m<sup>3</sup> 15 minutes.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<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>  STEL: 0.09 mg/m<sup>3</sup> 15 minutes.  TWA: 0.03 mg/m<sup>3</sup> 8 hours.</p>
2,2'-methylenediphenyl diisocyanate	<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>  STEL: 0.09 mg/m<sup>3</sup> 15 minutes.  TWA: 0.03 mg/m<sup>3</sup> 8 hours.</p>

## SECTION 8: Exposure controls/personal protection

Xylene	<b>Portuguese Institute of Quality (Portugal, 11/2014). [Xylene]</b> TWA: 100 ppm 8 hours. STEL: 150 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values</b> TWA: 50 ppm 8 hours. TWA: 275 mg/m <sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m <sup>3</sup> 15 minutes.
Ethylbenzene	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> TWA: 20 ppm 8 hours.
4,4'-methylenediphenyl diisocyanate	<b>Portuguese Institute of Quality (Portugal, 11/2014).</b> TWA: 0.005 ppm 8 hours.
Xylene	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). [Xylene] Absorbed through skin.</b> VLA: 221 mg/m <sup>3</sup> 8 hours. VLA: 50 ppm 8 hours. Short term: 442 mg/m <sup>3</sup> 15 minutes. Short term: 100 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.</b> VLA: 275 mg/m <sup>3</sup> 8 hours. VLA: 50 ppm 8 hours. Short term: 550 mg/m <sup>3</sup> 15 minutes. Short term: 100 ppm 15 minutes.
Ethylbenzene	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.</b> VLA: 442 mg/m <sup>3</sup> 8 hours. VLA: 100 ppm 8 hours. Short term: 884 mg/m <sup>3</sup> 15 minutes. Short term: 200 ppm 15 minutes.
4,4'-methylenediphenyl diisocyanate	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). [4,4'-methylenediphenyl diisocyanate]</b> Short term: 0.15 mg/m <sup>3</sup> 15 minutes.
o-(p-isocyanatobenzyl)phenyl isocyanate	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). [4,4'-methylenediphenyl diisocyanate]</b> Short term: 0.15 mg/m <sup>3</sup> 15 minutes.
2,2'-methylenediphenyl diisocyanate	<b>HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). [4,4'-methylenediphenyl diisocyanate]</b> Short term: 0.15 mg/m <sup>3</sup> 15 minutes.
Xylene	<b>Government regulation SR c. 355/2006 (Slovakia, 9/2020). [xylene, mixed isomers] Absorbed through skin.</b> TWA: 221 mg/m <sup>3</sup> , (xylene, mixed isomers) 8 hours. TWA: 50 ppm, (xylene, mixed isomers) 8 hours. STEL: 442 mg/m <sup>3</sup> , (xylene, mixed isomers) 15 minutes. STEL: 100 ppm, (xylene, mixed isomers) 15 minutes.
2-Methoxy-1-methylethyl acetate	<b>Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.</b> TWA: 275 mg/m <sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. STEL: 550 mg/m <sup>3</sup> 15 minutes. STEL: 100 ppm 15 minutes.
Ethylbenzene	<b>Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.</b> TWA: 442 mg/m <sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. STEL: 884 mg/m <sup>3</sup> 15 minutes. STEL: 200 ppm 15 minutes.
4,4'-methylenediphenyl diisocyanate	<b>Government regulation SR c. 355/2006 (Slovakia, 9/2020). Skin sensitiser.</b> TWA: 0.03 mg/m <sup>3</sup> 8 hours.



## SECTION 8: Exposure controls/personal protection

Xylene	<p>TWA: 0.002 ppm 8 hours.</p> <p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b> [xylene (mixture of isomers)] Absorbed through skin.</p> <p>TWA: 221 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. KTV: 442 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. KTV: 100 ppm, 4 times per shift, 15 minutes.</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b> Absorbed through skin.</p> <p>KTV: 0.05 mg/m<sup>3</sup>, ((calculated as MDI)), 4 times per shift, 15 minutes. Form: Inhalable fraction TWA: 0.05 mg/m<sup>3</sup>, ((calculated as MDI)) 8 hours. Form: Inhalable fraction</p>
2-Methoxy-1-methylethyl acetate	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b> Absorbed through skin.</p> <p>TWA: 275 mg/m<sup>3</sup> 8 hours. TWA: 50 ppm 8 hours. KTV: 550 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. KTV: 100 ppm, 4 times per shift, 15 minutes.</p>
Ethylbenzene	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b> Absorbed through skin.</p> <p>TWA: 442 mg/m<sup>3</sup> 8 hours. TWA: 100 ppm 8 hours. KTV: 884 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. KTV: 200 ppm, 4 times per shift, 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b> Absorbed through skin.</p> <p>TWA: 0.05 mg/m<sup>3</sup> 8 hours. KTV: 0.05 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. KTV: 0.005 ppm, 4 times per shift, 15 minutes. TWA: 0.005 ppm 8 hours.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b></p> <p>KTV: 0.05 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021).</b></p> <p>KTV: 0.05 mg/m<sup>3</sup>, 4 times per shift, 15 minutes. TWA: 0.05 mg/m<sup>3</sup> 8 hours.</p>
Xylene	<p><b>National institute of occupational safety and health (Spain, 4/2022).</b> [Xylene, mixture of isomers] Absorbed through skin.</p> <p>TWA: 50 ppm 8 hours. TWA: 221 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m<sup>3</sup> 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>National institute of occupational safety and health (Spain, 4/2022).</b> Absorbed through skin.</p> <p>TWA: 50 ppm 8 hours. TWA: 275 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<p><b>National institute of occupational safety and health (Spain, 4/2022).</b> Absorbed through skin.</p> <p>TWA: 100 ppm 8 hours. TWA: 441 mg/m<sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>National institute of occupational safety and health (Spain, 4/2022).</b> Skin sensitiser. Inhalation sensitiser.</p>



## SECTION 8: Exposure controls/personal protection

Xylene	<p>TWA: 0.005 ppm 8 hours. TWA: 0.052 mg/m<sup>3</sup> 8 hours.</p> <p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). [xylene] Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 221 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m<sup>3</sup> 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 275 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 220 mg/m<sup>3</sup> 8 hours. STEL: 200 ppm 15 minutes. STEL: 884 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). Skin sensitiser.</b></p> <p>TWA: 0.002 ppm 8 hours. TWA: 0.03 mg/m<sup>3</sup> 8 hours. STEL: 0.005 ppm 15 minutes. STEL: 0.05 mg/m<sup>3</sup> 15 minutes.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). [diisocyanates] Skin sensitiser.</b></p> <p>TWA: 0.002 ppm 8 hours. STEL: 0.005 ppm 15 minutes.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>Work environment authority Regulation 2018:1 (Sweden, 9/2021). [diisocyanates] Skin sensitiser.</b></p> <p>TWA: 0.002 ppm 8 hours. STEL: 0.005 ppm 15 minutes.</p>
Xylene	<p><b>SUVA (Switzerland, 1/2023). [Xylenes (all isomers)] Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 220 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes. STEL: 440 mg/m<sup>3</sup> 15 minutes.</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>SUVA (Switzerland, 1/2023). [Isocyanates (monomers and prepolymers)] Skin sensitiser.</b></p> <p>TWA: 0.02 mg/m<sup>3</sup>, (Calculated as NCO) 8 hours. STEL: 0.02 mg/m<sup>3</sup>, (Calculated as NCO) 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p><b>SUVA (Switzerland, 1/2023).</b></p> <p>TWA: 50 ppm 8 hours. TWA: 275 mg/m<sup>3</sup> 8 hours. STEL: 50 ppm 15 minutes. STEL: 275 mg/m<sup>3</sup> 15 minutes.</p>
Ethylbenzene	<p><b>SUVA (Switzerland, 1/2023). Absorbed through skin.</b></p> <p>TWA: 50 ppm 8 hours. TWA: 220 mg/m<sup>3</sup> 8 hours. STEL: 50 ppm 15 minutes. STEL: 220 mg/m<sup>3</sup> 15 minutes.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>SUVA (Switzerland, 1/2023). Absorbed through skin.</b></p>
Xylene	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [xylene, o-,m-, p- or mixed isomers] Absorbed through skin.</b></p> <p>STEL: 441 mg/m<sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 220 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p>

## SECTION 8: Exposure controls/personal protection

Diphenylmethane diisocyanate (isomers and homologues)	<p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p> <p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p> <p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b></p> <p>STEL: 548 mg/m<sup>3</sup> 15 minutes. TWA: 50 ppm 8 hours. TWA: 274 mg/m<sup>3</sup> 8 hours. STEL: 100 ppm 15 minutes.</p>
Ethylbenzene	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b></p> <p>STEL: 552 mg/m<sup>3</sup> 15 minutes. STEL: 125 ppm 15 minutes. TWA: 100 ppm 8 hours. TWA: 441 mg/m<sup>3</sup> 8 hours.</p>
4-isocyanatosulphonyltoluene	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p> <p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p> <p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p> <p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p>
Ethyl acetate	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020).</b></p> <p>STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours. STEL: 1468 mg/m<sup>3</sup> 15 minutes. TWA: 734 mg/m<sup>3</sup> 8 hours.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). [isocyanates, all, except methyl isocyanate as –NCO] Inhalation sensitiser.</b></p> <p>STEL: 0.07 mg/m<sup>3</sup>, (as -NCO) 15 minutes. TWA: 0.02 mg/m<sup>3</sup>, (as -NCO) 8 hours.</p>
Butanone	<p><b>EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin.</b></p> <p>STEL: 899 mg/m<sup>3</sup> 15 minutes. STEL: 300 ppm 15 minutes. TWA: 600 mg/m<sup>3</sup> 8 hours. TWA: 200 ppm 8 hours.</p>

### Biological exposure indices

Product/ingredient name	Exposure indices
Xylene	<p><b>VGU BEI (Austria, 9/2020) [xylenes]</b></p> <p>BEI Fitness: 1000 µg/l, xylene [in blood]. Sampling time: one year. BEI Fitness: 1.5 g/l, methylhippuricacid [in urine]. Sampling time: one year.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b></p> <p>BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p>
Diphenylmethane diisocyanate (isomers and homologues)	<p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b></p> <p>BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p>
4-isocyanatosulphonyltoluene	<p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b></p> <p>BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p>

## SECTION 8: Exposure controls/personal protection

<p>4,4'-methylenediphenyl diisocyanate</p> <p>o-(p-isocyanatobenzyl)phenyl isocyanate</p> <p>2,2'-methylenediphenyl diisocyanate</p> <p>No exposure indices known.</p> <p>Ethylbenzene</p> <p>Xylene</p> <p>Ethylbenzene</p> <p>No exposure indices known.</p> <p>Xylene</p> <p>Ethylbenzene</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p>	<p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b> BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p> <p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b> BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p> <p><b>VGU BEI (Austria, 9/2020) [isocyanate]</b> BEI Fitness: 10 µg/g Kreatinin, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: one year.</p> <p><b>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021) Notes: significant skin resorption possible</b> BLV: 2000 mg/g creatinine, mandelic acid and phenylglyoxylic acid – in total [in urine]. Sampling time: after the end of the exposure or the end of the work shift.</p> <p><b>Ministry of Economy, Labour and Entrepreneurship ILV/STEL (Croatia, 10/2018) [xylene]</b> BEI: 1.5 mg/l, xylene [in blood]. Sampling time: at the end of the work shift. BEI: 14.13 µmol/l, xylene [in blood]. Sampling time: at the end of the work shift. BEI: 0.88 mol/mol creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the work shift. BEI: 1.5 g/g creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the work shift.</p> <p><b>Ministry of Economy, Labour and Entrepreneurship ILV/STEL (Croatia, 10/2018)</b> BEI: 1.5 mg/l, ethylbenzene [in blood]. Sampling time: during exposure. BEI: 14.1 µmol/l, ethylbenzene [in blood]. Sampling time: during exposure. BEI: 1.12 mol/mol creatinine, almond acid [in urine]. Sampling time: at the end of the work shift and at the end of the working week. BEI: 1.5 g/g creatinine, almond acid [in urine]. Sampling time: at the end of the work shift and at the end of the working week.</p> <p><b>Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 9/2015) [Xylene]</b> Biological limit values: 820 µmol/mmol creatinine, methylhippuric acid [in urine]. Sampling time: end of the shift. Biological limit values: 1400 mg/g creatinine, methylhippuric acid [in urine]. Sampling time: end of the shift.</p> <p><b>Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 9/2015)</b> Biological limit values: 1100 µmol/mmol creatinine, almond acid [in urine]. Sampling time: end of the shift. Biological limit values: 1500 mg/g creatinine, almond acid [in urine]. Sampling time: end of the shift.</p>
--	--

## SECTION 8: Exposure controls/personal protection

Xylene	<p><b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 9/2020) [Xylene]</b> BEI: 5 mmol/l, methylhippuric acid [in urine]. Sampling time: at the end of the work shift.</p>
Ethylbenzene	<p><b>Institute of Occupational Health, Ministry of Social Affairs (Finland, 9/2020)</b> BEI: 5.2 mmol/l, mandelic acid [in urine]. Sampling time: after work shift at the end of the working week or exposure period.</p>
No exposure indices known.	
Xylene	<p><b>DFG BEI-values list (Germany, 7/2022) [Xylene (all isomers)]</b> <b>Notes: danger from percutaneous absorption (see p. 211 and p. 228).</b> BEI: 2000 mg/l, methylhippuric acid (toluric acid) (all isomers) [in urine]. Sampling time: end of exposure or end of shift.</p> <p><b>TRGS 903 - BEI Values (Germany, 2/2022) [Xylene (all isomers)]</b> BEI: 2000 mg/l, methylhippuric acid [in urine]. Sampling time: end of exposure or end of shift.</p>
Ethylbenzene	<p><b>DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228).</b> BEI: 250 mg/g creatinine, mandelic acid plus phenyl glyoxylic acid [in urine]. Sampling time: end of exposure or end of shift.</p> <p><b>TRGS 903 - BEI Values (Germany, 2/2022)</b> BEI: 250 mg/g creatinine, mandelic acid plus phenylglyoxylic acid [in urine]. Sampling time: end of exposure or end of shift.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228).</b> BGV: 10 µg/l, 4,4'-diaminodiphenylmethane (after hydrolysis) [in urine]. Form: inhalable fraction. Sampling time: end of exposure or end of shift.</p>
No exposure indices known.	
Xylene	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022) [xylene]</b> BEI: 1500 mg/g creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the shift.</p> <p>BEI: 860 µmol/mmol creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the shift.</p>
Ethylbenzene	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022)</b> BEI: 1500 mg/g creatinine, mandelic acid [in urine]. Sampling time: at the end of the working week; at the end of the shift.</p> <p>BEI: 1110 µmol/mmol creatinine, mandelic acid [in urine]. Sampling time: at the end of the working week; at the end of the shift.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022)</b> BEI: 0.05 µmol/l, 4,4'-diaminodiphenylmethane [MDA] (after hydrolysis) [in urine]. Sampling time: at the end of the shift.</p> <p>BEI: 0.01 mg/l, 4,4'-diaminodiphenylmethane [MDA] (after hydrolysis) [in urine]. Sampling time: at the end of the shift.</p>
No exposure indices known.	
Xylene	<p><b>NAOSH (Ireland, 1/2011) [Xylene]</b> BMGV: 1.5 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.</p>
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b> BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.</p>
Diphenylmethane diisocyanate (isomers and	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b></p>

## SECTION 8: Exposure controls/personal protection

homologues)	BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.
Ethylbenzene	<p><b>NAOSH (Ireland, 1/2011)</b>            BMGV: Semi-quantitative, the biological analyte is an indicator of exposure to the substance but the quantitative interpretation of the measurement is ambiguous. These analytes should be used as a screening test if a quantitative test is not practical; or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question., ethylbenzene [in endexhaled air]. Sampling time: not critical.</p> <p>BMGV: 0.7 g/g creatinine [Semi-quantitative, the biological analyte is an indicator of exposure to the substance but the quantitative interpretation of the measurement is ambiguous. These analytes should be used as a screening test if a quantitative test is not practical; or as a confirmatory test if the quantitative test is not specific and the origin of the determinant is in question.], mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift at end of workweek.</p>
4-isocyanatosulphonyltoluene	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b>            BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.</p>
4,4'-methylenediphenyl diisocyanate	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b>            BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.</p>
o-(p-isocyanatobenzyl)phenyl isocyanate	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b>            BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.</p>
2,2'-methylenediphenyl diisocyanate	<p><b>NAOSH (Ireland, 1/2011) [Isocyanates]</b>            BMGV: 1 µmol/mol creatinine, diamine [in urine]. Sampling time: post task.</p>
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
Xylene	<p><b>Portuguese Institute of Quality (Portugal, 11/2014) [Xylenes]</b>            BEI: 1.5 g/g creatinine, (o, m, p) -methyl-boronic acids [in urine]. Sampling time: end of shift.</p>
Ethylbenzene	<p><b>Portuguese Institute of Quality (Portugal, 11/2014)</b>            BEI: 0.7 g/g creatinine, sum of mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift.</p>
Xylene	<p><b>HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 3/2020) [Xylene]</b>            OBLV: 3 g/l, methylhippuric acid [in urine]. Sampling time: end of shift.</p>
Ethylbenzene	<p><b>HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 3/2020)</b>            OBLV: 1.5 g/g creatinine, mandelic acid [in urine]. Sampling time: end of the week.</p>

## SECTION 8: Exposure controls/personal protection

Xylene	<p><b>Government regulation SR c. 355/2006 (Slovakia, 9/2020)</b>  <b>[xylene, all isomers]</b>          BLV: 781 µmol/mmol creatinine, sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift.          BLV: 1334 mg/g creatinine, sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift.          BLV: 10355 µmol/l, sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift.          BLV: 14.6 µmol/l, xylene [in blood]. Sampling time: at the end of exposure or work shift.          BLV: 2000 mg/l, sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift.          BLV: 1.5 mg/l, xylene [in blood]. Sampling time: at the end of exposure or work shift.</p>
Ethylbenzene	<p><b>Government regulation SR c. 355/2006 (Slovakia, 9/2020)</b>          BLV: 799 µmol/mmol creatinine, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 7.44 µmol/mmol creatinine, 2 or 4-ethylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 1067 mg/g creatinine, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 8.03 mg/g creatinine, 2 or 4-ethylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 10590 µmol/l, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 98.6 µmol/l, 2 or 4-ethylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 1600 mg/l, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.          BLV: 12 mg/l, 2 or 4-ethylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.</p>
Xylene	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021)</b>  <b>[xylene (all isomers)]</b>          BAT: 2 g/l, methylhippuric acid (all isomers) [in urine]. Sampling time: at the end of the work shift.</p>
Ethylbenzene	<p><b>Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021)</b>          BAT: 250 mg/g creatinine, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of the work shift.</p>
Xylene	<p><b>National institute of occupational safety and health (Spain, 4/2022) [Xylenes]</b>          VLB: 1 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift.</p>
Ethylbenzene	<p><b>National institute of occupational safety and health (Spain, 4/2022)</b>          VLB: 700 mg/g creatinine, sum of mandelic acid and acid and phenylglyoxylic acid [in urine]. Sampling time: end of workweek.</p>
No exposure indices known.	



## SECTION 8: Exposure controls/personal protection

Xylene	<b>SUVA (Switzerland, 1/2023) [Xylene, all isomers]</b> BEI: 2 g/l, methyl hippuric acid [in urine]. Sampling time: immediately after exposure or after working hours.
Ethylbenzene	<b>SUVA (Switzerland, 1/2023)</b> BEI: 600 mg/g creatinine, mandelic acid + phenylglyoxylic acid [in urine]. Sampling time: immediately after exposure or after working hours.
4,4'-methylenediphenyl diisocyanate	<b>SUVA (Switzerland, 1/2023)</b> BEI: 10 µg/g creatinine, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: immediately after exposure or after working hours. BEI: 5 nmol/mmol creatinine, 4,4'-diaminodiphenylmethane [in urine]. Sampling time: immediately after exposure or after working hours.
Xylene	<b>EH40/2005 BMGVs (United Kingdom (UK), 8/2018) [Xylene, o-, m-, p- or mixed isomers]</b> BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.
Butanone	<b>EH40/2005 BMGVs (United Kingdom (UK), 8/2018)</b> BGV: 70 µmol/l, butan-2-one [in urine]. Sampling time: post shift.

**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	
Zinc powder - zinc dust (stabilized)	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	2.5 mg/m <sup>3</sup>	General population	Systemic	
	DNEL	Long term Inhalation	5 mg/m <sup>3</sup>	Workers	Systemic	
	DNEL	Long term Dermal	83 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic	
	Xylene	DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Local
		DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Local
		DNEL	Short term Inhalation	260 mg/m <sup>3</sup>	General population	Systemic
		DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Local
		DNEL	Long term Oral	12.5 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	65.3 mg/m <sup>3</sup>	General population	Systemic
		DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
		DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
		DNEL	Long term Inhalation	221 mg/m <sup>3</sup>	Workers	Systemic
		DNEL	Short term Inhalation	442 mg/m <sup>3</sup>	Workers	Local

## SECTION 8: Exposure controls/personal protection

2-Methoxy-1-methylethyl acetate	DNEL	Inhalation Short term	442 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Inhalation Long term	33 mg/m <sup>3</sup>	General population	Local
	DNEL	Inhalation Long term	33 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Inhalation Long term Oral	36 mg/kg bw/day	General population	Systemic
	DNEL	Inhalation Long term	275 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Dermal Long term	320 mg/kg bw/day	General population	Systemic
	DNEL	Inhalation Short term	550 mg/m <sup>3</sup>	Workers	Local
Ethylbenzene	DNEL	Dermal Long term	796 mg/kg bw/day	Workers	Systemic
	DNEL	Oral Long term	1.6 mg/kg bw/day	General population	Systemic
	DNEL	Inhalation Long term	15 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Inhalation Long term	77 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Dermal Long term	180 mg/kg bw/day	Workers	Systemic
	DNEL	Inhalation Short term	293 mg/m <sup>3</sup>	Workers	Local
	DMEL	Inhalation Long term	442 mg/m <sup>3</sup>	Workers	Local
4-isocyanatosulphonyltoluene	DMEL	Inhalation Short term	884 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Oral Long term	0.46 mg/ kg bw/day	General population	Systemic
	DNEL	Dermal Long term	0.46 mg/ kg bw/day	General population	Systemic
	DNEL	Inhalation Long term	0.8 mg/m <sup>3</sup>	General population	Systemic
	DNEL	Dermal Long term	0.92 mg/ kg bw/day	Workers	Systemic
	DNEL	Inhalation Long term	3.24 mg/m <sup>3</sup>	Workers	Systemic
	DNEL	Inhalation Long term	0.025 mg/ m <sup>3</sup>	General population	Local
4,4'-methylenediphenyl diisocyanate	DNEL	Inhalation Short term	0.05 mg/m <sup>3</sup>	General population	Local
	DNEL	Inhalation Long term	0.05 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Short term	0.1 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Long term	0.025 mg/ m <sup>3</sup>	General population	Local
o-(p-isocyanatobenzyl)phenyl isocyanate	DNEL	Inhalation Short term	0.05 mg/m <sup>3</sup>	General population	Local
	DNEL	Inhalation Long term	0.05 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Short term	0.1 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Long term	0.025 mg/ m <sup>3</sup>	General population	Local
2,2'-methylenediphenyl diisocyanate	DNEL	Inhalation Short term	0.05 mg/m <sup>3</sup>	General population	Local
	DNEL	Inhalation Long term	0.05 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Short term	0.1 mg/m <sup>3</sup>	Workers	Local
	DNEL	Inhalation Short term	0.1 mg/m <sup>3</sup>	Workers	Local

## SECTION 8: Exposure controls/personal protection

### PNECs

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### 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. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

**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.

Filter type: A 2 - P 2

**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

<b>Physical state</b>	: Liquid.
<b>Colour</b>	: Grey.
<b>Odour</b>	: Slight
<b>Odour threshold</b>	: Not available.
<b>Melting point/freezing point</b>	: Not available.
<b>Initial boiling point and boiling range</b>	:

Ingredient name	°C	°F	Method
Ethylbenzene	136.1	277	OECD 104
Xylene	136.16	277.1	

<b>Flammability</b>	: Not available.
<b>Lower and upper explosion limit</b>	: Lower: 0.8% Upper: 6.7%
<b>Flash point</b>	: Closed cup: 24°C (75.2°F)
<b>Auto-ignition temperature</b>	:

Ingredient name	°C	°F	Method
2-Methoxy-1-methylethyl acetate	333	631.4	DIN 51794
Xylene	432	809.6	

<b>Decomposition temperature</b>	: Not available.
<b>pH</b>	: Not applicable.
<b>Viscosity</b>	: Not available.
<b>Solubility(ies)</b>	:
Not available.	
<b>Solubility in water</b>	: Not available.
<b>Partition coefficient: n-octanol/ water</b>	: Not applicable.
<b>Vapour pressure</b>	:

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Ethylbenzene	9.30076	1.2				
Xylene	6.7	0.89				

<b>Relative density</b>	: Not available.
<b>Density</b>	: 2.6 g/cm <sup>3</sup>
<b>Vapour density</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.
<b>Particle characteristics</b>	
<b>Median particle size</b>	: 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** : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials:  
oxidising materials
- 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
Xylene	LC50 Inhalation Vapour	Rat	21.7 mg/l	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Diphenylmethane diisocyanate (isomers and homologues)	LC50 Inhalation Vapour	Rat	490 mg/m <sup>3</sup>	4 hours
	LD50 Dermal	Rabbit	>9400 mg/kg	-
2-Methoxy-1-methylethyl acetate	LD50 Oral	Rat	49 g/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
Ethylbenzene	LD50 Oral	Rat	8532 mg/kg	-
	LC50 Inhalation Dusts and mists	Rat	29000 mg/l	4 hours
4-isocyanatosulphonyltoluene 4,4'-methylenediphenyl diisocyanate	LD50 Dermal	Rabbit	15400 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
	LD50 Oral	Rat	2234 mg/kg	-
	LD50 Oral	Rat	9200 mg/kg	-

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

#### Acute toxicity estimates

Route	ATE value
Dermal	12954.67 mg/kg
Inhalation (vapours)	51.45 mg/l

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Zinc powder - zinc dust (stabilized)	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
	Xylene	Eyes - Mild irritant	Rabbit	-	87 mg
Diphenylmethane diisocyanate (isomers and homologues)	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rabbit	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
Ethylbenzene	Eyes - Severe irritant	Rabbit	-	500 mg	-

Date of issue/Date of revision : 30/04/2024 Date of previous issue : No previous validation Version : 2 31/41

TEKNOZINC 3233 - GREY

Label No :81787

## SECTION 11: Toxicological information

4-isocyanatosulphonyltoluene	Skin - Mild irritant Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit Rabbit	- - -	24 hours 15 mg 100 uL 24 hours 500 uL	- - -
4,4'-methylenediphenyl diisocyanate	Eyes - Moderate irritant	Rabbit	-	100 mg	-

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

### Sensitisation

**Conclusion/Summary** : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

### Mutagenicity

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

### Carcinogenicity

**Conclusion/Summary** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

### 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
Xylene	Category 3	-	Respiratory tract irritation
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	Category 3	-	Respiratory tract irritation
Diphenylmethane diisocyanate (isomers and homologues)	Category 3	-	Respiratory tract irritation
2-Methoxy-1-methylethyl acetate	Category 3	-	Narcotic effects
4-isocyanatosulphonyltoluene	Category 3	-	Respiratory tract irritation
4,4'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 3	-	Respiratory tract irritation
2,2'-methylenediphenyl diisocyanate	Category 3	-	Respiratory tract irritation

### Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene	Category 2	oral, inhalation	-
Isocyanic acid, polymethylenepolyphenylene ester, polymer with 1,2-ethanediamine, 2-methyloxirane and 1,2-propanediol	Category 2	inhalation	-
Diphenylmethane diisocyanate (isomers and homologues)	Category 2	inhalation	-
Ethylbenzene	Category 2	oral, inhalation	hearing organs
4,4'-methylenediphenyl diisocyanate	Category 2	inhalation	-
o-(p-isocyanatobenzyl)phenyl isocyanate	Category 2	-	-
2,2'-methylenediphenyl diisocyanate	Category 2	-	-

### Aspiration hazard

Product/ingredient name	Result
Xylene	ASPIRATION HAZARD - Category 1
Ethylbenzene	ASPIRATION HAZARD - Category 1



## SECTION 11: Toxicological information

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

### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- 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** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma
- 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** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- 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
Zinc powder - zinc dust (stabilized)	Acute EC50 106 µg/l Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i> - Exponential growth phase	72 hours
	Acute EC50 10000 µg/l Fresh water	Aquatic plants - <i>Lemna minor</i>	4 days
	Acute IC50 65 µg/l Marine water	Algae - <i>Nitzschia closterium</i> - Exponential growth phase	4 days
	Acute LC50 65 µg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 68 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 12.21 µg/l Marine water	Fish - <i>Periophthalmus waltoni</i> - Adult	96 hours
	Chronic EC10 27.3 µg/l Fresh water	Algae - <i>Pseudokirchneriella subcapitata</i> - Exponential growth phase	72 hours
	Chronic EC10 59.2 µg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Chronic NOEC 9 mg/l Fresh water	Aquatic plants - <i>Ceratophyllum demersum</i>	3 days
Chronic NOEC 178 µg/l Marine water	Crustaceans - <i>Palaemon elegans</i>	21 days	
Chronic NOEC 2.6 µg/l Fresh water	Fish - <i>Cyprinus carpio</i>	4 weeks	

**Conclusion/Summary** : Very 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
Xylene	3.12	8.1 to 25.9	Low
2-Methoxy-1-methylethyl acetate	1.2	-	Low
Ethylbenzene	3.6	-	Low
4,4'-methylenediphenyl diisocyanate	4.51	200	Low
o-(p-isocyanatobenzyl) phenyl isocyanate	4.51	200	Low
2,2'-methylenediphenyl diisocyanate	5.22	200	Low

### 12.4 Mobility in soil

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

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

### 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)** : 080501\*

#### 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. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt 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	UN1263	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

#### Additional information

**ADR/RID** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**Tunnel code** (D/E)

**ADN** : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.

**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.

## SECTION 14: Transport information

**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**

None of the components are listed.

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

Product/ingredient name	%	Designation [Usage]
TEKNOZINC 3233	≥90	3
4,4'-methylenediphenyl diisocyanate	<1	56 [Consumer products] 74
o-(p-isocyanatobenzyl)phenyl isocyanate	<1	56 [Consumer products] 74
2,2'-methylenediphenyl diisocyanate	<0.1	56 [Consumer products] 74

**Labelling** : As from August 24 2023 adequate training is required before industrial or professional use.

**Other EU regulations**

**Industrial emissions (integrated pollution prevention and control) - Air** : Listed

**Industrial emissions (integrated pollution prevention and control) - Water** : 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**

P5c  
E1

**National regulations**

**Austria**

**VbF class** : A II  
Very dangerous flammable liquid.

**Limitation of the use of organic solvents** : Permitted.

## SECTION 15: Regulatory information

### Czech Republic

Storage code : II

### Denmark

Danish fire class : II-1

### Executive Order No. 1795/2015

Ingredient name	Annex I Section A	Annex I Section B
Ethylbenzene	Listed	-
carbon black respirable	Listed	-
4,4'-methylenediphenyl diisocyanate	Listed	Carc. 2, H351
o-(p-isocyanatobenzyl)phenyl isocyanate	Listed	Carc. 2, H351
Isocyanic acid, polymethylenepolyphenylene ester	-	Carc. 2, H351

MAL-code : 5-6

**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.

MAL-code: 5-6

**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.

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. When spraying in existing\* spray booths, if the operator is outside the spray zone. 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. 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 full mask and protective clothing must be worn.

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

- Air-supplied full mask 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.

## SECTION 15: Regulatory information

**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** : Not 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

- Social Security Code, Articles L 461-1 to L 461-7** :
- |   |                |
|---|----------------|
| Xylene  | RG 4bis, RG 84 |
| Diphenylmethane diisocyanate (isomers and homologues) | RG 62          |
| 2-Methoxy-1-methylethyl acetate                       | RG 84          |
| Ethylbenzene  | RG 84          |
| 4,4'-methylenediphenyl diisocyanate                   | RG 62          |
| o-(p-isocyanatobenzyl)phenyl isocyanate               | RG 62          |
| 2,2'-methylenediphenyl diisocyanate                   | RG 62          |

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

### Germany

### TRGS 905

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development
Techn. ("Polymeres") MDI (in Form atembarer Aerosole, A-Fraktion)	K2	M1A	RF1A	RD1A

**Storage class (TRGS 510)** : 3

### Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

### Danger criteria

Category	Reference number
P5c	1.2.5.3
E1	1.3.1

**Hazard class for water** : 2

**Technical instruction on air quality control** : TA-Luft Class I - Number 5.2.5: 14.9%  
TA-Luft Number 5.2.5: 11.8%

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



## SECTION 15: Regulatory information

### 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
xylene ethanol	- Listed	- -	- Fertility 1A	Development 2 Development 1A	- Listed

**Water Discharge Policy (ABM)** : A(1) Highly toxic for aquatic organisms, may have long-term hazardous effects in aquatic environment. Decontamination effort: A

### Norway

### Sweden

**Flammable liquid class (SRVFS 2005:10)** : 2a

**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): 13%

### 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.

**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

**Date of issue/Date of revision** : 30/04/2024 **Date of previous issue** : No previous validation **Version** : 2 **39/41**

TEKNOZINC 3233 - GREY

**Label No** : 81787

## SECTION 16: Other information

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

Classification	Justification
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Resp. Sens. 1, H334	Calculation method
Skin Sens. 1, H317	Calculation method
Carc. 2, H351	Calculation method
STOT SE 3, H335	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

### Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
EUH014	Reacts violently with water.

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

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
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
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Resp. Sens. 1	RESPIRATORY SENSITISATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

**Date of issue/ Date of revision** : 30/04/2024

**Date of previous issue** : No previous validation

**Version** : 2

TEKNOZINC 3233\_GREY

GREY

### Notice to reader

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.

**Date of issue/Date of revision** : 30/04/2024 **Date of previous issue** : No previous validation **Version** : 2 **40/41**

TEKNOZINC 3233 - GREY

**Label No** : 81787

