SAFETY DATA SHEET

TEKNOS

TEKNOPOX 77 (EPINOX 77) - All variants

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

1.1 Product identifier

Product name : TEKNOPOX 77 (EPINOX 77) - All variants

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

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

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

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. 2, H225
Skin Irrit. 2, H315
Eye Dam. 1, H318
Skin Sens. 1, H317
STOT RE 2, H373
Aquatic Chronic 3, H412

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 :
H225 - Highly flammable liquid and vapour.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H373 - May cause damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :
P280 - Wear protective gloves. Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe vapour.

SECTION 2: Hazards identification

Response : P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Contains: Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane; Bis[4-(2,3-epoxypropoxy)phenyl]propane; iso-butanol and Naphta (petroleum), steam-cracked, C8-10 aromatic hydrocarbon fraction, alkylated and oligomerised

Supplemental label elements : Contains epoxy constituents. May produce an allergic reaction.

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

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane	CAS: 25036-25-3	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317	-	[1]
Bis[4-(2,3-epoxypropoxy)phenyl]propane	REACH #: 01-2119456619-26 EC: 216-823-5 CAS: 1675-54-3 Index: 603-073-00-2	≥10 - <25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Skin Irrit. 2, H315: C ≥ 5% Eye Irrit. 2, H319: C ≥ 5%	[1]
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 Aquatic Chronic 3, H412	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
iso-butanol	REACH #: 01-2119484609-23 EC: 201-148-0 CAS: 78-83-1	≤5	Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335	-	[1]

SECTION 3: Composition/information on ingredients

	Index: 603-108-00-1		STOT SE 3, H336		
n-Butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≤5	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
Naphta (petroleum), steam-cracked, C8-10 aromatic hydrocarbon fraction, alkylated and oligomerised	REACH #: 01-2119555292-40 EC: 701-299-7	≤3	Skin Sens. 1A, H317 Aquatic Chronic 3, H412	-	[1]
Butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	≤3	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[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 Aquatic Chronic 3, H412	ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
crystalline silica, respirable powder	EC: 238-878-4 CAS: 14808-60-7	≤3	STOT RE 1, H372 (inhalation)	-	[1]
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	REACH #: 01-2119978265-26 EC: 701-269-3 CAS: 123-26-2	≤0.3	Skin Sens. 1B, H317 Aquatic Chronic 3, H412	-	[1]

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit

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

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.

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. 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. 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.

SECTION 4: First aid measures

Skin contact : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, 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 : Highly 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 harmful 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
metal oxide/oxides

SECTION 5: Firefighting measures

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. Do not breathe vapour. 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.

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. Absorb with an inert 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. 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.

6.4 Reference to other sections

: See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. 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

SECTION 7: Handling and storage

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. Store locked up. 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. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
P5c	5000 tonnes	50000 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
Bis[4-(2,3-epoxypropoxy)phenyl]propane	**Regulation on Limit Values - MAC (Austria, 12/2025) [1,2-Epoxy-3-(tolyloxy)propan (alle Isomeren)]** Carc 2. TWA 8 hours: 10 ppm. TWA 8 hours: 70 mg/m³. PEAK 15 minutes: 20 ppm 4 times per shift. PEAK 15 minutes: 140 mg/m³ 4 times per shift.
Xylene	**Regulation on Limit Values - MAC (Austria, 12/2025) [Xylol (alle Isomeren, rein)]** PEAK 15 minutes: 442 mg/m³ 4 times per shift. TWA 8 hours: 50 ppm. PEAK 15 minutes: 100 ppm 4 times per shift. TWA 8 hours: 221 mg/m³.
iso-butanol	**Regulation on Limit Values - MAC (Austria, 12/2025) [Butanol (alle Isomeren außer 2-Methyl-2-propanol)]** PEAK 15 minutes: 200 ppm 4 times per shift. TWA 8 hours: 150 mg/m³. TWA 8 hours: 50 ppm. PEAK 15 minutes: 600 mg/m³ 4 times per shift.
n-Butyl acetate	**Regulation on Limit Values - MAC (Austria, 12/2025) [Butylacetat alle Isomeren außer tert-Butylacet]** CEIL: 480 mg/m³. CEIL: 100 ppm. TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm.
Butanone	**Regulation on Limit Values - MAC (Austria, 12/2025)** Absorbed through skin.

	TWA 8 hours: 100 ppm. TWA 8 hours: 295 mg/m³. PEAK 30 minutes: 200 ppm 4 times per shift. PEAK 30 minutes: 590 mg/m³ 4 times per shift.
Ethylbenzene	**Regulation on Limit Values - MAC (Austria, 12/2025)** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 440 mg/m³. CEIL 5 minutes: 200 ppm 8 times per shift. CEIL 5 minutes: 880 mg/m³ 8 times per shift.
crystalline silica, respirable powder	**Regulation on Limit Values - MAC (Austria, 12/2025) [Quarzfeinstaub]** Carc C. AMV 1 years: 0.05 mg/m³. Form: Respirable fraction.
Xylene	**Limit values (Belgium, 12/2023) [Xyleen]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
iso-butanol	**Limit values (Belgium, 12/2023)** TWA 8 hours: 50 ppm. TWA 8 hours: 154 mg/m³.
n-Butyl acetate	**Limit values (Belgium, 12/2023) [butylacetaat]** STEL 15 minutes: 712 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 238 mg/m³. TWA 8 hours: 50 ppm.
Butanone	**Limit values (Belgium, 12/2023)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**Limit values (Belgium, 12/2023)** Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 87 mg/m³. STEL 15 minutes: 125 ppm. STEL 15 minutes: 551 mg/m³.
crystalline silica, respirable powder	**Limit values (Belgium, 12/2023)** C. TWA 8 hours: 0.05 mg/m³. Form: Respirable dust.
Xylene	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024) [Xylene]** Absorbed through skin. Limit value 8 hours: 221 mg/m³. Limit value 15 minutes: 442 mg/m³. Limit value 15 minutes: 100 ppm. Limit value 8 hours: 50 ppm.
n-Butyl acetate	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024)** Limit value 8 hours: 241 mg/m³. Limit value 15 minutes: 723 mg/m³. Limit value 15 minutes: 150 ppm. Limit value 8 hours: 50 ppm.
Butanone	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024)** Limit value 8 hours: 590 mg/m³. Limit value 15 minutes: 885 mg/m³.
Ethylbenzene	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024)** Absorbed through skin. Limit value 8 hours: 435 mg/m³. Limit value 15 minutes: 545 mg/m³.
crystalline silica, respirable powder	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 10/2003 (OEL). (Bulgaria, 4/2024)**

	[respirable crystalline silica dust] Limit value 8 hours: 0.1 mg/m³. Form: respirable dust.
Xylene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025) [ksilen]** Absorbed through skin. STELV 15 minutes: 442 mg/m³. STELV 15 minutes: 100 ppm. ELV 8 hours: 221 mg/m³. ELV 8 hours: 50 ppm.
iso-butanol	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025)** Absorbed through skin. STELV 15 minutes: 231 mg/m³. STELV 15 minutes: 75 ppm. ELV 8 hours: 154 mg/m³. ELV 8 hours: 50 ppm.
n-Butyl acetate	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025)** STELV 15 minutes: 723 mg/m³. STELV 15 minutes: 150 ppm. ELV 8 hours: 241 mg/m³. ELV 8 hours: 50 ppm.
Butanone	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025)** STELV 15 minutes: 900 mg/m³. STELV 15 minutes: 300 ppm. ELV 8 hours: 600 mg/m³. ELV 8 hours: 200 ppm.
Ethylbenzene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025)** Absorbed through skin. STELV 15 minutes: 884 mg/m³. STELV 15 minutes: 200 ppm. ELV 8 hours: 442 mg/m³. ELV 8 hours: 100 ppm.
crystalline silica, respirable powder	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 10/2025)** ELV 8 hours: 0.1 mg/m³.
Xylene	**Department of Labor Inspection, Chemical Agents (Cyprus, 11/2025) [Ξυλένιο, μικτά ισομερή, καθαρά]** Absorbed through skin. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³.
n-Butyl acetate	**Department of Labor Inspection, Chemical Agents (Cyprus, 11/2025)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³.
Butanone	**Department of Labor Inspection, Chemical Agents (Cyprus, 11/2025)** STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³. TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³.
Ethylbenzene	**Department of Labor Inspection, Chemical Agents (Cyprus, 11/2025)** Absorbed through skin.

SECTION 8: Exposure controls/personal protection

	STEL 15 minutes: 884 mg/m³. TWA 8 hours: 100 ppm. TWA 8 hours: 442 mg/m³. STEL 15 minutes: 200 ppm.
Xylene	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 11/2025) [xylen]** Absorbed through skin. TWA 8 hours: 200 mg/m³. TWA 8 hours: 45.33 ppm. STEL 15 minutes: 400 mg/m³. STEL 15 minutes: 90.66 ppm.
iso-butanol	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 11/2025) [butanol]** TWA 8 hours: 300 mg/m³. TWA 8 hours: 97 ppm. STEL 15 minutes: 600 mg/m³. STEL 15 minutes: 194 ppm.
n-Butyl acetate	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 11/2025)** TWA 8 hours: 241 mg/m³. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.
Butanone	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 11/2025)** TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 11/2025)** Absorbed through skin. TWA 8 hours: 200 mg/m³. TWA 8 hours: 45.33 ppm. STEL 15 minutes: 500 mg/m³. STEL 15 minutes: 113.32 ppm.
Xylene	**Working Environment Authority (Denmark, 11/2025) [xylen, alle isomere]** Absorbed through skin. TWA 8 hours: 25 ppm. TWA 8 hours: 109 mg/m³. STEL 15 minutes: 442 mg/m³. STEL 15 minutes: 100 ppm.
iso-butanol	**Working Environment Authority (Denmark, 11/2025) [butanol, alle isomere]** Absorbed through skin. CEIL: 50 ppm. CEIL: 150 mg/m³.
n-Butyl acetate	**Working Environment Authority (Denmark, 11/2025) [butylacetat, alle isomerer]** TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm.
Butanone	**Working Environment Authority (Denmark, 11/2025)** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 145 mg/m³. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Working Environment Authority (Denmark, 11/2025)** K. Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 217 mg/m³. STEL 15 minutes: 434 mg/m³. STEL 15 minutes: 100 ppm.

crystalline silica, respirable powder	**Working Environment Authority (Denmark, 11/2025)** K. TWA 8 hours: 0.1 mg/m³. STEL 15 minutes: 0.2 mg/m³.
Xylene	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026) [ksüleen]** Absorbed through skin. TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm. STEL 15 minutes: 450 mg/m³. TWA 8 hours: 200 mg/m³.
iso-butanol	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026)** TWA 8 hours: 150 mg/m³. TWA 8 hours: 50 ppm.
n-Butyl acetate	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³.
Butanone	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026)** TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026)** Absorbed through skin , Sensitiser. TWA 8 hours: 442 mg/m³. TWA 8 hours: 100 ppm. STEL 15 minutes: 884 mg/m³. STEL 15 minutes: 200 ppm.
crystalline silica, respirable powder	**Occupational exposure limits, Regulation No. 293 (Estonia, 1/2026)** Carc. TWA 8 hours: 2 mg/m³. Form: Respirable dust.
Xylene	**EU OEL (Europe, 1/2022) [xylene, mixed isomers]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
n-Butyl acetate	**EU OEL (Europe, 1/2022)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm.
Butanone	**EU OEL (Europe, 1/2022)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**EU OEL (Europe, 1/2022)** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 442 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³.
Xylene	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026) [Ksyleeni]** Absorbed through skin. STEL 15 minutes: 440 mg/m³. TWA 8 hours: 220 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm.
iso-butanol	**Institute of Occupational Health, Ministry of Social Affairs**

SECTION 8: Exposure controls/personal protection

	(Finland, 3/2026) Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 150 mg/m³. STEL 15 minutes: 75 ppm. STEL 15 minutes: 230 mg/m³.
n-Butyl acetate	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026)** TWA 8 hours: 150 ppm. TWA 8 hours: 720 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 960 mg/m³.
Butanone	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026)** Absorbed through skin. STEL 15 minutes: 100 ppm. STEL 15 minutes: 300 mg/m³. TWA 8 hours: 60 mg/m³. TWA 8 hours: 20 ppm.
Ethylbenzene	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026)** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 880 mg/m³.
crystalline silica, respirable powder	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026) [kiteinen piidioksidipöly (sitovat)]** CARC. TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction.
Xylene	**Ministry of Labor (France, 1/2026) [xylènes, isomères mixtes, purs]** Absorbed through skin. STEL 15 minutes: 442 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 100 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 221 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 50 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
iso-butanol	**Ministry of Labor (France, 1/2026)** TWA 8 hours: 50 ppm. Notes: Permissible limit values (circulars) TWA 8 hours: 150 mg/m³. Notes: Permissible limit values (circulars)
n-Butyl acetate	**Ministry of Labor (France, 1/2026)** TWA 8 hours: 50 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 241 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 150 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 723 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
Butanone	**Ministry of Labor (France, 1/2026)** Absorbed through skin. TWA 8 hours: 200 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 600 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 900 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 300 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
Ethylbenzene	**Ministry of Labor (France, 1/2026)** Absorbed through skin. TWA 8 hours: 20 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 88.4 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)

	STEL 15 minutes: 442 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 100 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
crystalline silica, respirable powder	**Ministry of Labor (France, 1/2026)** TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
Bis[4-(2,3-epoxypropoxy)phenyl]propane Xylene	**DFG MAC-values list (Germany, 7/2025)** Skin sensitiser. **TRGS 900 OEL (Germany, 12/2025) [Xylol]** Absorbed through skin. TWA 8 hours: 220 mg/m³. PEAK 15 minutes: 440 mg/m³. TWA 8 hours: 50 ppm. PEAK 15 minutes: 100 ppm. **DFG MAC-values list (Germany, 7/2025) [Xylene]** Develop D. Absorbed through skin. TWA 8 hours: 50 ppm. PEAK 15 minutes: 100 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 220 mg/m³. PEAK 15 minutes: 440 mg/m³ 4 times per shift [Interval: 1 hour].
iso-butanol	**TRGS 900 OEL (Germany, 12/2025)** TWA 8 hours: 310 mg/m³. PEAK 15 minutes: 310 mg/m³. TWA 8 hours: 100 ppm. PEAK 15 minutes: 100 ppm. **DFG MAC-values list (Germany, 7/2025)** Develop C. TWA 8 hours: 100 ppm. PEAK 15 minutes: 100 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 310 mg/m³. PEAK 15 minutes: 310 mg/m³ 4 times per shift [Interval: 1 hour].
n-Butyl acetate	**TRGS 900 OEL (Germany, 12/2025)** TWA 8 hours: 300 mg/m³. TWA 8 hours: 62 ppm. PEAK 15 minutes: 600 mg/m³. PEAK 15 minutes: 124 ppm. **DFG MAC-values list (Germany, 7/2025)** Develop C. TWA 8 hours: 100 ppm. PEAK 15 minutes: 200 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 480 mg/m³. PEAK 15 minutes: 960 mg/m³ 4 times per shift [Interval: 1 hour].
Butanone	**TRGS 900 OEL (Germany, 12/2025)** Absorbed through skin. TWA 8 hours: 600 mg/m³. PEAK 15 minutes: 600 mg/m³. TWA 8 hours: 200 ppm. PEAK 15 minutes: 200 ppm. **DFG MAC-values list (Germany, 7/2025)** Develop C. Absorbed through skin. TWA 8 hours: 200 ppm. PEAK 15 minutes: 200 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 600 mg/m³. PEAK 15 minutes: 600 mg/m³ 4 times per shift [Interval: 1 hour].
Ethylbenzene	**TRGS 900 OEL (Germany, 12/2025)** Absorbed through skin. TWA 8 hours: 88 mg/m³. PEAK 15 minutes: 176 mg/m³. TWA 8 hours: 20 ppm. PEAK 15 minutes: 40 ppm. **DFG MAC-values list (Germany, 7/2025)** Carc 4, Develop C. Absorbed through skin. PEAK 15 minutes: 40 ppm 4 times per shift [Interval: 1 hour]. PEAK 15 minutes: 176 mg/m³ 4 times per shift [Interval: 1 hour]. TWA 8 hours: 88 mg/m³.

	TWA 8 hours: 20 ppm.
crystalline silica, respirable powder	**DFG MAC-values list (Germany, 7/2025) [Silica, crystalline]** Carc 1.
Xylene	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024) [ξυλόλια (όλα τα ισομερή)]** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 435 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 650 mg/m³.
iso-butanol	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024)** TWA 8 hours: 100 ppm. TWA 8 hours: 300 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 300 mg/m³.
n-Butyl acetate	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024)** TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³.
Butanone	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024)** TWA 8 hours: 100 ppm. TWA 8 hours: 435 mg/m³. STEL 15 minutes: 125 ppm. STEL 15 minutes: 545 mg/m³.
crystalline silica, respirable powder	**Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024) [εργασία που συνεπάγεται έκθεση σε κρυσταλλικού διοξειδίου του πυριτίου, η οποία προκύπτει από διεργασία στο χώρο εργασίας]** TWA 8 hours: 0.1 mg/m³. Form: respirable dust.
Xylene	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025) [xilol izomerek keveréke]** Absorbed through skin. TWA 8 hours: 221 mg/m³. PEAK 15 minutes: 442 mg/m³. PEAK 15 minutes: 100 ppm. TWA 8 hours: 50 ppm.
n-Butyl acetate	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025)** Sensitiser. TWA 8 hours: 241 mg/m³. PEAK 15 minutes: 723 mg/m³. PEAK 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.
Butanone	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025)** Absorbed through skin. TWA 8 hours: 600 mg/m³. PEAK 15 minutes: 900 mg/m³. PEAK 15 minutes: 300 ppm. TWA 8 hours: 200 ppm.
Ethylbenzene	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025)** Absorbed through skin. TWA 8 hours: 442 mg/m³. PEAK 15 minutes: 884 mg/m³. PEAK 15 minutes: 200 ppm.

	TWA 8 hours: 100 ppm.
crystalline silica, respirable powder	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025) [kristályos szilícium-dioxid (beleértve kvarc, krisztobalit, tridimit és egyéb formák)]** TWA 8 hours: 0.1 mg/m³. Form: respirable powder.
Xylene	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Xýlen, allir ísómerar]** Absorbed through skin. STEL 15 minutes: 442 mg/m³. STEL 15 minutes: 100 ppm. TWA 8 hours: 109 mg/m³. TWA 8 hours: 25 ppm.
iso-butanol	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [Bútanól, allir ísomerar nema n-bútanól]** Absorbed through skin. STEL 15 minutes: 150 mg/m³. STEL 15 minutes: 50 ppm.
n-Butyl acetate	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) [bútýlasetat, allir ísómerar]** TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm.
Butanone	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** Absorbed through skin. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm. TWA 8 hours: 145 mg/m³. TWA 8 hours: 50 ppm.
Ethylbenzene	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** Absorbed through skin. STEL 15 minutes: 884 mg/m³. STEL 15 minutes: 200 ppm. TWA 8 hours: 200 mg/m³. TWA 8 hours: 50 ppm.
crystalline silica, respirable powder	**Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024)** K. TWA 8 hours: 0.1 mg/m³. Form: respirable dust.
Xylene	**NAOSH (Ireland, 4/2024) [xylene]** Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 50 ppm. OELV 8 hours: 221 mg/m³. OELV 15 minutes: 100 ppm. OELV 15 minutes: 442 mg/m³.
iso-butanol	**NAOSH (Ireland, 4/2024)** Notes: Advisory Occupational Exposure Limit Values (OELVs) OELV 8 hours: 150 ppm. OELV 8 hours: 700 mg/m³.
n-Butyl acetate	**NAOSH (Ireland, 4/2024)** Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 50 ppm. OELV 8 hours: 241 mg/m³. OELV 15 minutes: 150 ppm. OELV 15 minutes: 723 mg/m³.
Butanone	**NAOSH (Ireland, 4/2024)** Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 200 ppm. OELV 8 hours: 600 mg/m³. OELV 15 minutes: 300 ppm. OELV 15 minutes: 900 mg/m³.
Ethylbenzene	**NAOSH (Ireland, 4/2024)** Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 100 ppm. OELV 8 hours: 442 mg/m³.

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	OELV 15 minutes: 200 ppm. OELV 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**NAOSH (Ireland, 4/2024) [silica, crystalline]** Notes: EU derived Occupational Exposure Limit Values; List of Carcinogenic Substances, Mixtures and Processes OELV 8 hours: 0.1 mg/m³. Form: respirable dust.
Xylene	**Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024) [xilene, isomeri misti, puro]** Absorbed through skin. Limit value 8 hours: 50 ppm. Limit value 8 hours: 221 mg/m³. Short Term 15 minutes: 100 ppm. Short Term 15 minutes: 442 mg/m³.
n-Butyl acetate	**Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024)** Short Term 15 minutes: 150 ppm. Short Term 15 minutes: 723 mg/m³. Limit value 8 hours: 50 ppm. Limit value 8 hours: 241 mg/m³.
Butanone	**Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024)** Limit value 8 hours: 200 ppm. Limit value 8 hours: 600 mg/m³. Short Term 15 minutes: 300 ppm. Short Term 15 minutes: 900 mg/m³.
Ethylbenzene	**Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024)** Absorbed through skin. Limit value 8 hours: 100 ppm. Limit value 8 hours: 442 mg/m³. Short Term 15 minutes: 200 ppm. Short Term 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024) [silice cristallina]** Limit value 8 hours: 0.1 mg/m³. Form: respirable fraction.
Xylene	**Ministers Cabinet Regulations Nr.325 (2007) - AER (Latvia, 3/2026) [Ksilols]** Absorbed through skin. TWA 8 hours: 221 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
iso-butanol	**Ministers Cabinet Regulations Nr.325 (2007) - AER (Latvia, 3/2026) [Butilspirti]** TWA 8 hours: 10 mg/m³.
n-Butyl acetate	**Ministers Cabinet Regulations Nr.325 (2007) - AER (Latvia, 3/2026)** TWA 8 hours: 241 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 50 ppm.
Butanone	**Ministers Cabinet Regulations Nr.325 (2007) - AER (Latvia, 3/2026)** STEL 15 minutes: 300 ppm. TWA 8 hours: 67 ppm. STEL 15 minutes: 900 mg/m³. TWA 8 hours: 200 mg/m³.
Ethylbenzene	**Ministers Cabinet Regulations Nr.325 (2007) - AER (Latvia, 3/2026)** Absorbed through skin. TWA 8 hours: 442 mg/m³. TWA 8 hours: 100 ppm. STEL 15 minutes: 200 ppm.

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	STEL 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**Ministers Cabinet Regulations No. 803 of 2008 - OEL (Latvia, 3/2026) [kristāliskā silīcija dioksīda putekļi]** TWA 8 hours: 0.1 mg/m³. Form: inhalable fraction..
Xylene	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025) [ksilenas, mišrūs izomerai, grynas]** Absorbed through skin. STEL 15 minutes: 442 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 100 ppm. TWA 8 hours: 221 mg/m³.
iso-butanol	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025)** Absorbed through skin. TWA 8 hours: 10 mg/m³.
n-Butyl acetate	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025)** TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm.
Butanone	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025)** TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025)** Absorbed through skin. TWA 8 hours: 442 mg/m³. TWA 8 hours: 100 ppm. STEL 15 minutes: 884 mg/m³. STEL 15 minutes: 200 ppm.
crystalline silica, respirable powder	**Lithuanian Hygiene Standard HN 23 (Lithuania, 10/2025)** TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction.
Xylene	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021) [xylène Isomères mixtes, purs]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
n-Butyl acetate	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³.
Butanone	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021)** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 442 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**Grand-Duchy Regulation 2016. Carcinogens or mutagens agents. Annex III (Luxembourg, 3/2025) [poussière de silice cristalline alvéolaire]** TWA 8 hours: 0.1 mg/m³. Form: respirable dust.

Xylene	**EU OEL (Europe, 1/2022) [xylene, mixed isomers]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
n-Butyl acetate	**EU OEL (Europe, 1/2022)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm.
Butanone	**EU OEL (Europe, 1/2022)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**EU OEL (Europe, 1/2022)** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 442 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**Ministry of Health (Malta, 10/2025) [crystalline silica]** TWA 8 hours: 0.1 mg/m³. Form: respirable dust.
Xylene	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 3/2026) [xyleen, o-, m-, p-isomeren]** Absorbed through skin. TWA 8 hours: 210 mg/m³. STEL 15 minutes: 442 mg/m³. STEL 15 minutes: 100 ppm. TWA 8 hours: 47.5 ppm.
n-Butyl acetate	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 3/2026)** TWA 8 hours: 241 mg/m³. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 50 ppm.
Butanone	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 3/2026)** Absorbed through skin. TWA 8 hours: 590 mg/m³. STEL 15 minutes: 900 mg/m³. TWA 8 hours: 197 ppm. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 3/2026)** Absorbed through skin. TWA 8 hours: 215 mg/m³. STEL 15 minutes: 430 mg/m³. STEL 15 minutes: 97.3 ppm. TWA 8 hours: 48.6 ppm.
crystalline silica, respirable powder	**Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 3/2026)** Carc B1. TWA 8 hours: 0.075 mg/m³. Form: Respirable dust.
Xylene	**FOR-2011-12-06-1358 (Norway, 12/2025) [xylen]** Absorbed through skin. TWA 8 hours: 25 ppm. TWA 8 hours: 108 mg/m³.
iso-butanol	**FOR-2011-12-06-1358 (Norway, 12/2025)** Absorbed through skin. CEIL: 75 mg/m³. CEIL: 25 ppm.
n-Butyl acetate	**FOR-2011-12-06-1358 (Norway, 12/2025)** STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 241 mg/m³.

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	TWA 8 hours: 50 ppm.
Butanone	**FOR-2011-12-06-1358 (Norway, 12/2025)** TWA 8 hours: 75 ppm. TWA 8 hours: 220 mg/m³.
Ethylbenzene	**FOR-2011-12-06-1358 (Norway, 12/2025)** Carc. Absorbed through skin. TWA 8 hours: 5 ppm. TWA 8 hours: 20 mg/m³.
crystalline silica, respirable powder	**FOR-2011-12-06-1358 (Norway, 12/2025)** Carc. TWA 8 hours: 0.05 mg/m³. Form: Respirable dust.
Xylene	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026) [xylene – mixed isomers (1,2-, 1,3-, 1,4-)]** Absorbed through skin. TWA 8 hours: 100 mg/m³. STEL 15 minutes: 200 mg/m³.
iso-butanol	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026)** Absorbed through skin. TWA 8 hours: 100 mg/m³. STEL 15 minutes: 200 mg/m³.
n-Butyl acetate	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026)** TWA 8 hours: 240 mg/m³. STEL 15 minutes: 720 mg/m³.
Butanone	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026)** Absorbed through skin. TWA 8 hours: 450 mg/m³. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026)** Absorbed through skin. TWA 8 hours: 200 mg/m³. STEL 15 minutes: 400 mg/m³.
crystalline silica, respirable powder	**Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 4/2026) [crystalline silica]** TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction.
Xylene	**Portuguese Institute of Quality (Portugal, 11/2014) [xileno (isómeros o, m & p)]** A4. TWA 8 hours: 100 ppm. STEL 15 minutes: 150 ppm. **Decree-Law 24/2012 - Occupational exposure limits for chemical agents (Portugal, 6/2021) [xilenos]** Absorbed through skin. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³. TWA 8 hours: 50 ppm.

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	TWA 8 hours: 221 mg/m³.
iso-butanol	**Portuguese Institute of Quality (Portugal, 11/2014)** TWA 8 hours: 50 ppm.
n-Butyl acetate	**Portuguese Institute of Quality (Portugal, 11/2014)** TWA 8 hours: 150 ppm. STEL 15 minutes: 200 ppm. **Decree-Law 24/2012 - Occupational exposure limits for chemical agents (Portugal, 6/2021)** STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³.
Butanone	**Portuguese Institute of Quality (Portugal, 11/2014)** TWA 8 hours: 200 ppm. STEL 15 minutes: 300 ppm. **Decree-Law 24/2012 - Occupational exposure limits for chemical agents (Portugal, 6/2021)** STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³. TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³.
Ethylbenzene	**Portuguese Institute of Quality (Portugal, 11/2014)** A3. TWA 8 hours: 20 ppm. **Decree-Law 24/2012 - Occupational exposure limits for chemical agents (Portugal, 6/2021)** Absorbed through skin. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³. TWA 8 hours: 100 ppm. TWA 8 hours: 442 mg/m³.
crystalline silica, respirable powder	**Portuguese Institute of Quality (Portugal, 11/2014)** A2. TWA 8 hours: 0.025 mg/m³. Form: Respirable fraction. **Decree-Law 301/2000 - Occupational exposure limits for carcinogenic and mutagenic agents (Portugal, 5/2025) [Poeira de sílica cristalina]** TWA 8 hours: 0.05 mg/m³. Form: respirable dust.
Xylene	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 2/2026) [xilen]** Absorbed through skin. VLA 8 hours: 221 mg/m³. VLA 8 hours: 50 ppm. Short term 15 minutes: 442 mg/m³. Short term 15 minutes: 100 ppm.
iso-butanol	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 2/2026)** VLA 8 hours: 100 mg/m³. VLA 8 hours: 33 ppm. Short term 15 minutes: 200 mg/m³. Short term 15 minutes: 66 ppm.
n-Butyl acetate	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 2/2026)** VLA 8 hours: 241 mg/m³. VLA 8 hours: 50 ppm. Short term 15 minutes: 723 mg/m³. Short term 15 minutes: 150 ppm.
Butanone	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 2/2026)** VLA 8 hours: 600 mg/m³. VLA 8 hours: 200 ppm. Short term 15 minutes: 900 mg/m³. Short term 15 minutes: 300 ppm.
Ethylbenzene	**HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 2/2026)** Absorbed through skin. VLA 8 hours: 442 mg/m³. VLA 8 hours: 100 ppm.

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	Short term 15 minutes: 884 mg/m³. Short term 15 minutes: 200 ppm.
crystalline silica, respirable powder	**HG 1218/2006, Annex 4, with subsequent modifications and additions (Romania, 2/2026)** VLA 8 hours: 0.1 mg/m³. Form: Respirable dust.
Xylene	**Government regulation SR c. 355/2006 (Slovakia, 6/2024) [xylén, zmiešané izoméry]** Absorbed through skin , Inhalation sensitiser. TWA 8 hours: 221 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 442 mg/m³. STEL 15 minutes: 100 ppm.
iso-butanol	**Government regulation SR c. 355/2006 (Slovakia, 6/2024) [butylalkoholy]** Inhalation sensitiser. TWA 8 hours: 310 mg/m³. TWA 8 hours: 100 ppm.
n-Butyl acetate	**Government regulation SR c. 355/2006 (Slovakia, 6/2024) [butylacetáty]** Inhalation sensitiser. TWA 8 hours: 241 mg/m³. TWA 8 hours: 50 ppm. STEL 15 minutes: 723 mg/m³. STEL 15 minutes: 150 ppm.
Butanone	**Government regulation SR c. 355/2006 (Slovakia, 6/2024)** Inhalation sensitiser. TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm. STEL 15 minutes: 900 mg/m³. STEL 15 minutes: 300 ppm.
Ethylbenzene	**Government regulation SR c. 355/2006 (Slovakia, 6/2024)** Absorbed through skin , Inhalation sensitiser. TWA 8 hours: 442 mg/m³. TWA 8 hours: 100 ppm. STEL 15 minutes: 884 mg/m³. STEL 15 minutes: 200 ppm.
crystalline silica, respirable powder	**Government regulation SR c. 356/2006 (Slovakia, 9/2020)** Carc 1A. Technical guidance value 8 hours: 0.1 mg/m³. Form: respirable fraction. **Government regulation SR c. 355/2006 (Slovakia, 6/2024)** Inhalation sensitiser. TWA 8 hours: 0.1 mg/m³. Form: respirable fiber.
Xylene	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025) [ksilen]** Absorbed through skin. TWA 8 hours: 221 mg/m³. TWA 8 hours: 50 ppm. KTV 15 minutes: 442 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 100 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
iso-butanol	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** TWA 8 hours: 310 mg/m³. TWA 8 hours: 100 ppm. KTV 15 minutes: 310 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 100 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
n-Butyl acetate	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** TWA 8 hours: 241 mg/m³.

	TWA 8 hours: 50 ppm. KTV 15 minutes: 723 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 150 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
Butanone	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** Absorbed through skin. TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm. KTV 15 minutes: 900 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 300 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
Ethylbenzene	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** Absorbed through skin. TWA 8 hours: 442 mg/m³. TWA 8 hours: 100 ppm. KTV 15 minutes: 884 mg/m³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 200 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
Xylene	**National institute of occupational safety and health (Spain, 2/2026) [xileno, mezcla isómeros]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
iso-butanol	**National institute of occupational safety and health (Spain, 2/2026)** TWA 8 hours: 50 ppm. TWA 8 hours: 154 mg/m³.
n-Butyl acetate	**National institute of occupational safety and health (Spain, 2/2026)** TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³.
Butanone	**National institute of occupational safety and health (Spain, 2/2026)** TWA 8 hours: 200 ppm. TWA 8 hours: 600 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**National institute of occupational safety and health (Spain, 2/2026)** Absorbed through skin. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**National institute of occupational safety and health (Spain, 2/2026) [Sílice Cristalina]** TWA 8 hours: 0.05 mg/m³. Form: Respirable fraction.
Xylene	**Work environment authority Regulation 2023:14 (Sweden, 6/2025) [xylene]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 221 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 442 mg/m³.
iso-butanol	**Work environment authority Regulation 2023:14 (Sweden, 6/2025)** Absorbed through skin.

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	TWA 8 hours: 50 ppm. TWA 8 hours: 150 mg/m³. STEL 15 minutes: 75 ppm. STEL 15 minutes: 250 mg/m³.
n-Butyl acetate	**Work environment authority Regulation 2023:14 (Sweden, 6/2025) [butyl acetate]** TWA 8 hours: 50 ppm. TWA 8 hours: 241 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 723 mg/m³.
Butanone	**Work environment authority Regulation 2023:14 (Sweden, 6/2025)** TWA 8 hours: 50 ppm. TWA 8 hours: 150 mg/m³. STEL 15 minutes: 300 ppm. STEL 15 minutes: 900 mg/m³.
Ethylbenzene	**Work environment authority Regulation 2023:14 (Sweden, 6/2025)** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 884 mg/m³.
crystalline silica, respirable powder	**Work environment authority Regulation 2023:14 (Sweden, 6/2025)** Carc. TWA 8 hours: 0.1 mg/m³. Form: respirable fraction.
Xylene	**SUVA (Switzerland, 1/2026) [Xylol]** Absorbed through skin. TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m³. STEL 15 minutes: 100 ppm. STEL 15 minutes: 440 mg/m³.
iso-butanol	**SUVA (Switzerland, 1/2026)** TWA 8 hours: 50 ppm. TWA 8 hours: 150 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 150 mg/m³.
n-Butyl acetate	**SUVA (Switzerland, 1/2026)** TWA 8 hours: 50 ppm. TWA 8 hours: 240 mg/m³. STEL 15 minutes: 150 ppm. STEL 15 minutes: 720 mg/m³.
Butanone	**SUVA (Switzerland, 1/2026)** Absorbed through skin. TWA 8 hours: 200 ppm. TWA 8 hours: 590 mg/m³. STEL 15 minutes: 200 ppm. STEL 15 minutes: 590 mg/m³.
Ethylbenzene	**SUVA (Switzerland, 1/2026)** Absorbed through skin , Ototoxicant. TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 220 mg/m³.
crystalline silica, respirable powder	**SUVA (Switzerland, 1/2026) [Siliciumdioxid, kristallin]** Carc 1A. TWA 8 hours: 0.15 mg/m³. Form: Respirable fraction.
Xylene	**EH40/2005 WELs (United Kingdom (UK), 1/2020) [xylene, o-,m-, p- or mixed isomers]** Absorbed through skin. STEL 15 minutes: 441 mg/m³. TWA 8 hours: 50 ppm. TWA 8 hours: 220 mg/m³. STEL 15 minutes: 100 ppm.
iso-butanol	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 231 mg/m³. STEL 15 minutes: 75 ppm. TWA 8 hours: 154 mg/m³.

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	TWA 8 hours: 50 ppm.
n-Butyl acetate	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** STEL 15 minutes: 966 mg/m³. STEL 15 minutes: 200 ppm. TWA 8 hours: 724 mg/m³. TWA 8 hours: 150 ppm.
Butanone	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 899 mg/m³. STEL 15 minutes: 300 ppm. TWA 8 hours: 600 mg/m³. TWA 8 hours: 200 ppm.
Ethylbenzene	**EH40/2005 WELs (United Kingdom (UK), 1/2020)** Absorbed through skin. STEL 15 minutes: 552 mg/m³. STEL 15 minutes: 125 ppm. TWA 8 hours: 100 ppm. TWA 8 hours: 441 mg/m³.
crystalline silica, respirable powder	**EH40/2005 WELs (United Kingdom (UK), 1/2020) [silica, respirable crystalline]** Carc. TWA 8 hours: 0.1 mg/m³. Form: Respirable fraction.

Biological exposure indices

Product/ingredient name	Exposure indices
Xylene	**VGU BEI (Austria, 9/2020) [Xylole]** 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.
No exposure indices known.	
Ethylbenzene	**Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024)** Notes: significant skin resorption possible BLV: 2000 mg/g creatinine, mandelic acid and phenylglyoxylic acid – in total [in urine]. Sampling time: at the end of the exposure or at the end of the work shift.
Xylene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, biological limit values (Annex IV) (Croatia, 10/2025) [ksilen]** 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.
Butanone	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, biological limit values (Annex IV) (Croatia, 10/2025)** BEI: 2.6 mg/g creatinine, ethyl-methyl ketone [in urine]. Sampling time: at the end of the work shift. BEI: 4.08 mmol/mol creatinine, ethyl-methyl ketone [in urine]. Sampling time: at the end of the work shift.
Ethylbenzene	**Ordinance on the protection of workers from exposure to hazardous chemicals at work, biological limit values (Annex IV) (Croatia, 10/2025)** 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.
No exposure indices known.	
Xylene	**Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 10/2025) [xyleny]** 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.
Ethylbenzene	**Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 10/2025)** 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.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
Xylene	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026) [Ksyleeni]** BEI: 5 mmol/l, methylhippuricacid [in urine]. Sampling time: at the end of the work shift.
Ethylbenzene	**Institute of Occupational Health, Ministry of Social Affairs (Finland, 3/2026)** BEI: 5.2 mmol/l, mandelic acid [in urine]. Sampling time: after work shift at the end of the working week or exposure period.
No exposure indices known.	
Xylene	**DFG BEI-values list (Germany, 7/2025) [Xylene (all isomers)]** Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 1800 mg/g creatinine, methylhippuric acids (=toluric acids) (all isomers) [in urine]. Sampling time: end of exposure or end of shift. **TRGS 903 - BEI Values (Germany, 12/2025) [Xylol alle Isomeren]** BEI: 1800 mg/g creatinine, methylhippuric acid [in urine]. Sampling time: end of exposure or end of shift.
Butanone	**DFG BEI-values list (Germany, 7/2025)** Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: end of exposure or end of shift. **TRGS 903 - BEI Values (Germany, 12/2025)** BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: end of exposure or end of shift.
Ethylbenzene	**DFG BEI-values list (Germany, 7/2025)** Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 250 mg/g creatinine, mandelic acid plus phenyl glyoxylic acid [in urine]. Sampling time: end of exposure or end of shift. **TRGS 903 - BEI Values (Germany, 12/2025)** BEI: 250 mg/g creatinine, mandelic acid plus phenylglyoxylic acid [in urine]. Sampling time: end of exposure or end of shift.
No exposure indices known.	

Xylene	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025) [xilol]** BEI: 1500 mg/g creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the shift. BEI: 860 µmol/mmol creatinine, methylhippuric acid [in urine]. Sampling time: at the end of the shift.
Butanone	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025)** BEI: 28 µmol/l, methyl-ethyl-ketone [in urine]. Sampling time: at the end of the shift. BEI: 2 mg/l, methyl-ethyl-ketone [in urine]. Sampling time: at the end of the shift.
Ethylbenzene	**5/2020. (II. 6.) ITM Decree (Hungary, 12/2025)** BEI: 1500 mg/g creatinine, mandelic acid [in urine]. Sampling time: at the end of the working week; at the end of the shift. BEI: 1110 µmol/mmol creatinine, mandelic acid [in urine]. Sampling time: at the end of the working week; at the end of the shift.
No exposure indices known.	
Xylene	**NAOSH BGVs (Ireland, 1/2011) [Xylene]** BMGV: 1.5 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.
Butanone	**NAOSH BGVs (Ireland, 1/2011)** BMGV: 70 µmol/l, butan-2- one [in urine]. Sampling time: post shift.
Ethylbenzene	**NAOSH BGVs (Ireland, 1/2011)** 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. 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.
No exposure indices known.	
Xylene	**Minister Cabinet Regulations No.325 - BEI (Latvia, 3/2026) [ksiloli (visi izomēri)]** BEI: 2000 mg/l, methylhippuric (toluric) acid (all isomers) [in urine]. Sampling time: at the end of the exposure or at the end of the shift.
Butanone	**Minister Cabinet Regulations No.325 - BEI (Latvia, 3/2026)** BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: at the end of the exposure or at the end of the shift.
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	**Portuguese Institute of Quality (Portugal, 11/2014) [Xilenos (graus técnico e comercial)]** BEI: 1.5 g/g creatinine, (o, m, p) -methyl-boronic acids [in urine]. Sampling time: end of shift.
Butanone	**Portuguese Institute of Quality (Portugal, 11/2014)** BEI: 2 mg/l, methyl ethyl ketone (MEK) [in urine]. Sampling time: end of shift.
Ethylbenzene	**Portuguese Institute of Quality (Portugal, 11/2014)** BEI: 0.7 g/g creatinine, sum of mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: end of shift.
Xylene	**HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 2/2026) [xilen]** OBLV: 3 g/l, methylhippuric acid [in urine]. Sampling time: end of shift.
Butanone	**HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 2/2026)** OBLV: 2 mg/l, methyl ethyl ketone [in urine]. Sampling time: end of shift.
Ethylbenzene	**HG 1218/2006, Annex 2, with subsequent modifications and additions (Romania, 2/2026)** OBLV: 1.5 g/g creatinine, mandelic acid [in urine]. Sampling time: end of the week.
Xylene	**Government regulation SR c. 355/2006 (Slovakia, 6/2024) [xylén (všetky izoméry)]** BLV: 781 µmol/mmol creatinine, as sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift. BLV: 1334 mg/g creatinine, as sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift. BLV: 10355 µmol/l, as sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift. BLV: 14.6 µmol/l, as xylene [in blood]. Sampling time: at the end of exposure or work shift. BLV: 2000 mg/l, as sum of 2,3,4-methylhippuroic acids [in urine]. Sampling time: at the end of exposure or work shift. BLV: 1.5 mg/l, as xylene [in blood]. Sampling time: at the end of exposure or work shift.
Ethylbenzene	**Government regulation SR c. 355/2006 (Slovakia, 6/2024)** BLV: 799 µmol/mmol creatinine, as 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, as 2 or 4-etylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts. BLV: 1067 mg/g creatinine, as 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, as 2 or 4-etylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts. BLV: 10590 µmol/l, as 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, as 2 or 4-etylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts. BLV: 1600 mg/l, as 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, as 2 or 4-etylfenol [in urine]. Sampling time: at the end of exposure or work shift; long-term exposure: after several work shifts.
Xylene	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025) [ksilen (vse izomere)]** BLV: 2 g/l, methylhippuric acid (all isomers) [in urine]. Sampling time: at the end of the work shift.
Butanone	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** BLV: 2 mg/l, 2-butanone [in urine]. Sampling time: at the end of the work shift.
Ethylbenzene	**Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2025)** BLV: 250 mg/g creatinine, mandelic acid and phenylglyoxylic acid [in urine]. Sampling time: at the end of the work shift.
Xylene	**National institute of occupational safety and health (Spain, 2/2026) [Xilenos]** BLV: 1 g/g creatinine, methylhippuric acids [in urine]. Sampling time: end of shift.
Butanone	**National institute of occupational safety and health (Spain, 2/2026)** BLV: 2 mg/l, methyl ethyl ketone [in urine]. Sampling time: end of shift.
Ethylbenzene	**National institute of occupational safety and health (Spain, 2/2026)** BLV: 700 mg/g creatinine, sum of mandelic acid and acid and phenylglyoxylic acid [in urine]. Sampling time: end of workweek.
No exposure indices known.	
Xylene	**SUVA (Switzerland, 1/2026) [Xylol (alle Isomere)]** BEI: 1.8 g/g creatinine, methyl hippuric acid [in urine]. Sampling time: immediately after exposure or after working hours. BEI: 1.1 mmol/mmol creatinine, methyl hippuric acid [in urine]. Sampling time: immediately after exposure or after working hours.
Butanone	**SUVA (Switzerland, 1/2026)** BEI: 2 mg/l, 2-butanone (MEK) [in urine]. Sampling time: before the next shift or 4pm. BEI: 27.7 µmol/l, 2-butanone (MEK) [in urine]. Sampling time: before the next shift or 4pm.
Ethylbenzene	**SUVA (Switzerland, 1/2026)** BEI: 600 mg/g creatinine, mandelic acid + phenylglyoxylic acid [in urine]. Sampling time: immediately after exposure or after working hours.
Xylene	**EH40/2005 BMGVs (United Kingdom (UK), 1/2020) [Xylene, o-, m-, p- or mixed isomers]** BGV: 650 mmol/mol creatinine, methyl hippuric acid [in urine]. Sampling time: post shift.
Butanone	**EH40/2005 BMGVs (United Kingdom (UK), 1/2020)** BGV: 70 µmol/l, butan-2-one [in urine]. Sampling time: post shift.

SECTION 8: Exposure controls/personal protection

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	Result
Bis[4-(2,3-epoxypropoxy)phenyl]propane	**DNEL - General population - Long term - Dermal** 89.3 µg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Oral** 0.5 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 0.75 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 0.87 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 4.93 mg/m³ Effects: Systemic
Xylene	**DNEL - General population - Long term - Oral** 5 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 65.3 mg/m³ Effects: Local **DNEL - General population - Long term - Inhalation** 65.3 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 125 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 212 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Inhalation** 221 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 221 mg/m³ Effects: Systemic **DNEL - General population - Short term - Inhalation** 260 mg/m³ Effects: Local

	DNEL - General population - Short term - Inhalation 260 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 442 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 442 mg/m³ Effects: Systemic
iso-butanol	**DNEL - General population - Long term - Inhalation** 55 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 310 mg/m³ Effects: Local
n-Butyl acetate	**DNEL - General population - Long term - Oral** 2 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Oral** 2 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Dermal** 3.4 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Dermal** 6 mg/kg bw/day Effects: Systemic **DNEL - Workers - Long term - Dermal** 7 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Dermal** 11 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 12 mg/m³ Effects: Systemic **DNEL - General population - Long term - Inhalation** 35.7 mg/m³ Effects: Local **DNEL - Workers - Long term - Inhalation** 48 mg/m³ Effects: Systemic **DNEL - General population - Short term - Inhalation** 300 mg/m³ Effects: Local **DNEL - General population - Short term - Inhalation** 300 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation**

	300 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Local **DNEL - Workers - Short term - Inhalation** 600 mg/m³ Effects: Systemic
Butanone	**DNEL - General population - Long term - Oral** 31 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 106 mg/m³ Effects: Systemic **DNEL - General population - Long term - Dermal** 412 mg/kg bw/day Effects: Systemic **DNEL - General population - Short term - Inhalation** 450 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 600 mg/m³ Effects: Systemic **DNEL - Workers - Short term - Inhalation** 900 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 1161 mg/kg bw/day Effects: Systemic
Ethylbenzene	**DMEL - Workers - Long term - Inhalation** 442 mg/m³ Effects: Local **DMEL - Workers - Short term - Inhalation** 884 mg/m³ Effects: Systemic **DNEL - General population - Long term - Oral** 1.6 mg/kg bw/day Effects: Systemic **DNEL - General population - Long term - Inhalation** 15 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Inhalation** 77 mg/m³ Effects: Systemic **DNEL - Workers - Long term - Dermal** 180 mg/kg bw/day Effects: Systemic **DNEL - Workers - Short term - Inhalation** 293 mg/m³

Effects: Local

PNECs

Not 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

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

Filter type (spray application): A P

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

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Various

Odour : Slight

Odour threshold : Not available.

Melting point/freezing point : Not available.

Initial boiling point and boiling range :

Ingredient name	°C	°F	Method
Butanone	79.59	175.3	
iso-butanol	108	226.4	OECD 103

Flammability : Not available.

Lower and upper explosion limit : Lower: 0.8% (xylene)
Upper: 11.5% (butanone)

Flash point : Closed cup: 18°C (64.4°F)

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Butanone	404	759.2	
iso-butanol	415	779	

Decomposition temperature : Not available.

pH : Not applicable.

Viscosity : Kinematic (40°C): >20.5 mm^2/s

Solubility(ies) :

Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
Butanone	78.7564	10.5				
n-Butyl acetate	11.25096	1.5	DIN EN 13016-2			

Relative density : Not available.

Density : 1.6 g/cm^3

Vapour density : Not available.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties : Not available.

Oxidising properties : Not available.

9.2.2 Other safety characteristics

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
Bis[4-(2,3-epoxypropoxy)phenyl]propane	**Rabbit - Dermal - LD50** 20 g/kg Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Gross Metabolite Changes - Weight loss or decreased weight gain
Xylene	**Rat - Oral - LD50** 4300 mg/kg Toxic effects: Liver - Other changes Kidney, Ureter, and Bladder - Other changes **Rat - Inhalation - LC50 Vapour** 21.7 mg/l [4 hours]
iso-butanol	**Rat - Oral - LD50** 2460 mg/kg **Rabbit - Dermal - LD50** 3400 mg/kg **Rat - Inhalation - LC50 Vapour** 19200 mg/m³ [4 hours]
n-Butyl acetate	**Rat - Oral - LD50** 10760 mg/kg EU **Rabbit - Dermal - LD50** 14112 mg/kg **Rat - Inhalation - LC50 Vapour** 0.74 mg/l [4 hours]
Butanone	**Rabbit - Dermal - LD50** 6480 mg/kg **Rat - Oral - LD50** 2737 mg/kg
Ethylbenzene	**Rat - Oral - LD50** 3500 mg/kg

Rabbit - Dermal - LD50
15400 mg/kg

Rat - Inhalation - LC50 Dusts and mists
29000 mg/l [4 hours]

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
TEKNOPOX 77 (EPINOX 77)	N/A	13923.6	N/A	114.2	N/A
Bis[4-(2,3-epoxypropoxy)phenyl]propane	N/A	20000	N/A	N/A	N/A
Xylene	4300	1100	N/A	11	N/A
iso-butanol	2460	3400	N/A	N/A	N/A
n-Butyl acetate	10760	14112	N/A	N/A	N/A
Butanone	2737	6480	N/A	N/A	N/A
Ethylbenzene	3500	15400	N/A	11	29000

Skin corrosion/irritation

Product/ingredient name	Result
Bis[4-(2,3-epoxypropoxy)phenyl]propane	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg
Xylene	**Rat - Skin - Mild irritant** Duration of treatment/exposure: 8 hours Amount/concentration applied: 60 uL **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Skin - Moderate irritant** Amount/concentration applied: 100 %
n-Butyl acetate	**Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
Butanone	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 14 mg **Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 402 mg **Rabbit - Skin - Moderate irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg
Ethylbenzene	**Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 15 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

SECTION 11: Toxicological information

Product/ingredient name	Result
Bis[4-(2,3-epoxypropoxy)phenyl]propane	**Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 2 mg
Xylene	**Rabbit - Eyes - Mild irritant** Amount/concentration applied: 87 mg **Rabbit - Eyes - Severe irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 5 mg
n-Butyl acetate	**Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 mg
Ethylbenzene	**Rabbit - Eyes - Severe irritant** Amount/concentration applied: 500 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Not available.

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Not available.

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Not available.

Conclusion/Summary [Product] : Not available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Result
Xylene	STOT SE 3, H335 (Respiratory tract irritation)
iso-butanol	STOT SE 3, H335 (Respiratory tract irritation) STOT SE 3, H336 (Narcotic effects)
n-Butyl acetate	STOT SE 3, H336 (Narcotic effects)
Butanone	STOT SE 3, H336 (Narcotic effects)

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
Xylene	STOT RE 2, H373 (oral, inhalation)
Ethylbenzene	STOT RE 2, H373 (hearing organs) (oral, inhalation)
crystalline silica, respirable powder	STOT RE 1, H372 (inhalation)

Aspiration hazard

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

Information on likely routes of exposure

Not available.

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

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 [Product] : Not available.

General : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

SECTION 11: Toxicological information

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result
iso-butanol	**Acute - LC50 - Fresh water** Fish - Rainbow trout,donaldson trout - *Oncorhynchus mykiss* Weight: 1.67 g 1330000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Marine water** Crustaceans - Brine shrimp - *Artemia salina* 600 mg/l [48 hours] Effect: Mortality
n-Butyl acetate	**Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 to 32 days; Size: 21.6 mm; Weight: 0.175 g 18000 µg/l [96 hours] Effect: Mortality **Acute - LC50 - Marine water** Crustaceans - Brine shrimp - *Artemia salina* 32 mg/l [48 hours] Effect: Mortality
Butanone	**Acute - EC50 - Fresh water** Daphnia - Water flea - *Daphnia magna* - Larvae Age: <24 hours 5091000 µg/l [48 hours] Effect: Intoxication **Acute - LC50 - Fresh water** Fish - Fathead minnow - *Pimephales promelas* Age: 31 days; Size: 22 mm; Weight: 0.167 g 3220000 µg/l [96 hours] Effect: Mortality **Acute - EC50 - Marine water** Algae - Diatom - *Skeletonema costatum* >500000 µg/l [96 hours] Effect: Population
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)	**Acute - LC50** Fish 10 mg/l [4 days]

Conclusion/Summary [Product] : Not available.

12.2 Persistence and degradability

Product/ingredient name	Result
iso-butanol	74% [28 days] - Readily

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
iso-butanol	-	-	Readily

12.3 Bioaccumulative potential

SECTION 12: Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Xylene	3.12	8.1 to 25.9	Low
iso-butanol	1	-	Low
n-Butyl acetate	2.3	-	Low
Butanone	0.3	-	Low
Ethylbenzene	3.6	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

Product/ingredient name	Value
Bis[4-(2,3-epoxypropoxy)phenyl]propane	logKoc: 4 Koc: 10465.7
iso-butanol	logKoc: 1.1 Koc: 12.0246
n-Butyl acetate	logKoc: 1.5 Koc: 33.2139
Butanone	logKoc: 1.2 Koc: 15.8984
Ethylbenzene	logKoc: 2.2 Koc: 170.406
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	logKoc: 4.3 Koc: 20542.3

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane	No	No	No	No	No	No	No
Bis[4-(2,3-epoxypropoxy)phenyl]propane	No	No	No	No	No	No	No
Xylene	No	No	No	No	No	No	No
iso-butanol	No	No	No	No	No	No	No
n-Butyl acetate	No	No	No	No	No	No	No
Naphta (petroleum), steam-cracked, C8-10 aromatic hydrocarbon fraction, alkylated and oligomerised	No	No	No	No	No	No	No
Butanone	No	No	No	No	No	No	No
Ethylbenzene	No	No	No	No	No	No	No
crystalline silica, respirable powder	No	No	No	No	No	No	No
N,N'-ethane-1,2-diylbis (12-hydroxyoctadecan-1-amide)	No	No	No	No	No	No	No

Mobility : Not available.

Conclusion/Summary : The product does not meet the criteria to be considered as a PMT or vPvM.

12.5 Results of PBT and vPvB assessment

Regulation (EC) No. 1907/2006 [REACH]

SECTION 12: Ecological information

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane	No	N/A	N/A	No	N/A	N/A	N/A
Bis[4-(2,3-epoxypropoxy)phenyl]propane	No	N/A	N/A	No	N/A	N/A	N/A
Xylene	No	N/A	No	Yes	No	N/A	No
iso-butanol	No	N/A	N/A	No	N/A	N/A	N/A
n-Butyl acetate	No	N/A	N/A	No	N/A	N/A	N/A
Naphta (petroleum), steam-cracked, C8-10 aromatic hydrocarbon fraction, alkylated and oligomerised	No	N/A	N/A	No	N/A	N/A	N/A
Butanone	No	N/A	N/A	No	N/A	N/A	N/A
Ethylbenzene	N/A	N/A	N/A	Yes	N/A	N/A	N/A
crystalline silica, respirable powder	No	No	No	No	No	No	No
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)	No	N/A	N/A	No	N/A	N/A	N/A

Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis[oxirane	No	No	No	No	No	No	No
Bis[4-(2,3-epoxypropoxy)phenyl]propane	No	No	No	No	No	No	No
Xylene	No	No	No	No	No	No	No
iso-butanol	No	No	No	No	No	No	No
n-Butyl acetate	No	No	No	No	No	No	No
Naphta (petroleum), steam-cracked, C8-10 aromatic hydrocarbon fraction, alkylated and oligomerised	No	No	No	No	No	No	No
Butanone	No	No	No	No	No	No	No
Ethylbenzene	No	No	No	No	No	No	No
crystalline silica, respirable powder	No	No	No	No	No	No	No
N,N'-ethane-1,2-diylbis(12-hydroxyoctadecan-1-amide)	No	No	No	No	No	No	No

Conclusion/Summary Regulation (EC) No. 1272/2008 [CLP] : The product does not meet the criteria to be considered as a PBT or vPvB.

12.6 Endocrine disrupting properties

Not available.

Conclusion/Summary [Product] : The product does not meet the criteria to be considered as having endocrine disrupting properties according to the criteria set out in either Regulation (EC) No. 1907/2006 or Regulation (EC) No 1272/2008.

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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

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

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. 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	No.	No.	No.	No.

Additional information

ADR/RID : **Tunnel code** (D/E)

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

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

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]
TEKNOPOX 77 (EPINOX 77)	≥90	3

Labelling :

Other EU regulations

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

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

Explosive precursors : Not applicable.

(EC) No 273/2004 on drug precursors

Not listed.

(EC) No 111/2005 Trade between the Union and third countries in drug precursors

Ingredient name	%	Status
Methylethylketone	≤3	Category 3

Ozone depleting substances (EU 2024/590)

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

National regulations

Austria

VbF class : Category 2

Limitation of the use of organic solvents : Permitted.

Belgium

Book VI carcinogenic agents annex VI.2-1 - VI.2-3

SECTION 15: Regulatory information

Ingredient name	Status
Silice Silice	Listed Listed

Czech Republic

Storage code : I

Denmark

Fire class : I-1

Executive Order No. 1347/2025

Ingredient name	Annex I Section A	Annex I Section B
Talc (containing no asbestos fibers) Ethylbenzene	Listed Listed	- -

MAL-code : 3-6

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, respiratory protection with air supply and arm protectors/apron/coveralls/protective clothing must be worn as appropriate or as instructed.

MAL-code: 3-6

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 downtimes, cleaning and repair in closed facilities, spray booths or cabins, if there is a risk of contact with wet paint or organic solvents. 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.

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

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

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

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

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

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

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

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

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

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

*See Regulations.

Low-boiling liquids : This product contains low-boiling point liquids. Any respiratory protective equipment should be air-fed.

Restrictions on use : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.

List of undesirable substances : Listed

Carcinogenic waste : Waste containers must be labeled: Contains a substance or substances regulated by Danish working environment legislation on cancer risks.

Epoxy/Isocyanate : The product is covered by the rules for epoxy resins and isocyanates in Executive Order no. 1793 of 18/12/2015 on working with substances and materials (chemical agents). Pay attention to the rules, for example: the user of the product must have undergone special training and waste must be labelled. This requirement is in addition to the training requirement described in the REACH regulation, Annex XVII, entry 74 (COMMISSION REGULATION (EU) 2020/1149).

Finland

France

Social Security Code, Articles L 461-1 to L 461-7 :

Bis[4-(2,3-epoxypropoxy)phenyl]propane	RG 84
Xylene	RG 4bis, RG 84
iso-butanol	RG 84
n-Butyl acetate	RG 84
Butanone	RG 84
Ethylbenzene	RG 84
crystalline silica, respirable powder	RG 25

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

Germany

Storage class (TRGS 510) : 3

Hazardous incident ordinance

This product is controlled under the Germany Hazardous Incident Ordinance.

Danger criteria

Category	Reference number
P5c	1.2.5.3

Hazard class for water : 2

Technical instruction on air quality control (TA Luft)

Number [Class]	Description	%
5.2.1	Total dust	67.4
5.2.5	Organic substances	32.6
5.2.5 [I]	Organic substances	19.6

Italy

D.Lgs. 152/06 : Not determined.

Netherlands

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

SECTION 15: Regulatory information

Ingredient name	Carcinogen	Mutagen	Reproductive toxicity - Fertility	Reproductive toxicity - Development	Harmful via breastfeeding
silica kristallijn; respirabel stof	Listed	-	-	-	-
xyleen	-	-	-	Development 2	-
silica kristallijn; respirabel stof	Listed	-	-	-	-
Naphtha (petroleum), hydrotreated heavy	Listed	Listed	-	-	-

Water Discharge Policy (ABM) : Z(1) Non biodegradable substances with hazardous properties for humans and the environment (carcinogenicity/ mutagenicity/ reprotoxicity/ bioacumulative potential/ toxicity or persistence). Decontamination effort: Z

Norway

Sweden

Flammable liquid class (SRVFS 2005:10) : 1

Epoxy/Isocyanate : The product is covered by the specific rules for certain allergenic chemical products (acrylates, epoxies, diisocyanates, formaldehyde resins and organic acid anhydrides) in provision AFS 2023:10 Chemical Hazards in the Working Environment. Pay attention to that handling the product requires certificate of undergone necessary training and can require medical examination (AFS 2023:15). 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): 19.8%

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

SECTION 16: Other information

vPvB = Very Persistent and Very Bioaccumulative

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

Classification	Justification
Flam. Liq. 2, H225	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	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.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
Skin Sens. 1B	SKIN SENSITISATION - Category 1B
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - 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 : 14/11/2026

Date of previous issue : 21/03/2024

Version : 4

TEKNOPOX 77 (EPINOX 77) All variants

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.