

SAFETY DATA SHEET



SUPREMO KLARLACK 3990-02 - All variants

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

1.1 Product identifier

Product name : SUPREMO KLARLACK 3990-02 - All variants

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

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

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

National contact

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

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Flam. Liq. 2, H225

Eye Irrit. 2, H319

Skin Sens. 1, H317

STOT SE 3, H336

Aquatic Chronic 3, H412

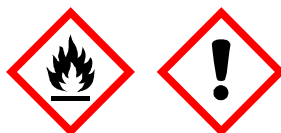
The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

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.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H336 - May cause drowsiness or dizziness.
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.
P273 - Avoid release to the environment.

SECTION 2: Hazards identification

Response	: P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell.
Storage	: P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: Contains: n-Butyl acetate; Ethyl acetate; EO bis(benzotriazolyl)phenylpropionat and Methyl methacrylate
Supplemental label elements	:
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
n-Butyl acetate	REACH #: 01-2119485493-29 EC: 204-658-1 CAS: 123-86-4 Index: 607-025-00-1	≥25 - ≤50	Flam. Liq. 3, H226 STOT SE 3, H336 EUH066	-	[1] [2]
Ethyl acetate	REACH #: 01-2119475103-46 EC: 205-500-4 CAS: 141-78-6 Index: 607-022-00-5	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
Butanone	REACH #: 01-2119457290-43 EC: 201-159-0 CAS: 78-93-3 Index: 606-002-00-3	≥10 - ≤25	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	-	[1] [2]
Naphtha (petroleum), hydrotreated light	EC: 265-151-9 CAS: 64742-49-0 Index: 649-328-00-1	≥10 - <25	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	-	[1]
2-Methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≤5	Flam. Liq. 3, H226	-	[2]
Xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7	≤5	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315	ATE [Dermal] = 1100 mg/kg ATE [Inhalation (vapours)] = 11 mg/	[1] [2]

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Label No : 52114

SECTION 3: Composition/information on ingredients

EO bis(benztriazolyl) phenylpropionat	Index: 601-022-00-9 REACH #: 01-0000015075-76 EC: 400-830-7 CAS: 104810-48-2 Index: 607-176-00-3	<1	Eye Irrit. 2, H319 STOT SE 3, H335 STOT RE 2, H373 (oral, inhalation) Asp. Tox. 1, H304 Skin Sens. 1A, H317 Aquatic Chronic 2, H411	-	[1]
Methyl methacrylate	REACH #: 01-2119452498-28 EC: 201-297-1 CAS: 80-62-6 Index: 607-035-00-6	≤0.3	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Skin Sens. 1, H317 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	-	[1] [2]

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or 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.

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, 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

5.3 Advice for firefighters

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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

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

6.3 Methods and material for containment and cleaning up

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

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

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

SECTION 7: Handling and storage

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

Seveso Directive - Reporting thresholds

Danger criteria

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

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
n-Butyl acetate	Regulation on Limit Values - MAC (Austria, 4/2021). [Butyl acetate (all isomers except tert-butyl acetate)] CEIL: 480 mg/m ³ 15 minutes. CEIL: 100 ppm 15 minutes. TWA: 241 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
Ethyl acetate	Regulation on Limit Values - MAC (Austria, 4/2021). TWA: 200 ppm 8 hours. TWA: 734 mg/m ³ 8 hours. PEAK: 1468 mg/m ³ , 4 times per shift, 15 minutes. PEAK: 400 ppm, 4 times per shift, 15 minutes.
Butanone	Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. TWA: 100 ppm 8 hours. TWA: 295 mg/m ³ 8 hours. PEAK: 200 ppm, 4 times per shift, 30 minutes. PEAK: 590 mg/m ³ , 4 times per shift, 30 minutes.
2-Methoxy-1-methylethyl acetate	Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. CEIL: 100 ppm, 8 times per shift, 5 minutes. CEIL: 550 mg/m ³ , 8 times per shift, 5 minutes.
Xylene	Regulation on Limit Values - MAC (Austria, 4/2021). [Xylenes (all isomers)] PEAK: 442 mg/m ³ , 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 221 mg/m ³ 8 hours.
Methyl methacrylate	Regulation on Limit Values - MAC (Austria, 4/2021). Skin sensitiser. TWA: 50 ppm 8 hours. TWA: 210 mg/m ³ 8 hours. CEIL: 100 ppm, 8 times per shift, 5 minutes. CEIL: 420 mg/m ³ , 8 times per shift, 5 minutes.

SECTION 8: Exposure controls/personal protection

n-Butyl acetate	<p>Limit values (Belgium, 5/2021). [butyl acetate, all isomers] STEL: 712 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes. TWA: 238 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
Ethyl acetate	<p>Limit values (Belgium, 5/2021). TWA: 200 ppm 8 hours. TWA: 734 mg/m³ 8 hours. STEL: 1468 mg/m³ 15 minutes. STEL: 400 ppm 15 minutes.</p>
Butanone	<p>Limit values (Belgium, 5/2021). TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>Limit values (Belgium, 5/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes.</p>
Xylene	<p>Limit values (Belgium, 5/2021). [Xylene] Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 221 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m³ 15 minutes.</p>
Methyl methacrylate	<p>Limit values (Belgium, 5/2021). TWA: 50 ppm 8 hours. TWA: 208 mg/m³ 8 hours. STEL: 416 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes.</p>
n-Butyl acetate	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Limit value 8 hours: 241 mg/m³ 8 hours. Limit value 15 min: 723 mg/m³ 15 minutes. Limit value 15 min: 150 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.</p>
Ethyl acetate	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Limit value 8 hours: 734 mg/m³ 8 hours. Limit value 15 min: 400 ppm 15 minutes. Limit value 15 min: 1468 mg/m³ 15 minutes. Limit value 8 hours: 200 ppm 8 hours.</p>
Butanone	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Limit value 8 hours: 590 mg/m³ 8 hours. Limit value 15 min: 885 mg/m³ 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Absorbed through skin. Limit value 8 hours: 275 mg/m³ 8 hours. Limit value 15 min: 550 mg/m³ 15 minutes. Limit value 15 min: 100 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.</p>
Xylene	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). [Xylene (mixture of isomers), pure] Absorbed through skin. Limit value 8 hours: 221 mg/m³ 8 hours. Limit value 15 min: 442 mg/m³ 15 minutes. Limit value 15 min: 100 ppm 15 minutes. Limit value 8 hours: 50 ppm 8 hours.</p>
Methyl methacrylate	<p>Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 6/2021). Limit value 8 hours: 50 ppm 8 hours. Limit value 15 min: 100 ppm 15 minutes.</p>

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No exposure limit value known.	
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n-Butyl acetate	Working Environment Authority (Denmark, 6/2022). [Butyl acetate, all isomers] TWA: 50 ppm 8 hours. TWA: 241 mg/m ³ 8 hours. STEL: 723 mg/m ³ 15 minutes. STEL: 150 ppm 15 minutes.
Ethyl acetate	Working Environment Authority (Denmark, 6/2022). TWA: 150 ppm 8 hours. TWA: 540 mg/m ³ 8 hours. STEL: 1468 mg/m ³ 15 minutes. STEL: 400 ppm 15 minutes.
Butanone	Working Environment Authority (Denmark, 6/2022). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 145 mg/m ³ 8 hours. STEL: 900 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	Working Environment Authority (Denmark, 6/2022). [2-Methoxy-1-methylethyl acetate] Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 550 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes.
Xylene	Working Environment Authority (Denmark, 6/2022). [Xylenes, all isomers] Absorbed through skin. TWA: 25 ppm 8 hours. TWA: 109 mg/m ³ 8 hours. STEL: 442 mg/m ³ 15 minutes. STEL: 100 ppm 15 minutes.
Methyl methacrylate	Working Environment Authority (Denmark, 6/2022). Absorbed through skin. TWA: 25 ppm 8 hours. TWA: 102 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes.
n-Butyl acetate	Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). STEL: 150 ppm 15 minutes. STEL: 723 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 241 mg/m ³ 8 hours.
Ethyl acetate	Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). TWA: 500 mg/m ³ 8 hours. TWA: 150 ppm 8 hours. STEL: 1100 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes.
Butanone	Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). TWA: 600 mg/m ³ 8 hours. TWA: 200 ppm 8 hours. STEL: 900 mg/m ³ 15 minutes. STEL: 300 ppm 15 minutes.
2-Methoxy-1-methylethyl acetate	Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser. STEL: 100 ppm 15 minutes. STEL: 550 mg/m ³ 15 minutes. TWA: 275 mg/m ³ 8 hours. TWA: 50 ppm 8 hours.
Xylene	Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). [Xylenes] Absorbed through skin.

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Methyl methacrylate	<p>TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. STEL: 450 mg/m³ 15 minutes. TWA: 200 mg/m³ 8 hours.</p> <p>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Skin sensitiser. TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.</p>
n-Butyl acetate	<p>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values STEL: 150 ppm 15 minutes. STEL: 723 mg/m³ 15 minutes. TWA: 241 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
Ethyl acetate	<p>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values STEL: 400 ppm 15 minutes. STEL: 1468 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. TWA: 734 mg/m³ 8 hours.</p>
Butanone	<p>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes.</p>
Xylene	<p>EU OEL (Europe, 1/2022). [xylene, mixed isomers pure] Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 50 ppm 8 hours. TWA: 221 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m³ 15 minutes.</p>
Methyl methacrylate	<p>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes.</p>
No exposure limit value known.	
n-Butyl acetate	<p>Ministry of Labor (France, 10/2022). Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA: 50 ppm 8 hours. TWA: 241 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 723 mg/m³ 15 minutes.</p>
Ethyl acetate	<p>Ministry of Labor (France, 10/2022). Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA: 200 ppm 8 hours. TWA: 734 mg/m³ 8 hours. STEL: 1468 mg/m³ 15 minutes. STEL: 400 ppm 15 minutes.</p>
Butanone	<p>Ministry of Labor (France, 10/2022). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>Ministry of Labor (France, 10/2022). Absorbed through skin.</p>

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Xylene	<p>Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL: 550 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 275 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
Methyl methacrylate	<p>Ministry of Labor (France, 10/2022). [xylenes, mixed isomers, pure] Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL: 442 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 221 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
n-Butyl acetate	<p>Ministry of Labor (France, 10/2022). Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA: 50 ppm 8 hours. TWA: 205 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 410 mg/m³ 15 minutes.</p>
Ethyl acetate	<p>DFG MAC-values list (Germany, 7/2022). TWA: 100 ppm 8 hours. PEAK: 200 ppm, 4 times per shift, 15 minutes. TWA: 480 mg/m³ 8 hours. PEAK: 960 mg/m³, 4 times per shift, 15 minutes.</p> <p>TRGS 900 OEL (Germany, 6/2022). TWA: 300 mg/m³ 8 hours. TWA: 62 ppm 8 hours. PEAK: 600 mg/m³ 15 minutes. PEAK: 124 ppm 15 minutes.</p>
Butanone	<p>TRGS 900 OEL (Germany, 6/2022). TWA: 730 mg/m³ 8 hours. PEAK: 1460 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 400 ppm 15 minutes.</p> <p>DFG MAC-values list (Germany, 7/2022). TWA: 200 ppm 8 hours. PEAK: 400 ppm, 4 times per shift, 15 minutes. TWA: 750 mg/m³ 8 hours. PEAK: 1500 mg/m³, 4 times per shift, 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>TRGS 900 OEL (Germany, 6/2022). Absorbed through skin. TWA: 600 mg/m³ 8 hours. PEAK: 600 mg/m³ 15 minutes. TWA: 200 ppm 8 hours. PEAK: 200 ppm 15 minutes.</p> <p>DFG MAC-values list (Germany, 7/2022). Absorbed through skin. TWA: 200 ppm 8 hours. PEAK: 200 ppm, 4 times per shift, 15 minutes. TWA: 600 mg/m³ 8 hours. PEAK: 600 mg/m³, 4 times per shift, 15 minutes.</p>
Xylene	<p>TRGS 900 OEL (Germany, 6/2022). TWA: 270 mg/m³ 8 hours. PEAK: 270 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 50 ppm 15 minutes.</p> <p>DFG MAC-values list (Germany, 7/2022). TWA: 50 ppm 8 hours. PEAK: 50 ppm, 4 times per shift, 15 minutes. TWA: 270 mg/m³ 8 hours. PEAK: 270 mg/m³, 4 times per shift, 15 minutes.</p>
Xylene	<p>TRGS 900 OEL (Germany, 6/2022). [xylene] Absorbed through skin. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³ 15 minutes. TWA: 50 ppm 8 hours.</p>

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Methyl methacrylate	<p>PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). [Xylene (all isomers)] Absorbed through skin. TWA: 50 ppm 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 220 mg/m³ 8 hours. PEAK: 440 mg/m³, 4 times per shift, 15 minutes. TRGS 900 OEL (Germany, 6/2022). TWA: 210 mg/m³ 8 hours. PEAK: 420 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. PEAK: 100 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). Skin sensitiser. TWA: 50 ml/m³ 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 210 mg/m³ 8 hours. PEAK: 420 mg/m³, 4 times per shift, 15 minutes. PEAK: 100 ml/m³, 4 times per shift, 15 minutes.</p>
n-Butyl acetate	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). TWA: 50 ppm 8 hours. TWA: 241 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 723 mg/m³ 15 minutes.</p>
Ethyl acetate	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). TWA: 200 ppm 8 hours. TWA: 734 mg/m³ 8 hours. STEL: 1468 mg/m³ 15 minutes. STEL: 400 ppm 15 minutes.</p>
Butanone	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). TWA: 200 ppm 8 hours. TWA: 600 mg/m³ 8 hours. STEL: 300 ppm 15 minutes. STEL: 900 mg/m³ 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes.</p>
Xylene	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). [Xylenes (all isomers)] Absorbed through skin. TWA: 100 ppm 8 hours. TWA: 435 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 650 mg/m³ 15 minutes.</p>
Methyl methacrylate	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). STEL: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
n-Butyl acetate	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Skin sensitiser. Inhalation sensitiser. TWA: 241 mg/m³ 8 hours. PEAK: 723 mg/m³ 15 minutes. PEAK: 150 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
Ethyl acetate	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Skin sensitiser. Inhalation sensitiser. TWA: 734 mg/m³ 8 hours. PEAK: 1468 mg/m³ 15 minutes. PEAK: 400 ppm 15 minutes.</p>

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Butanone	<p>TWA: 200 ppm 8 hours. 5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser. TWA: 600 mg/m³ 8 hours. PEAK: 900 mg/m³ 15 minutes. PEAK: 300 ppm 15 minutes. TWA: 200 ppm 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). TWA: 275 mg/m³ 8 hours. PEAK: 550 mg/m³ 15 minutes. PEAK: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
Xylene	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). [xylene, mixture of isomers] Absorbed through skin. TWA: 221 mg/m³ 8 hours. PEAK: 442 mg/m³ 15 minutes. PEAK: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
Methyl methacrylate	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser. TWA: 208 mg/m³ 8 hours. PEAK: 415 mg/m³ 15 minutes. PEAK: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
n-Butyl acetate	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [butyl acetate, all isomers] TWA: 241 mg/m³ 8 hours. TWA: 50 ppm 8 hours. STEL: 723 mg/m³ 15 minutes. STEL: 150 ppm 15 minutes.</p>
Ethyl acetate	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). TWA: 540 mg/m³ 8 hours. TWA: 150 ppm 8 hours.</p>
Butanone	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin. STEL: 900 mg/m³ 15 minutes. STEL: 300 ppm 15 minutes. TWA: 145 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin. STEL: 550 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 275 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
Xylene	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). [xylene, all isomers] Absorbed through skin. STEL: 442 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes. TWA: 109 mg/m³ 8 hours. TWA: 25 ppm 8 hours.</p>
Methyl methacrylate	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin. Skin sensitiser. STEL: 100 ppm 15 minutes. TWA: 50 ppm 8 hours.</p>
No exposure limit value known.	
n-Butyl acetate	<p>EU OEL (Europe, 1/2022). Notes: list of indicative occupational exposure limit values STEL: 150 ppm 15 minutes. STEL: 723 mg/m³ 15 minutes. TWA: 241 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p>
Ethyl acetate	<p>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020).</p>

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Butanone	<p>Short Term: 400 ppm 15 minutes. Short Term: 1468 mg/m³ 15 minutes. 8 hours: 200 ppm 8 hours. 8 hours: 734 mg/m³ 8 hours.</p> <p>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). 8 hours: 200 ppm 8 hours. 8 hours: 600 mg/m³ 8 hours. Short Term: 300 ppm 15 minutes. Short Term: 900 mg/m³ 15 minutes.</p>
2-Methoxy-1-methylethyl acetate	<p>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin. 8 hours: 50 ppm 8 hours. 8 hours: 275 mg/m³ 8 hours. Short Term: 100 ppm 15 minutes. Short Term: 550 mg/m³ 15 minutes.</p>
Xylene	<p>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). [Xylenes, mixed isomers, pure] Absorbed through skin. 8 hours: 50 ppm 8 hours. 8 hours: 221 mg/m³ 8 hours. Short Term: 100 ppm 15 minutes. Short Term: 442 mg/m³ 15 minutes.</p>
Methyl methacrylate	<p>Legislative Decree No. 819/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 6/2020). Short Term: 100 ppm 15 minutes. 8 hours: 50 ppm 8 hours.</p>
n-Butyl acetate	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). TWA: 241 mg/m³ 8 hours. STEL: 150 ppm 15 minutes. STEL: 723 mg/m³ 15 minutes. TWA: 50 ppm 8 hours.</p>
Ethyl acetate	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). TWA: 200 mg/m³ 8 hours. STEL: 400 ppm 15 minutes. STEL: 1468 mg/m³ 15 minutes. TWA: 54 ppm 8 hours.</p>
Butanone	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). STEL: 300 ppm 15 minutes. TWA: 67 ppm 8 hours. STEL: 900 mg/m³ 15 minutes. TWA: 200 mg/m³ 8 hours.</p>
2-Methoxy-1-methylethyl acetate	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes.</p>
Xylene	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). [Xylenes] Absorbed through skin. TWA: 221 mg/m³ 8 hours. TWA: 50 ppm 8 hours. STEL: 100 ppm 15 minutes. STEL: 442 mg/m³ 15 minutes.</p>
Methyl methacrylate	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). TWA: 10 mg/m³ 8 hours.</p>
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	
No exposure limit value known.	

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No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.
 No exposure limit value known.

Biological exposure indices

Product/ingredient name	Exposure indices
Xylene	VGU BEI (Austria, 9/2020) [xylenes] BEI Fitness: 1000 µg/l, xylene [in blood]. Sampling time: one year. BEI Fitness: 1.5 g/l, methylhippuric acid [in urine]. Sampling time: one year.
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
Butanone	DFG BEI-values list (Germany, 7/2022) 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, 2/2022) BEI: 2 mg/l, 2-butanone [in urine]. Sampling time: end of exposure or end of shift.
Xylene	DFG BEI-values list (Germany, 7/2022) [Xylene (all isomers)] Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 2000 mg/l, methylhippuric acid (toluric acid) (all isomers) [in urine]. Sampling time: end of exposure or end of shift. TRGS 903 - BEI Values (Germany, 2/2022) [Xylene (all isomers)] BEI: 2000 mg/l, methylhippuric acid [in urine]. Sampling time: end of exposure or end of shift.
No exposure indices known.	
Butanone	5/2020. (II. 6.) ITM Decree (Hungary, 12/2022) 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.
Xylene	5/2020. (II. 6.) ITM Decree (Hungary, 12/2022) [xylene] 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.

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No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
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 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.
 No exposure indices known.

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

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
n-Butyl acetate	DNEL	Short term Oral	2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	2 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	6 mg/kg bw/day	General population	Systemic
	DNEL	Short term Dermal	11 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	35.7 mg/m ³	General population	Local
	DNEL	Short term Inhalation	300 mg/m ³	General population	Local
	DNEL	Short term Inhalation	300 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	300 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	600 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	3.4 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term	12 mg/m ³	General	Systemic

SECTION 8: Exposure controls/personal protection

Ethyl acetate	DNEL	Inhalation Long term	48 mg/m ³	population Workers	Systemic	
	DNEL	Inhalation Long term Oral	4.5 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	37 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	63 mg/kg bw/day	Workers	Systemic	
	DNEL	Long term Inhalation	367 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	367 mg/m ³	General population	Systemic	
	DNEL	Short term Inhalation	734 mg/m ³	General population	Local	
	DNEL	Short term Inhalation	734 mg/m ³	General population	Systemic	
	DNEL	Long term Inhalation	734 mg/m ³	Workers	Local	
	DNEL	Long term Inhalation	734 mg/m ³	Workers	Systemic	
	DNEL	Short term Inhalation	1468 mg/ m ³	Workers	Local	
	DNEL	Short term Inhalation	1468 mg/ m ³	Workers	Systemic	
	Butanone	DNEL	Long term Oral	31 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	106 mg/m ³	General population	Systemic
		DNEL	Long term Dermal	412 mg/kg bw/day	General population	Systemic
DNEL		Long term Inhalation	600 mg/m ³	Workers	Systemic	
DNEL		Long term Dermal	1161 mg/ kg bw/day	Workers	Systemic	
Naphtha (petroleum), hydrotreated light		DNEL	Long term Inhalation	0.41 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	1.9 mg/m ³	Workers	Systemic	
	DNEL	Long term Oral	149 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Dermal	149 mg/kg bw/day	General population	Systemic	
	DNEL	Long term Inhalation	178.57 mg/ m ³	General population	Local	
	DNEL	Short term Inhalation	640 mg/m ³	General population	Local	
	DNEL	Long term Inhalation	837.5 mg/ m ³	Workers	Local	
	DNEL	Short term Inhalation	1066.67 mg/m ³	Workers	Local	
	DNEL	Short term Inhalation	1152 mg/ m ³	General population	Systemic	
	DNEL	Short term Inhalation	1286.4 mg/ m ³	Workers	Systemic	
	DNEL	Long term Dermal	300 mg/kg bw/day	Workers	Systemic	
	2-Methoxy-1-methylethyl acetate	DNEL	Long term Inhalation	33 mg/m ³	General population	Local
		DNEL	Long term Inhalation	33 mg/m ³	General population	Systemic
		DNEL	Long term Oral	36 mg/kg bw/day	General population	Systemic
		DNEL	Long term Inhalation	275 mg/m ³	Workers	Systemic
DNEL		Long term Dermal	320 mg/kg	General	Systemic	

SECTION 8: Exposure controls/personal protection

Xylene	DNEL	Short term Inhalation	bw/day 550 mg/m ³	population Workers	Local
	DNEL	Long term Dermal	796 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Local
	DNEL	Short term Inhalation	260 mg/m ³	General population	Local
	DNEL	Short term Inhalation	260 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	221 mg/m ³	Workers	Local
	DNEL	Long term Oral	12.5 mg/ kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	65.3 mg/m ³	General population	Systemic
	DNEL	Long term Dermal	125 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	212 mg/kg bw/day	Workers	Systemic
Methyl methacrylate	DNEL	Long term Inhalation	221 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	442 mg/m ³	Workers	Systemic
	DNEL	Long term Oral	8.2 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	208 mg/m ³	General population	Local
	DNEL	Short term Inhalation	416 mg/m ³	Workers	Local
	DNEL	Short term Dermal	1.5 mg/cm ²	General population	Local
	DNEL	Long term Dermal	1.5 mg/cm ²	General population	Local
	DNEL	Short term Dermal	1.5 mg/cm ²	Workers	Local
	DNEL	Long term Dermal	1.5 mg/cm ²	Workers	Local
	DNEL	Long term Dermal	8.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	13.67 mg/ kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	74.3 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	104 mg/m ³	General population	Local
	DNEL	Long term Inhalation	208 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	348.4 mg/ m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls

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

Individual protection measures

SECTION 8: Exposure controls/personal protection

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Recommendations : Wear suitable gloves tested to EN374.
< 1 hour (breakthrough time): Nitrile gloves. thickness > 0.3 mm
1 - 4 hours (breakthrough time): 4H / Silver Shield® gloves.
- 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** :

SECTION 9: Physical and chemical properties

Ingredient name	°C	°F	Method
Ethyl acetate	77.1	170.8	
Butanone	79.59	175.3	

- Flammability** : Not available.
Lower and upper explosion limit : Lower: 0.8%
Upper: 11.5%
Flash point : Closed cup: -1°C (30.2°F)
Auto-ignition temperature :

Ingredient name	°C	°F	Method
Naphtha (petroleum), hydrotreated light	280 to 470	536 to 878	DIN EN 14522
2-Methoxy-1-methylethyl acetate	333	631.4	DIN 51794

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

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Ethyl acetate	81.59163	10.9				
Butanone	78.7564	10.5				

- Relative density** : Not available.
Density : 0.9 g/cm³
Vapour density : Not available.
Explosive properties : Not available.
Oxidising properties : Not available.
Particle characteristics
Median particle size : Not applicable.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials : Reactive or incompatible with the following materials:
oxidising materials
10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
n-Butyl acetate	LC50 Inhalation Vapour	Rat	0.74 mg/l	4 hours
	LD50 Dermal	Rabbit	14112 mg/kg	-
	LD50 Oral	Rat	10760 mg/kg	-
Ethyl acetate	LD50 Oral	Rat	5620 mg/kg	-
	LD50 Dermal	Rabbit	6480 mg/kg	-
Butanone	LD50 Oral	Rat	2737 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
2-Methoxy-1-methylethyl acetate	LD50 Oral	Rat	8532 mg/kg	-
	LC50 Inhalation Vapour	Rat	21.7 mg/l	4 hours
Xylene	LD50 Oral	Rat	4300 mg/kg	-
	LC50 Inhalation Vapour	Rat	78000 mg/m ³	4 hours
Methyl methacrylate	LD50 Dermal	Rabbit	>5 g/kg	-
	LD50 Oral	Rat	7872 mg/kg	-

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

Acute toxicity estimates

Route	ATE value
Dermal	29100.53 mg/kg
Inhalation (vapours)	291.01 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
n-Butyl acetate	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Xylene	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

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

Sensitisation

Conclusion/Summary : May cause an allergic skin reaction.

Mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Teratogenicity

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

Specific target organ toxicity (single exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
n-Butyl acetate	Category 3	-	Narcotic effects
Ethyl acetate	Category 3	-	Narcotic effects
Butanone	Category 3	-	Narcotic effects
Xylene	Category 3	-	Respiratory tract irritation
Methyl methacrylate	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Xylene	Category 2	oral, inhalation	-

Aspiration hazard

Product/ingredient name	Result
Naphtha (petroleum), hydrotreated light	ASPIRATION HAZARD - Category 1
Xylene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Not available.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No specific data.

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

Short term exposure

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

Long term exposure

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

Potential chronic health effects

Not available.

SECTION 11: Toxicological information

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

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
n-Butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - <i>Artemia salina</i>	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
Ethyl acetate	Acute EC50 2500000 µg/l Fresh water	Algae - <i>Selenastrum sp.</i>	96 hours
	Acute LC50 750000 µg/l Fresh water	Crustaceans - <i>Gammarus pulex</i>	48 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - <i>Daphnia cucullata</i>	48 hours
	Acute LC50 212500 µg/l Fresh water	Fish - <i>Heteropneustes fossilis</i>	96 hours
	Chronic NOEC 12 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Chronic NOEC 75.6 mg/l Fresh water	Fish - <i>Pimephales promelas</i> - Embryo	32 days
Butanone	Acute EC50 >500000 µg/l Marine water	Algae - <i>Skeletonema costatum</i>	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - <i>Daphnia magna</i> - Larvae	48 hours
Methyl methacrylate	Acute LC50 3220000 µg/l Fresh water	Fish - <i>Pimephales promelas</i>	96 hours
	Acute LC50 130000 µg/l Fresh water	Fish - <i>Pimephales promelas</i> - Adult	96 hours

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

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
n-Butyl acetate	2.3	-	Low
Ethyl acetate	0.68	30	Low
Butanone	0.3	-	Low
Naphtha (petroleum), hydrotreated light	2.2 to 5.2	10 to 2500	High
2-Methoxy-1-methylethyl acetate	1.2	-	Low
Xylene	3.12	8.1 to 25.9	Low
Methyl methacrylate	1.38	-	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

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

SECTION 12: Ecological information

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

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





European waste catalogue (EWC) : 08.01.11

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 spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number or ID number	UN1993	UN1993	UN1993	UN1993
14.2 UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (n-butyl acetate, ethyl acetate)	FLAMMABLE LIQUID, N.O.S. (n-butyl acetate, ethyl acetate)	FLAMMABLE LIQUID, N.O.S. (ethyl acetate, 2-methoxy-1-methylethyl acetate)	FLAMMABLE LIQUID, N.O.S. (ethyl acetate, 2-methoxy-1-methylethyl acetate)
14.3 Transport hazard class(es)	3 	3 	3 	3 
14.4 Packing group	II	II	II	II
14.5 Environmental hazards	No.	Yes.	No.	No.

Additional information

ADR/RID : **Special provisions** 640 (C)
Tunnel code (D/E)

SECTION 14: Transport information

ADN : The product is only regulated as an environmentally hazardous substance when transported in tank vessels.
Special provisions 640 (C)

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]
SUPREMO KLARLACK 3990-02	≥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.

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

P5c

National regulations

Austria

VbF class : A I
Very dangerous flammable liquid.

SECTION 15: Regulatory information

Limitation of the use of organic solvents : Permitted.

[Czech Republic](#)

[Denmark](#)

Danish fire class : I-1

[Executive Order No. 1795/2015](#)

Ingredient name	Annex I Section A	Annex I Section B
Ethylbenzene	Listed	-

MAL-code : 3-3

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: 3-3

Application: When spraying in new* booths if the operator is outside 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 and eye protection 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.

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

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

- Air-supplied full mask, arm protectors and apron must be worn.

During non-atomising spraying in existing* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone.

- Air-supplied full mask, arm protectors and apron 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, coveralls 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.

SECTION 15: Regulatory information

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** : Not listed
- Carcinogenic waste** : Waste containers must be labeled: Contains a substance or substances regulated by Danish working environment legislation on cancer risks.

Finland

France

- Social Security Code, Articles L 461-1 to L 461-7** :
- | | |
|---|----------------|
| n-Butyl acetate | RG 84 |
| Ethyl acetate | RG 84 |
| Butanone | RG 84 |
| Naphtha (petroleum), hydrotreated light | RG 84 |
| 2-Methoxy-1-methylethyl acetate | RG 84 |
| Xylene | RG 4bis, RG 84 |
| Methyl methacrylate | RG 82 |

- 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** : 3

- Technical instruction on air quality control** : TA-Luft Number 5.2.5: 90.4%
TA-Luft Class I - Number 5.2.5: 0.8%

Italy

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

Netherlands

Norway

Sweden

Switzerland

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

SECTION 15: Regulatory information

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

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

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

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

Classification	Justification
Flam. Liq. 2, H225 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H336 Aquatic Chronic 3, H412	On basis of test data Calculation method Calculation method Calculation method Calculation method

Full text of abbreviated H statements

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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 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
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 : 20/12/2023

Date of previous issue : No previous validation

Version : 1

SUPREMO KLARLACK 3990-02

All variants

Date of issue/Date of revision : 20/12/2023 **Date of previous issue** : No previous validation **Version** : 1 **27/29**

SUPREMO KLARLACK 3990-02 - All variants

Label No : 52114

SECTION 16: Other information

[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.

