

SAFETY DATA SHEET



UVILUX 1745-02 - RILLETOP TS 21462 SILVER GRAY PANTONE 15-4502
TPG

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

1.1 Product identifier

Product name : UVILUX 1745-02 - RILLETOP TS 21462 SILVER GRAY PANTONE 15-4502 TPG

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

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

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

National contact

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

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Skin Irrit. 2, H315

Eye Dam. 1, H318

Skin Sens. 1, H317

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 : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention : P280 - Wear protective gloves. Wear eye or face protection.
P273 - Avoid release to the environment.
P261 - Avoid breathing vapour.

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: Dipropylenglycol diacrylate; 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid; Hexanedioic acid, polymer with (chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 4,4'-(1-methylethylidene)bis[phenol] and oxirane, 2-propenoate and Methylbenzoylformiat
Supplemental label elements	: Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: This mixture 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
Dipropylenglycol diacrylate	REACH #: 01-2119484629-21 EC: 260-754-3 CAS: 57472-68-1	≥25 - ≤50	Skin Irrit. 2, H315 Eye Dam. 1, H318 Skin Sens. 1, H317	-	[1]
titanium dioxide	REACH #: 01-2119489379-17 EC: 236-675-5 CAS: 13463-67-7	≥10 - ≤25	Carc. 2, H351 (inhalation)	-	[1] [*]
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	REACH #: 01-2119490020-53 EC: 500-130-2 CAS: 55818-57-0	≥10 - <25	Skin Sens. 1, H317 Aquatic Chronic 2, H411	-	[1]
Hexanedioic acid, polymer with (chloromethyl)oxirane, 2-ethyl-2-(hydroxymethyl)-1,3-propanediol, 4,4'-(1-methylethylidene)bis[phenol] and oxirane, 2-propenoate	CAS: 184181-05-3	≤10	Skin Sens. 1, H317	-	[1]
Methylbenzoylformiat	REACH #: 01-2120101338-67 EC: 239-263-3 CAS: 15206-55-0	≤3	Skin Sens. 1, H317	-	[1]

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SECTION 3: Composition/information on ingredients

Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy-2-methyl-1-oxopropyl) derivs.	CAS: 163702-01-0	<3	Repr. 2, H361f	-	[1]
Oligotriacrylate	REACH #: 01-2119487948-12 EC: 500-114-5 CAS: 52408-84-1	≤3	Eye Irrit. 2, H319 Skin Sens. 1, H317	-	[1]
2-Methoxy-1-methylethyl acetate	REACH #: 01-2119475791-29 EC: 203-603-9 CAS: 108-65-6 Index: 607-195-00-7	≤3	Flam. Liq. 3, H226 STOT SE 3, H336	-	[1] [2]
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	REACH #: 01-2119489401-38 EC: 423-340-5 CAS: 162881-26-7 Index: 015-189-00-5	≤3	Skin Sens. 1A, H317 Aquatic Chronic 4, H413	-	[1]
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	REACH #: 01-2119489900-30 EC: 500-066-5 CAS: 28961-43-5	<1	Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	-	[1]
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	REACH #: 01-2119484613-34 EC: 256-032-2 CAS: 42978-66-5 Index: 607-249-00-X	<1	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT SE 3, H335 Aquatic Chronic 2, H411	STOT SE 3, H335: C ≥ 10%	[1]
2-Butoxyethanol	REACH #: 01-2119475108-36 EC: 203-905-0 CAS: 111-76-2 Index: 603-014-00-0	<1	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.	ATE [Oral] = 1200 mg/kg ATE [Inhalation (vapours)] = 3 mg/l	[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

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

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: 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.

SECTION 4: First aid measures

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

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

- Hazards from the substance or mixture** : In a fire or if heated, a pressure increase will occur and the container may burst. This material is 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
phosphorus oxides
halogenated compounds
metal oxide/oxides

5.3 Advice for firefighters

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

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe 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 spilled 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. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spill 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 breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

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

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
<input checked="" type="checkbox"/> 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.
2-Butoxyethanol	Regulation on Limit Values - MAC (Austria, 4/2021). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m ³ 8 hours. PEAK: 40 ppm, 4 times per shift, 30 minutes. PEAK: 200 mg/m ³ , 4 times per shift, 30 minutes.
<input checked="" type="checkbox"/> Methoxy-1-methylethyl acetate	Limit values (Belgium, 5/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m ³ 15 minutes.
2-Butoxyethanol	Limit values (Belgium, 5/2021). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m ³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m ³ 15 minutes.

SECTION 8: Exposure controls/personal protection

<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<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> <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: 98 mg/m³ 8 hours. Limit value 15 min: 246 mg/m³ 15 minutes. Limit value 15 min: 50 ppm 15 minutes. Limit value 8 hours: 20 ppm 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). Absorbed through skin. STELV: 550 mg/m³ 15 minutes. STELV: 100 ppm 15 minutes. ELV: 275 mg/m³ 8 hours. ELV: 50 ppm 8 hours.</p> <p>Ministry of Economy, Labour and Entrepreneurship ELV/ STELV (Croatia, 1/2021). Absorbed through skin. STELV: 246 mg/m³ 15 minutes. STELV: 50 ppm 15 minutes. ELV: 98 mg/m³ 8 hours. ELV: 20 ppm 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Department of labour inspection (Cyprus, 7/2021). Absorbed through skin. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours.</p> <p>Department of labour inspection (Cyprus, 7/2021). Absorbed through skin. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes. TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin. TWA: 270 mg/m³ 8 hours. TWA: 49.14 ppm 8 hours. STEL: 550 mg/m³ 15 minutes. STEL: 100.1 ppm 15 minutes.</p> <p>Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 10/2022). Absorbed through skin. TWA: 100 mg/m³ 8 hours. TWA: 20.4 ppm 8 hours. STEL: 200 mg/m³ 15 minutes. STEL: 40.8 ppm 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Working Environment Authority (Denmark, 6/2022). [2-Methoxy-1-methylethyl acetate] Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m³ 8 hours. STEL: 550 mg/m³ 15 minutes. STEL: 100 ppm 15 minutes.</p> <p>Working Environment Authority (Denmark, 6/2022). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.</p>

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<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes. TWA: 275 mg/m³ 8 hours. TWA: 50 ppm 8 hours.</p> <p>Occupational exposure limits, Regulation No. 293 (Estonia, 12/2022). Absorbed through skin. Skin sensitiser. TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<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> <p>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 270 mg/m³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m³ 15 minutes.</p> <p>Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 250 mg/m³ 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<p>Ministry of Labor (France, 10/2022). Absorbed through skin. 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> <p>Ministry of Labor (France, 10/2022). Absorbed through skin. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA: 10 ppm 8 hours. TWA: 49 mg/m³ 8 hours. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>2-Butoxyethanol</p>	<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> <p>DFG MAC-values list (Germany, 7/2022). Skin sensitiser.</p>
<p>2-Methoxy-1-methylethyl acetate</p> <p>(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate</p> <p>2-Butoxyethanol</p>	<p>TRGS 900 OEL (Germany, 6/2022). Absorbed through skin.</p>

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	<p>TWA: 49 mg/m³ 8 hours. PEAK: 98 mg/m³ 15 minutes. TWA: 10 ppm 8 hours. PEAK: 20 ppm 15 minutes. DFG MAC-values list (Germany, 7/2022). Absorbed through skin. TWA: 10 ppm 8 hours. PEAK: 20 ppm, 4 times per shift, 15 minutes. TWA: 49 mg/m³ 8 hours. PEAK: 98 mg/m³, 4 times per shift, 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<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>
<p>2-Butoxyethanol</p>	<p>Presidential Decree 307/1986: Occupational exposure limit values (Greece, 9/2021). Absorbed through skin. TWA: 25 ppm 8 hours. TWA: 120 mg/m³ 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<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>
<p>2-Butoxyethanol</p>	<p>5/2020. (II. 6.) ITM Decree (Hungary, 12/2022). Absorbed through skin. Skin sensitiser. Inhalation sensitiser. TWA: 98 mg/m³ 8 hours. PEAK: 246 mg/m³ 15 minutes. PEAK: 50 ppm 15 minutes. TWA: 20 ppm 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<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>
<p>2-Butoxyethanol</p>	<p>Ministry of Welfare, List of Exposure Limits (Iceland, 5/2021). Absorbed through skin. STEL: 246 mg/m³ 15 minutes. STEL: 50 ppm 15 minutes. TWA: 100 mg/m³ 8 hours. TWA: 20 ppm 8 hours.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<p>NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV-8hr: 50 ppm 8 hours. OELV-8hr: 275 mg/m³ 8 hours. OELV-15min: 100 ppm 15 minutes. OELV-15min: 550 mg/m³ 15 minutes.</p>
<p>2-Butoxyethanol</p>	<p>NAOSH (Ireland, 5/2021). Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV-8hr: 20 ppm 8 hours. OELV-8hr: 98 mg/m³ 8 hours. OELV-15min: 50 ppm 15 minutes. OELV-15min: 246 mg/m³ 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<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>
<p>2-Butoxyethanol</p>	<p>Legislative Decree No. 819/2008. Title IX. Protection from</p>

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<p>2-Methoxy-1-methylethyl acetate</p>	<p>chemical agents, carcinogens and mutagens (Italy, 6/2020). Absorbed through skin. 8 hours: 20 ppm 8 hours. 8 hours: 98 mg/m³ 8 hours. Short Term: 50 ppm 15 minutes. Short Term: 246 mg/m³ 15 minutes.</p>
<p>2-Butoxyethanol</p>	<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>
<p>2-Methoxy-1-methylethyl acetate</p>	<p>Ministers Cabinet Regulations Nr.325 - AER (Latvia, 2/2021). Absorbed through skin. TWA: 98 mg/m³ 8 hours. TWA: 20 ppm 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.</p>
<p>2-Butoxyethanol</p>	<p>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). Absorbed through skin. TWA: 250 mg/m³ 8 hours. TWA: 50 ppm 8 hours. STEL: 400 mg/m³ 15 minutes. STEL: 75 ppm 15 minutes.</p>
<p>2-Butoxyethanol</p>	<p>Lithuanian Hygiene Standard HN 23 (Lithuania, 7/2022). Absorbed through skin. TWA: 50 mg/m³ 8 hours. TWA: 10 ppm 8 hours. STEL: 100 mg/m³ 15 minutes. STEL: 20 ppm 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<p>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). 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>
<p>2-Butoxyethanol</p>	<p>Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<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>
<p>2-Butoxyethanol</p>	<p>EU OEL (Europe, 1/2022). Absorbed through skin. Notes: list of indicative occupational exposure limit values TWA: 20 ppm 8 hours. TWA: 98 mg/m³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m³ 15 minutes.</p>
<p>2-Methoxy-1-methylethyl acetate</p>	<p>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). OEL, 8-h TWA: 550 mg/m³ 8 hours. OEL, 8-h TWA: 100 ppm 8 hours.</p>
<p>2-Butoxyethanol</p>	<p>Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 12/2022). Absorbed through skin. OEL, 8-h TWA: 100 mg/m³ 8 hours. STEL, 15-min: 246 mg/m³ 15 minutes. OEL, 8-h TWA: 20.4 ppm 8 hours.</p>

SECTION 8: Exposure controls/personal protection

 Methoxy-1-methylethyl acetate

STEL, 15-min: 50 ppm 15 minutes.

FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through skin. Notes: indicative limit value

TWA: 50 ppm 8 hours.

TWA: 270 mg/m³ 8 hours.

2-Butoxyethanol

FOR-2011-12-06-1358 (Norway, 12/2022). Absorbed through skin. Notes: indicative limit value

TWA: 10 ppm 8 hours.

TWA: 50 mg/m³ 8 hours.

 Methoxy-1-methylethyl acetate

Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). Absorbed through skin.

TWA: 260 mg/m³ 8 hours.

STEL: 520 mg/m³ 15 minutes.

2-Butoxyethanol

Regulation of the Minister of Family, Labor and Social Policy of 18 February 2021, regarding the highest permissible concentrations and values of agents harmful to health in the work environment (Journal of Laws 2021, item 325) (Poland, 2/2021). Absorbed through skin.

TWA: 98 mg/m³ 8 hours.

STEL: 200 mg/m³ 15 minutes.

 Methoxy-1-methylethyl acetate

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.

2-Butoxyethanol

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

TWA: 20 ppm 8 hours.

 Methoxy-1-methylethyl acetate

HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.

VLA: 275 mg/m³ 8 hours.

VLA: 50 ppm 8 hours.

Short term: 550 mg/m³ 15 minutes.

Short term: 100 ppm 15 minutes.

2-Butoxyethanol

HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2021). Absorbed through skin.

VLA: 98 mg/m³ 8 hours.

VLA: 20 ppm 8 hours.

Short term: 246 mg/m³ 15 minutes.

Short term: 50 ppm 15 minutes.

 Methoxy-1-methylethyl acetate

Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.

TWA: 275 mg/m³ 8 hours.

TWA: 50 ppm 8 hours.

STEL: 550 mg/m³ 15 minutes.

STEL: 100 ppm 15 minutes.

2-Butoxyethanol

Government regulation SR c. 355/2006 (Slovakia, 9/2020). Absorbed through skin.

TWA: 98 mg/m³ 8 hours.

TWA: 20 ppm 8 hours.

STEL: 246 mg/m³ 15 minutes.

STEL: 50 ppm 15 minutes.

 Methoxy-1-methylethyl acetate

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





TWA: 275 mg/m³ 8 hours.

TWA: 50 ppm 8 hours.

KTV: 550 mg/m³, 4 times per shift, 15 minutes.





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

SECTION 8: Exposure controls/personal protection

2-Butoxyethanol	Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021). Absorbed through skin. TWA: 98 mg/m ³ 8 hours. TWA: 20 ppm 8 hours. KTV: 246 mg/m ³ , 4 times per shift, 15 minutes. KTV: 50 ppm, 4 times per shift, 15 minutes.
 2-Methoxy-1-methylethyl acetate	National institute of occupational safety and health (Spain, 4/2022). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m ³ 15 minutes.
2-Butoxyethanol	National institute of occupational safety and health (Spain, 4/2022). Absorbed through skin. TWA: 20 ppm 8 hours. TWA: 98 mg/m ³ 8 hours. STEL: 245 mg/m ³ 15 minutes. STEL: 50 ppm 15 minutes.
 2-Methoxy-1-methylethyl acetate	Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes. STEL: 550 mg/m ³ 15 minutes.
2-Butoxyethanol	Work environment authority Regulation 2018:1 (Sweden, 9/2021). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 50 mg/m ³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 246 mg/m ³ 15 minutes.
 2-Methoxy-1-methylethyl acetate	SUVA (Switzerland, 1/2023). TWA: 50 ppm 8 hours. TWA: 275 mg/m ³ 8 hours. STEL: 50 ppm 15 minutes. STEL: 275 mg/m ³ 15 minutes.
2-Butoxyethanol	SUVA (Switzerland, 1/2023). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 49 mg/m ³ 8 hours. STEL: 20 ppm 15 minutes. STEL: 98 mg/m ³ 15 minutes.
 2-Methoxy-1-methylethyl acetate	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 548 mg/m ³ 15 minutes. TWA: 50 ppm 8 hours. TWA: 274 mg/m ³ 8 hours. STEL: 100 ppm 15 minutes.
2-Butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020). Absorbed through skin. STEL: 50 ppm 15 minutes. TWA: 25 ppm 8 hours. STEL: 246 mg/m ³ 15 minutes. TWA: 123 mg/m ³ 8 hours.
2-ethylhexan-1-ol	EH40/2005 WELs (United Kingdom (UK), 1/2020). TWA: 5.4 mg/m ³ 8 hours. TWA: 1 ppm 8 hours.

[Biological exposure indices](#)

SECTION 8: Exposure controls/personal protection

Product/ingredient name	Exposure indices
<p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p>	
<p> Butoxyethanol</p>	<p>Government regulation of Czech Republic Limit Values of Biological Exposure Tests (Czech Republic, 9/2015) Biological limit values: 0.17 mmol/mmol creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: the end of the shift at the end of the week. Biological limit values: 200 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: the end of the shift at the end of the week.</p>
<p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p>	
<p> Butoxyethanol</p>	<p>DFG BEI-values list (Germany, 7/2022) Notes: danger from percutaneous absorption (see p. 211 and p. 228). BEI: 150 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift / for long-term exposures: at the end of the shift after several shifts. TRGS 903 - BEI Values (Germany, 2/2022) BEI: 150 mg/g creatinine, butoxy acetic acid (after hydrolysis) [in urine]. Sampling time: end of exposure or end of shift; for long-term exposures: at the end of shift after several shifts.</p>
<p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p>	
<p> Butoxyethanol</p>	<p>NAOSH (Ireland, 1/2011) BMGV: 200 mg/g creatinine, BAA [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.</p>
<p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p> <p>No exposure indices known.</p>	
<p> Butoxyethanol</p>	<p>Portuguese Institute of Quality (Portugal, 11/2014) BEI: 200 mg/g creatinine, butoxyacetic acid (BAA) [in urine]. Sampling time: end of shift.</p>
<p>No exposure indices known.</p> <p>No exposure indices known.</p>	

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2-Butoxyethanol	Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 5/2021) BAT: 150 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: at the end of the work shift, at long-term exposure: at the end of the work shift after several consecutive workdays.
2-Butoxyethanol	National institute of occupational safety and health (Spain, 4/2022) VLB: 200 mg/g creatinine, butoxyacetic acid [in urine]. Sampling time: end of shift.
No exposure indices known.	
2-Butoxyethanol	SUVA (Switzerland, 1/2023) BEI: 150 mg/g creatinine, 2-butoxy acetic acid (after hydrolysis) [in urine]. Sampling time: immediately after exposure or after working hours. In case of long-term exposure: after more than one shift.
2-Butoxyethanol	EH40/2005 BMGVs (United Kingdom (UK), 8/2018) BGV: 240 mmol/mol creatinine, butoxyacetic acid [in urine]. Sampling time: post shift.

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

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Dipropylenglycol diacrylate	DNEL	Long term Dermal	1.66 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	2.08 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	2.77 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	7.24 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	24.48 mg/m ³	Workers	Systemic
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	DNEL	Long term Inhalation	1.17 mg/m ³	Workers	Systemic
	DNEL	Long term Dermal	33 mg/kg bw/day	Workers	Systemic
Methylbenzoylformiat	DNEL	Long term Oral	1.67 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	1.67 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	3.33 mg/kg bw/day	Workers	Systemic
Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy-2-methyl-1-oxopropyl) derivs.	DNEL	Long term Oral	5.28 µg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	5.28 µg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	9.18 µg/m ³	General population	Systemic
	DNEL	Long term Dermal	14.8 µg/kg bw/day	Workers	Systemic

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Oligotriacrylate	DNEL	Long term Inhalation	52.1 µg/m ³	Workers	Systemic	
	DNEL	Long term Inhalation	7.4 mg/m ³	Workers	Systemic	
	DNEL	Long term Dermal	2.1 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 bw/day	General population	Systemic	
	DNEL	Short term Inhalation	550 mg/m ³	Workers	Local	
	DNEL	Long term Dermal	796 mg/kg bw/day	Workers	Systemic	
	Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	DNEL	Long term Inhalation	21 mg/m ³	Workers	Systemic
DNEL		Short term Inhalation	21 mg/m ³	Workers	Systemic	
DNEL		Long term Dermal	3.3 mg/kg	Workers	Systemic	
DNEL		Short term Dermal	3.3 mg/kg	Workers	Systemic	
DNEL		Long term Inhalation	5.2 mg/m ³	General population [Consumers]	Systemic	
DNEL		Long term Dermal	1.5 mg/kg	General population [Consumers]	Systemic	
DNEL		Long term Oral	1.5 mg/kg	General population [Consumers]	Systemic	
DNEL		Short term Oral	1.67 ng/kg bw/day	General population	Systemic	
DNEL		Long term Oral	1.5 mg/kg bw/day	General population	Systemic	
DNEL		Long term Dermal	1.5 mg/kg bw/day	General population	Systemic	
DNEL		Short term Dermal	1.67 mg/kg bw/day	General population	Systemic	
DNEL		Short term Inhalation	1.93 mg/m ³	General population	Systemic	
DNEL		Long term Inhalation	1.93 mg/m ³	General population	Systemic	
DNEL		Long term Dermal	3 mg/kg bw/day	Workers	Systemic	
DNEL		Short term Dermal	3.33 mg/kg bw/day	Workers	Systemic	
DNEL		Short term Inhalation	7.84 mg/m ³	Workers	Systemic	
DNEL		Long term Inhalation	7.84 mg/m ³	Workers	Systemic	
Propylidynetrimethanol, ethoxylated, esters with acrylic acid		DNEL	Long term Dermal	10.5 mg/kg bw/day	Workers	Systemic
		DNEL	Long term Inhalation	37 mg/m ³	Workers	Systemic
(1-methyl-1,2-ethanediyl)bis[oxy (methyl-2,1-ethanediyl)] diacrylate		DNEL	Long term Dermal	1.7 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	2.35 mg/m ³	Workers	Systemic	
2-Butoxyethanol	DNEL	Long term Oral	6.3 mg/kg bw/day	General population	Systemic	

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	DNEL	Short term Oral	26.7 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	59 mg/m ³	General population	Systemic
	DNEL	Long term Inhalation	98 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	147 mg/m ³	General population	Local
	DNEL	Short term Inhalation	246 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	426 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	1091 mg/m ³	Workers	Systemic

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

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

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.

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

SECTION 8: Exposure controls/personal protection

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 : Beige.
Odour : Slight
Odour threshold : Not available.
Melting point/freezing point : Not available.
Initial boiling point and boiling range :

Ingredient name	°C	°F	Method
Methoxy-1-methylethyl acetate	145.8	294.4	OECD 103

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

Ingredient name	°C	°F	Method
Propylenglycol diacrylate	240	464	DIN 51794
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
Methoxy-1-methylethyl acetate	2.7	0.36	OECD 104			
Dipropylenglycol diacrylate	0.00064	0.000085	OECD 104			

Relative density : Not available.
Density : 1.4 g/cm³
Vapour density : Not available.
Explosive properties : Not available.
Oxidising properties : Not available.
Particle characteristics
Median particle size : Not applicable.

9.2 Other information

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SECTION 9: Physical and chemical properties

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

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

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Dipropylenglycol diacrylate 2-Methoxy-1-methylethyl acetate	LD50 Oral	Rat	4600 mg/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)- Propylidynetrimethanol, ethoxylated, esters with acrylic acid	LD50 Oral	Rat	8532 mg/kg	-
	LD50 Oral	Rat	>2000 mg/kg	-
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	LD50 Dermal	Rabbit	>13 g/kg	-
	LD50 Oral	Rat	6200 mg/kg	-

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

Acute toxicity estimates

Route	ATE value
Inhalation (vapours)	761.57 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Dipropylenglycol diacrylate titanium dioxide	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Human	-	72 hours 300 ug l	-
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	Eyes - Severe irritant	Rabbit	-	24 hours 100 uL	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
2-Butoxyethanol	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

Conclusion/Summary : Causes skin irritation.

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SECTION 11: Toxicological information

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	skin	Guinea pig	Sensitising

Conclusion/Summary : May cause an allergic skin reaction.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	-	Subject: Bacteria	Negative

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

Carcinogenicity

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

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

Reproductive toxicity

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

Teratogenicity

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

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2-Methoxy-1-methylethyl acetate (1-methyl-1,2-ethanediy)bis[oxy(methyl-2,1-ethanediy)] diacrylate	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

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

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SECTION 11: Toxicological information

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium dioxide	Acute LC50 3 mg/l Fresh water	Crustaceans - <i>Ceriodaphnia dubia</i> - Neonate	48 hours
	Acute LC50 6.5 mg/l Fresh water	Daphnia - <i>Daphnia pulex</i> - Neonate	48 hours
	Acute LC50 >1000000 µg/l Marine water	Fish - <i>Fundulus heteroclitus</i>	96 hours
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	EC50 ≥0.26 mg/l	Aquatic plants - <i>Desmodesmus subspicatus</i>	72 hours
	NOEC ≥0.008 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	21 days
	Acute EC50 >1.175 mg/l	Daphnia - <i>Daphnia magna</i>	48 hours
2-Butoxyethanol	Acute LC50 >0.09 mg/l	Fish - <i>Brachydanio rerio</i>	96 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - <i>Daphnia magna</i>	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - <i>Crangon crangon</i>	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - <i>Menidia beryllina</i>	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.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)- Propylidynetrimethanol, ethoxylated, esters with acrylic acid	-	-	Not readily
	-	-	Readily

12.3 Bioaccumulative potential

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SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
Dipropylenglycol diacrylate	0.01 to 0.39	-	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	1.6 to 3	-	Low
Oligotriacrylate	2.52	-	Low
2-Methoxy-1-methylethyl acetate	1.2	-	Low
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	5.77	<5	Low
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	2.89	-	Low
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	2	-	Low
2-Butoxyethanol	0.81	-	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.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

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

European waste catalogue (EWC) : 080111*

Packaging

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

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of 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	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-	-
14.3 Transport hazard class(es)	-	-	-	-
14.4 Packing group	-	-	-	-
14.5 Environmental hazards	No.	No.	No.	No.

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]
UVILUX 1745-02	≥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.

SECTION 15: Regulatory information

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

National regulations

Austria

VbF class : Not regulated.

Limitation of the use of organic solvents : Permitted.

Czech Republic

Storage code : IV

Denmark

Danish fire class : IV-1

Executive Order No. 1795/2015

Ingredient name	Annex I Section A	Annex I Section B
Titanium dioxide	Listed	-

MAL-code : 0-5

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

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

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

MAL-code: 0-5

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. 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.

- Protective clothing must be worn.

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

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

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

- Gas filter 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.

SECTION 15: Regulatory information

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

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

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


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

*See Regulations.

- Restrictions on use** : Not to be used by professional users below 18 years of age. See the National Working Environment Authorities Executive Order regarding Young People At Work.
- List of undesirable substances** : 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** :  Methoxy-1-methylethyl acetate RG 84
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate RG 84
2-Butoxyethanol RG 84

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

Germany

- Storage class (TRGS 510)** : 10

Hazardous incident ordinance

This product is not controlled under the Germany Hazardous Incident Ordinance.

- Hazard class for water** : 2

- Technical instruction on air quality control** :  A-Luft Number 5.2.5: 58.7%
TA-Luft Class I - Number 5.2.5: 1.5%

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


Italy

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

Netherlands

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

Norway

- Remark** :  FOR-2011-12-06-1357 Regulations on the performance of work, use of work equipment and associated technical requirements (regulations on the performance of work). FOR-2015-05-19-541 Regulations on the declaration of chemicals to the product register (declaration regulations).

Sweden

Switzerland

- VOC content** : Exempt.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

SECTION 15: Regulatory information

Not listed.

[Stockholm Convention on Persistent Organic Pollutants](#)

Not listed.

[Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

15.2 Chemical safety assessment

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

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms

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

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

Classification	Justification
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Chronic 3, H412	Calculation method

[Full text of abbreviated H statements](#)

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H361f	Suspected of damaging fertility.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

[Full text of classifications \[CLP/GHS\]](#)

Acute Tox. 3	ACUTE TOXICITY - Category 3
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
Aquatic Chronic 4	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 4
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Repr. 2	REPRODUCTIVE TOXICITY - Category 2

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✔ VILUX 1745-02 - RILLETOP TS 21462 SILVER GRAY PANTONE 15-4502 TPG

Label No : 90679

SECTION 16: Other information

Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

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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.

