

SAFETY DATA SHEET



UVILUX 6790-03 - TS 21388 BLACK

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

1.1 Product identifier

Product name : UVILUX 6790-03 - TS 21388 BLACK

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

Product use : Paint.

1.3 Details of the supplier of the safety data sheet

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

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

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : In an emergency, call 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

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

Skin Irrit. 2, H315

Eye Irrit. 2, H319

Skin Sens. 1, H317

Aquatic Acute 1, H400

Aquatic Chronic 2, H411

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

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

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

2.2 Label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

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

Response : P391 - Collect spillage.

Storage : Not applicable.

SECTION 2: Hazards identification

Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	:  Contains: Hexamethylene diacrylate; Oligotriacrylate; Propylidynetrimethanol, ethoxylated, esters with acrylic acid and Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-
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
 Hexamethylene diacrylate	REACH #: 01-2119484737-22 EC: 235-921-9 CAS: 13048-33-4 Index: 607-109-00-8	≥25 - ≤50	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	M [Acute] = 1	[1]
Oligotriacrylate	REACH #: 01-2119487948-12 EC: 500-114-5 CAS: 52408-84-1	≤10	Eye Irrit. 2, H319 Skin Sens. 1, H317	-	[1]
Acrylate resin	-	≤10	Eye Irrit. 2, H319	-	[1]
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	REACH #: 01-2119489900-30 EC: 500-066-5 CAS: 28961-43-5	≤10	Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 3, H412	-	[1]
Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy-2-methyl-1-oxopropyl) derivs.	CAS: 163702-01-0	<3	Repr. 2, H361f	-	[1]
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]
Methylbenzoylformiat	REACH #: 01-2120101338-67 EC: 239-263-3 CAS: 15206-55-0	≤3	Skin Sens. 1, H317	-	[1]

SECTION 3: Composition/information on ingredients

(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	≤0.3	Acute Tox. 4, H302 Acute Tox. 3, H331 Skin Irrit. 2, H315 Eye Irrit. 2, H319	ATE [Oral] = 1200 mg/kg ATE [Inhalation (vapours)] = 3 mg/l	[1] [2]
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	≤0.3	Skin Sens. 1, H317 Aquatic Chronic 2, H411	-	[1]
copper bis (dimethyldithiocarbamate)	REACH #: 01-2120770993-40 EC: 205-287-8 CAS: 137-29-1	<0.1	Acute Tox. 2, H330 Aquatic Acute 1, H400 See Section 16 for the full text of the H statements declared above.	ATE [Inhalation (dusts and mists)] = 0.12 mg/l M [Acute] = 10	[1]

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

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

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

SECTION 4: First aid measures

4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

SECTION 4: First aid measures

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Over-exposure signs/symptoms

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

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

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

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is very toxic to aquatic life. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
metal oxide/oxides

5.3 Advice for firefighters

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions

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

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

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

SECTION 7: Handling and storage

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

7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

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

Seveso Directive - Reporting thresholds

Danger criteria

SECTION 7: Handling and storage

Category	Notification and MAPP threshold	Safety report threshold
E1	100 tonnes	200 tonnes

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

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

8.1 Control parameters

Occupational exposure limits

Product/ingredient name	Exposure limit values
2-Butoxyethanol copper bis(dimethyldithiocarbamate)	Regulation on Limit Values - MAC (Austria, 12/2024) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. PEAK 30 minutes: 40 ppm 4 times per shift. PEAK 30 minutes: 200 mg/m³ 4 times per shift. Regulation on Limit Values - MAC (Austria, 12/2024) [Kupfer und seine Verbindungen] TWA 8 hours: 1 mg/m³ (measured as Cu). Form: Inhalable fraction. PEAK 15 minutes: 4 mg/m³ (measured as Cu), 4 times per shift. Form: Inhalable fraction. Regulation on Limit Values - MAC (Austria, 12/2024) [Kupfer und seine Verbindungen als Rauch] TWA 8 hours: 0.1 mg/m³ (measured as Cu). Form: respirable fume. PEAK 15 minutes: 0.4 mg/m³ (measured as Cu), 4 times per shift. Form: respirable fume.
2-Butoxyethanol	Limit values (Belgium, 12/2023) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³.
2-Butoxyethanol copper bis(dimethyldithiocarbamate)	Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024) Absorbed through skin. Limit value 8 hours: 98 mg/m³. Limit value 15 minutes: 246 mg/m³. Limit value 15 minutes: 50 ppm. Limit value 8 hours: 20 ppm. Ministry of Labour and Social Policy and the Ministry of Health - Ordinance No 13/2003. (Bulgaria, 4/2024) [Copper - oxides and inorganic compounds] Limit value 8 hours: 1 mg/m³ (as copper).
2-Butoxyethanol	Ordinance on the protection of workers from exposure to hazardous chemicals at work, exposure limit values (Annex I) (Croatia, 12/2023) Absorbed through skin. STELV 15 minutes: 246 mg/m³. STELV 15 minutes: 50 ppm. ELV 8 hours: 98 mg/m³. ELV 8 hours: 20 ppm.

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2-Butoxyethanol	Department of labour inspection (Cyprus, 7/2021) Absorbed through skin. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³.
2-Butoxyethanol	Government regulation of Czech Republic PEL/NPK-P (Czech Republic, 12/2023) Absorbed through skin. TWA 8 hours: 98 mg/m³. TWA 8 hours: 20 ppm. STEL 15 minutes: 200 mg/m³. STEL 15 minutes: 40.7 ppm.
2-Butoxyethanol	Working Environment Authority (Denmark, 12/2024) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 246 mg/m³. STEL 15 minutes: 50 ppm.
2-Butoxyethanol	Occupational exposure limits, Regulation No. 293 (Estonia, 4/2024) Absorbed through skin , Sensitiser. TWA 8 hours: 98 mg/m³. TWA 8 hours: 20 ppm. STEL 15 minutes: 246 mg/m³. STEL 15 minutes: 50 ppm.
copper bis(dimethyldithiocarbamate)	Occupational exposure limits, Regulation No. 293 (Estonia, 4/2024) [vask ja anorgaanilised ühendid] TWA 8 hours: 1 mg/m³ (calculated as Cu). Form: Total dust. TWA 8 hours: 0.2 mg/m³ (calculated as Cu). Form: Respirable dust.
2-Butoxyethanol	EU OEL (Europe, 1/2022) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³.
2-Butoxyethanol	Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 250 mg/m³.
copper bis(dimethyldithiocarbamate)	Institute of Occupational Health, Ministry of Social Affairs (Finland, 10/2021) [Kupari ja sen yhdisteet] TWA 8 hours: 0.02 mg/m³ (calculated as Cu). Form: Respirable fraction.
2-Butoxyethanol	Ministry of Labor (France, 6/2024) Absorbed through skin. TWA 8 hours: 10 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) TWA 8 hours: 49 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 246 mg/m³. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code) STEL 15 minutes: 50 ppm. Notes: Binding regulatory limit values (article R. 4412-149 of the Labor Code)
Hexamethylene diacrylate (1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate 2-Butoxyethanol	DFG MAC-values list (Germany, 7/2024) Skin sensitiser. DFG MAC-values list (Germany, 7/2024) Skin sensitiser. TRGS 900 OEL (Germany, 6/2024) Absorbed through skin. TWA 8 hours: 49 mg/m³. PEAK 15 minutes: 98 mg/m³. TWA 8 hours: 10 ppm. PEAK 15 minutes: 20 ppm.

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copper bis(dimethyldithiocarbamate)	DFG MAC-values list (Germany, 7/2024) Develop C. Absorbed through skin. TWA 8 hours: 10 ppm. PEAK 15 minutes: 20 ppm 4 times per shift [Interval: 1 hour]. TWA 8 hours: 49 mg/m³. PEAK 15 minutes: 98 mg/m³ 4 times per shift [Interval: 1 hour].
2-Butoxyethanol	DFG MAC-values list (Germany, 7/2024) [Copper and its inorganic compounds] Develop C. PEAK 15 minutes: 0.02 mg/m³ 4 times per shift [Interval: 1 hour]. Form: respirable fraction. TWA 8 hours: 0.01 mg/m³. Form: respirable fraction.
2-Butoxyethanol	Presidential Decree 307/1986: Occupational exposure limit values (Greece, 8/2024) Absorbed through skin. TWA 8 hours: 25 ppm. TWA 8 hours: 120 mg/m³.
copper bis(dimethyldithiocarbamate)	5/2020. (II. 6.) ITM Decree (Hungary, 1/2025) Absorbed through skin. TWA 8 hours: 98 mg/m³. PEAK 15 minutes: 246 mg/m³. PEAK 15 minutes: 50 ppm. TWA 8 hours: 20 ppm.
2-Butoxyethanol	5/2020. (II. 6.) ITM Decree (Hungary, 1/2025) [RÉZ és vegyületei] TWA 8 hours: 0.1 mg/m³ (as Cu). PEAK 15 minutes: 0.2 mg/m³ (as Cu).
2-Butoxyethanol	Ministry of Welfare, List of Exposure Limits (Iceland, 11/2024) Absorbed through skin. STEL 15 minutes: 246 mg/m³. STEL 15 minutes: 50 ppm. TWA 8 hours: 100 mg/m³. TWA 8 hours: 20 ppm.
2-Butoxyethanol	NAOSH (Ireland, 4/2024) Absorbed through skin. Notes: EU derived Occupational Exposure Limit Values OELV 8 hours: 20 ppm. OELV 8 hours: 98 mg/m³. OELV 15 minutes: 50 ppm. OELV 15 minutes: 246 mg/m³.
2-Butoxyethanol	Legislative Decree No. 81/2008. Title IX. Protection from chemical agents, carcinogens and mutagens (Italy, 9/2024) Absorbed through skin. Limit value 8 hours: 20 ppm. Limit value 8 hours: 98 mg/m³. Short Term 15 minutes: 50 ppm. Short Term 15 minutes: 246 mg/m³.
2-Butoxyethanol	Ministers Cabinet Regulations Nr.325 - AER (Latvia, 3/2024) Absorbed through skin. TWA 8 hours: 98 mg/m³. TWA 8 hours: 20 ppm. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³.
Ethene, homopolymer	Lithuanian Hygiene Standard HN 23 (Lithuania, 1/2024) TWA 8 hours: 10 mg/m³.
2-Butoxyethanol	Lithuanian Hygiene Standard HN 23 (Lithuania, 1/2024) Absorbed through skin. TWA 8 hours: 50 mg/m³. TWA 8 hours: 10 ppm. STEL 15 minutes: 100 mg/m³. STEL 15 minutes: 20 ppm.
copper bis(dimethyldithiocarbamate)	Lithuanian Hygiene Standard HN 23 (Lithuania, 1/2024) [varis ir jo neorganiniai junginiai] TWA 8 hours: 0.2 mg/m³ (as Cu). Form: Respirable fraction. TWA 8 hours: 1 mg/m³ (as Cu). Form: Inhalable fraction.

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2-Butoxyethanol	Grand-Duchy Regulation 2016. Chemical agents. Annex I (Luxembourg, 3/2021) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³.
2-Butoxyethanol	EU OEL (Europe, 1/2022) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³.
2-Butoxyethanol	Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 5/2024) Absorbed through skin. TWA 8 hours: 100 mg/m³. STEL 15 minutes: 246 mg/m³. TWA 8 hours: 20.4 ppm. STEL 15 minutes: 50 ppm.
copper bis(dimethyldithiocarbamate)	Ministry of Social Affairs and Employment, Legal limit values (Netherlands, 5/2024) [koper en anorganische koperverbindingen] TWA 8 hours: 0.1 mg/m³. Form: Inhalable fraction.
2-Butoxyethanol	FOR-2011-12-06-1358 (Norway, 5/2024) Absorbed through skin. TWA 8 hours: 10 ppm. TWA 8 hours: 50 mg/m³.
2-Butoxyethanol	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 7/2024) Absorbed through skin. TWA 8 hours: 98 mg/m³. STEL 15 minutes: 200 mg/m³.
copper bis(dimethyldithiocarbamate)	Regulation of the Minister of Family, Labor and Social Policy of June 12, 2018 on the maximum permissible concentrations and intensities of factors harmful to health in the work environment (Journal of Laws of 2018, item 1286) (Poland, 7/2024) [copper and its inorganic compounds] TWA 8 hours: 0.2 mg/m³ (calculated as Cu).
2-Butoxyethanol	Portuguese Institute of Quality (Portugal, 11/2014) A3. TWA 8 hours: 20 ppm. Decree-Law 24/2012 - Occupational exposure limits for chemical agents (Portugal, 6/2021) Absorbed through skin. STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m³. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m³.
2-Butoxyethanol	HG 1218/2006, Annex 1, with subsequent modifications and additions (Romania, 3/2024) Absorbed through skin. VLA 8 hours: 98 mg/m³. VLA 8 hours: 20 ppm. Short term 15 minutes: 246 mg/m³. Short term 15 minutes: 50 ppm.
2-Butoxyethanol	Government regulation SR c. 355/2006 (Slovakia, 6/2024) Absorbed through skin, Inhalation sensitiser. TWA 8 hours: 98 mg/m³. TWA 8 hours: 20 ppm. STEL 15 minutes: 246 mg/m³. STEL 15 minutes: 50 ppm.
copper bis(dimethyldithiocarbamate)	Government regulation SR c. 355/2006 (Slovakia, 6/2024) [med' a jej anorganické zlúčeniny] Inhalation sensitiser. TWA 8 hours: 1 mg/m³ (Copper and its inorganic compounds, as Cu). Form: Inhalable fraction.

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2-Butoxyethanol	TWA 8 hours: 0.2 mg/m ³ (Copper and its inorganic compounds, as Cu). Form: respirable fraction and fumes. Regulation on protection of workers from the risks related to exposure to chemical substances at work (Slovenia, 4/2024) Absorbed through skin. TWA 8 hours: 98 mg/m ³ . TWA 8 hours: 20 ppm. KTV 15 minutes: 246 mg/m ³ 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes]. KTV 15 minutes: 50 ppm 4 times per shift [time between two exposure events at this concentration must be at least 60 minutes].
2-Butoxyethanol	National institute of occupational safety and health (Spain, 1/2024) Absorbed through skin. TWA 8 hours: 20 ppm. TWA 8 hours: 98 mg/m ³ . STEL 15 minutes: 245 mg/m ³ . STEL 15 minutes: 50 ppm.
copper bis(dimethyldithiocarbamate)	National institute of occupational safety and health (Spain, 1/2024) [compuestos de cobre] TWA 8 hours: 0.01 mg/m ³ (as Cu). Form: Respirable fraction.
2-Butoxyethanol	Work environment authority Regulation 2018:1 (Sweden, 11/2022) Absorbed through skin. TWA 8 hours: 10 ppm. TWA 8 hours: 50 mg/m ³ . STEL 15 minutes: 50 ppm. STEL 15 minutes: 246 mg/m ³ .
copper bis(dimethyldithiocarbamate)	Work environment authority Regulation 2018:1 (Sweden, 11/2022) [copper and inorganic compounds] TWA 8 hours: 0.01 mg/m ³ (as Cu). Form: respirable fraction.
2-Butoxyethanol	SUVA (Switzerland, 1/2025) Absorbed through skin. TWA 8 hours: 10 ppm. TWA 8 hours: 49 mg/m ³ . STEL 15 minutes: 20 ppm. STEL 15 minutes: 98 mg/m ³ .
copper bis(dimethyldithiocarbamate)	SUVA (Switzerland, 1/2025) [Kupfer und seine anorganischen Verbindungen] TWA 8 hours: 0.1 mg/m ³ (As Cu calculated). Form: Inhalable fraction. STEL 15 minutes: 0.2 mg/m ³ (As Cu calculated). Form: Inhalable fraction.
2-Butoxyethanol	EH40/2005 WELs (United Kingdom (UK), 1/2020) Absorbed through skin. STEL 15 minutes: 50 ppm. TWA 8 hours: 25 ppm. STEL 15 minutes: 246 mg/m ³ . TWA 8 hours: 123 mg/m ³ .
copper bis(dimethyldithiocarbamate)	EH40/2005 WELs (United Kingdom (UK), 1/2020) [Copper and compounds] STEL 15 minutes: 2 mg/m ³ (as Cu). Form: Dusts and Mists. TWA 8 hours: 1 mg/m ³ (as Cu). Form: Dusts and Mists.

Biological exposure indices

Product/ingredient name	Exposure indices
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	
No exposure indices known.	

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2-Butoxyethanol

No exposure indices known.

No exposure indices known.

No exposure indices known.

No exposure indices known.

2-Butoxyethanol

2-Butoxyethanol

copper bis(dimethyldithiocarbamate)

No exposure indices known.

No exposure indices known.

No exposure indices known.

2-Butoxyethanol

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.

2-Butoxyethanol

No exposure indices known.

No exposure indices known.

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.

Biological limit values (BLV) - Labour Code / ANSES (France, 4/2023) [2- butoxyéthanol et son acétate]

BLV: 100 mg/g Cr, 2-butoxyacetic acid [in urine]. Sampling time: end of shift (regardless of the day of the week).

DFG BEI-values list (Germany, 7/2024) Notes: danger from percutaneous absorption (see p. 211 and p. 228).

BEI: 150 mg/g creatinine, butoxyacetic acid (after hydrolysis) [in urine]. Sampling time: at the end of the shift, for long-term exposures after several previous shifts.

TRGS 903 - BEI Values (Germany, 10/2024)

BEI: 150 mg/g creatinine, butoxy acetic acid (after hydrolysis) [in urine]. Sampling time: at the end of the shift, for long-term exposure after several previous shifts.

DFG BEI-values list (Germany, 7/2024) [Copper and its inorganic compounds]

BEI: See Section XV.2: For the following substances currently no BAR may be derived, but there is documentation in the "Occupational medicine and toxicology Justifications for BAT values, EKA, BLW, and BAR", copper [in urine]. Sampling time: Sample time not specified.

NAOSH BGVs (Ireland, 1/2011)

BMGV: 200 mg/g creatinine, BAA [in urine]. Sampling time: end of shift - As soon as possible after exposure ceases.

Portuguese Institute of Quality (Portugal, 11/2014)

BEI: 200 mg/g creatinine, butoxyacetic acid (BAA) [in urine]. Sampling time: end of shift.

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, 4/2024) 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, 1/2024) VLB: 200 mg/g creatinine, butoxyacetic acid [in urine]. Sampling time: end of shift.
No exposure indices known.	
2-Butoxyethanol	SUVA (Switzerland, 1/2025) 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), 1/2020) 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

Hexamethylene diacrylate

Result

DNEL - General population - Long term - Dermal

1.66 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Oral

2.1 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Dermal

2.77 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

7.2 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

24.5 mg/m³

Effects: Systemic

Oligotriacrylate

DNEL - Workers - Long term - Dermal

2.1 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

7.4 mg/m³

Effects: Systemic

Propylidynetrimethanol, ethoxylated, esters with acrylic acid

DNEL - Workers - Long term - Dermal

10.5 mg/kg bw/day

Effects: Systemic

SECTION 8: Exposure controls/personal protection

Benzene, (1-methylethenyl)-, homopolymer,
ar-(2-hydroxy-2-methyl-1-oxopropyl) derivs.

DNEL - Workers - Long term - Inhalation

37 mg/m³

Effects: Systemic

DNEL - General population - Long term - Oral

5.28 µg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

5.28 µg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

9.18 µg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

14.8 µg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

52.1 µg/m³

Effects: Systemic

Phosphine oxide, phenylbis
(2,4,6-trimethylbenzoyl)-

DNEL - Workers - Long term - Inhalation

21 mg/m³

Effects: Systemic

DNEL - Workers - Short term - Inhalation

21 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

3.3 mg/kg

Effects: Systemic

DNEL - Workers - Short term - Dermal

3.3 mg/kg

Effects: Systemic

DNEL - General population - Consumers - Long term - Inhalation

5.2 mg/m³

Effects: Systemic

DNEL - General population - Consumers - Long term - Dermal

1.5 mg/kg

Effects: Systemic

DNEL - General population - Consumers - Long term - Oral

1.5 mg/kg

Effects: Systemic

DNEL - General population - Short term - Oral

1.67 ng/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Oral

1.5 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Dermal

1.5 mg/kg bw/day

Effects: Systemic

SECTION 8: Exposure controls/personal protection

DNEL - General population - Short term - Dermal

1.67 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Inhalation

1.93 mg/m³

Effects: Systemic

DNEL - General population - Long term - Inhalation

1.93 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

3 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Short term - Dermal

3.33 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Short term - Inhalation

7.84 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

7.84 mg/m³

Effects: Systemic

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-
2,1-ethanediyl)] diacrylate

DNEL - Workers - Long term - Dermal

1.7 mg/kg bw/day

Effects: Systemic

DNEL - Workers - Long term - Inhalation

2.35 mg/m³

Effects: Systemic

2-Butoxyethanol

DNEL - General population - Long term - Oral

6.3 mg/kg bw/day

Effects: Systemic

DNEL - General population - Short term - Oral

26.7 mg/kg bw/day

Effects: Systemic

DNEL - General population - Long term - Inhalation

59 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Inhalation

98 mg/m³

Effects: Systemic

DNEL - General population - Short term - Inhalation

147 mg/m³

Effects: Local

DNEL - Workers - Short term - Inhalation

246 mg/m³

Effects: Local

DNEL - General population - Short term - Inhalation

426 mg/m³

Effects: Systemic

DNEL - Workers - Short term - Inhalation

1091 mg/m³

SECTION 8: Exposure controls/personal protection

Effects: Systemic

4,4'-Isopropylidenediphenol, oligomeric
reaction products with 1-chloro-
2,3-epoxypropane, esters with acrylic acid

DNEL - Workers - Long term - Inhalation

1.17 mg/m³

Effects: Systemic

DNEL - Workers - Long term - Dermal

33 mg/kg bw/day

Effects: Systemic

PNECs

Not available.

8.2 Exposure controls

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

Individual protection measures

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

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

Skin protection

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

Recommendations : Wear suitable gloves tested to EN374.

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

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

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

Ingredient name	°C	°F	Method
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	>168	>334.4	EU A.2
Propyldynetrimethanol, ethoxylated, esters with acrylic acid	>391	>735.8	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
Phosphine oxide, phenylbis(2,4,6-trimethylbenzoyl)-	>131.4	>268.5	EU A.16
Hexamethylene diacrylate	235	455	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
Hexamethylene diacrylate	0.00045	0.00006	EU A.4			
Oligotriacrylate	0.000024	0.0000032	OECD 104			

Relative density	: Not available.
Density	: 1.2 g/cm³
Vapour density	: Not available.
Particle characteristics	
Median particle size	: Not applicable.

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Explosive properties	: Not available.
Oxidising properties	: Not available.

9.2.2 Other safety characteristics

Not applicable.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : 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

Hexamethylene diacrylate

Result

Rat - Oral - LD50

5 g/kg

Propylidynetrimethanol, ethoxylated, esters with acrylic acid

Rabbit - Dermal - LD50

>13 g/kg

Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-

Rat - Oral - LD50

>2000 mg/kg

OECD [Acute Oral Toxicity]

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate

Rat - Oral - LD50

6200 mg/kg

Toxic effects: Eye - Ptosis Lung, Thorax, or Respiration - Respiratory depression Other - Hair

copper bis(dimethyldithiocarbamate)

Rat - Oral - LD50

>5000 mg/kg

Rabbit - Dermal - LD50

>2000 mg/kg

Rat - Inhalation - LC50 Dusts and mists

0.12 mg/l [4 hours]

Conclusion/Summary [Product] : Not available.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Hexamethylene diacrylate	N/A	N/A	N/A	1671.7	N/A
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	5000	N/A	N/A	N/A	N/A
2-Butoxyethanol	6200	N/A	N/A	N/A	N/A
copper bis(dimethyldithiocarbamate)	1200	N/A	N/A	3	N/A
	N/A	N/A	N/A	N/A	0.12

Skin corrosion/irritation

Product/ingredient name

Result

SECTION 11: Toxicological information

Hexamethylene diacrylate

Rabbit - Skin - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 500 mg

Propylidynetrimethanol, ethoxylated, esters
with acrylic acid

Rabbit - Skin - Moderate irritant

Amount/concentration applied: 500 mg

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-
2,1-ethanediyl)] diacrylate

Rabbit - Skin - Moderate irritant

Amount/concentration applied: 500 mg

2-Butoxyethanol

Rabbit - Skin - Mild irritant

Amount/concentration applied: 500 mg

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name

Propylidynetrimethanol, ethoxylated, esters
with acrylic acid

Result

Rabbit - Eyes - Moderate irritant

Amount/concentration applied: 100 mg

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-
2,1-ethanediyl)] diacrylate

Rabbit - Eyes - Severe irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 uL

2-Butoxyethanol

Rabbit - Eyes - Moderate irritant

Duration of treatment/exposure: 24 hours

Amount/concentration applied: 100 mg

Rabbit - Eyes - Severe irritant

Amount/concentration applied: 100 mg

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Not available.

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name

Phosphine oxide, phenylbis
(2,4,6-trimethylbenzoyl)-

Result

Guinea pig - skin

OECD [Skin Sensitization]

Result: Sensitising

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name

Phosphine oxide, phenylbis
(2,4,6-trimethylbenzoyl)-

Result

Bacteria

Result: Negative

Conclusion/Summary [Product] : Not available.

Carcinogenicity

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Not available.

Conclusion/Summary [Product] : Not available.

Ingredient name

Phosphine oxide, phenylbis
(2,4,6-trimethylbenzoyl)-

Conclusion/Summary

No results available.

Reproductive toxicity

Not available.

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name

(1-methyl-1,2-ethanediyl)bis[oxy(methyl-
2,1-ethanediyl)] diacrylate

Result

STOT SE 3, H335 (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 irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

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

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

Short term exposure

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

Long term exposure

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

Potential chronic health effects

Not available.

Conclusion/Summary [Product] : Not available.

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

SECTION 11: Toxicological information

Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Reproductive toxicity	: No known significant effects or critical hazards.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

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

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name

Hexamethylene diacrylate

Result

NOEC

OECD [Alga, Growth Inhibition Test]
Algae - Algae - *Desmodesmus subspicatus*
0.5 mg/l [72 hours]

EC50

OECD [Alga, Growth Inhibition Test]
Algae - Algae - *Selenastrum capricornutum*
1.09 mg/l [72 hours]

LC50

OECD [Fish, Acute Toxicity Test]
Fish - *Oryzias latipes*
0.38 mg/l [96 hours]

NOEC

OECD [Fish, Early-Life Stage Toxicity Test]
Fish - *Oryzias latipes*
0.072 mg/l [96 hours]

EC50

OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
Daphnia - Daphnia - *Daphnia magna*
2.7 mg/l [48 hours]

NOEC

OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
Daphnia - Daphnia - *Daphnia magna*
0.14 mg/l [21 days]

Phosphine oxide, phenylbis
(2,4,6-trimethylbenzoyl)-

Acute - LC50

OECD [Fish, Acute Toxicity Test]
Fish - *Brachydanio rerio*
>0.09 mg/l [96 hours]

Acute - EC50

Daphnia sp. Acute Immobilization Test and Reproduction Test
Daphnia - *Daphnia magna*
>1.175 mg/l [48 hours]

EC50

Alga, Growth Inhibition Test
Aquatic plants - *Desmodesmus subspicatus*
≥0.26 mg/l [72 hours]

SECTION 12: Ecological information

NOEC - Fresh water

OECD [Daphnia Magna Reproduction Test]

Daphnia - *Daphnia magna*

≥0.008 mg/l [21 days]

2-Butoxyethanol

Acute - LC50 - Marine water

Fish - Inland silverside - *Menidia beryllina*

Size: 40 to 100 mm

1250000 µg/l [96 hours]

Effect: Mortality

Acute - LC50 - Marine water

Crustaceans - Common shrimp, sand shrimp - *Crangon crangon*

800000 µg/l [48 hours]

Effect: Mortality

copper bis(dimethyldithiocarbamate)

Acute - LC50 - Fresh water

Fish - Fathead minnow - *Pimephales promelas*

Size: 38 to 64 mm; Weight: 1 to 2 g

71 µg/l [96 hours]

Effect: Mortality

Conclusion/Summary [Product] :  Not available.

12.2 Persistence and degradability

Not available.

Conclusion/Summary [Product] :  Not available.

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

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
 Hexamethylene diacrylate	2.81	-	Low
Oligotriacrylate	2.52	-	Low
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	2.89	-	Low
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)-	5.77	<5	Low
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	2	-	Low
2-Butoxyethanol	0.81	-	Low
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	1.6 to 3	-	Low

12.4 Mobility in soil

Soil/water partition coefficient

SECTION 12: Ecological information

Product/ingredient name	logKoc	Koc
Hexamethylene diacrylate	2.5	332.947
Phosphine oxide, phenylbis	5	108908
(2,4,6-trimethylbenzoyl)-		
Methylbenzoylformiat	1.6	38.9998
(1-methyl-1,2-ethanediyl)bis[oxy(methyl-	2.9	803.136
2,1-ethanediyl)] diacrylate		
2-Butoxyethanol	1.8	67.3685
copper bis(dimethyldithiocarbamate)	1.8	59.2181

Results of PMT and vPvM assessment

Product/ingredient name	PMT	P	M	T	vPvM	vP	vM
Hexamethylene diacrylate	No	No	No	No	No	No	No
Oligotriacrylate	No	No	No	No	No	No	No
Acrylate resin	No	No	No	No	No	No	No
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	No	No	No	No	No	No	No
Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy- 2-methyl-1-oxopropyl) derivs.	No	No	No	No	No	No	No
Phosphine oxide, phenylbis	No	No	No	No	No	No	No
(2,4,6-trimethylbenzoyl)-							
Methylbenzoylformiat	No	No	No	No	No	No	No
(1-methyl-1,2-ethanediyl)bis	No	No	No	No	No	No	No
[oxy(methyl-2,1-ethanediyl)] diacrylate							
2-Butoxyethanol	No	No	No	No	No	No	No
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-	No	No	No	No	No	No	No
2,3-epoxypropane, esters with acrylic acid							
copper bis	No	No	No	No	No	No	No
(dimethyldithiocarbamate)							

Mobility : Not available.

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

12.5 Results of PBT and vPvB assessment

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

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Hexamethylene diacrylate	No	N/A	N/A	No	N/A	N/A	N/A
Oligotriacrylate	No	N/A	N/A	No	N/A	N/A	N/A
Acrylate resin	No	N/A	N/A	No	N/A	N/A	N/A
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	No	N/A	N/A	No	N/A	N/A	N/A
Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy- 2-methyl-1-oxopropyl) derivs.	N/A	N/A	N/A	Yes	N/A	N/A	N/A
Phosphine oxide, phenylbis	No	N/A	No	Yes	No	N/A	No
(2,4,6-trimethylbenzoyl)-							
Methylbenzoylformiat	No	N/A	N/A	No	N/A	N/A	N/A
(1-methyl-1,2-ethanediyl)bis	No	N/A	N/A	No	N/A	N/A	N/A
[oxy(methyl-2,1-ethanediyl)] diacrylate							
2-Butoxyethanol	No	N/A	N/A	No	N/A	N/A	N/A
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-	No	N/A	N/A	No	N/A	N/A	N/A
2,3-epoxypropane, esters							

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with acrylic acid copper bis (dimethyldithiocarbamate)	No	N/A	N/A	No	N/A	N/A	N/A
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Regulation (EC) No. 1272/2008 [CLP]

Product/ingredient name	PBT	P	B	T	vPvB	vP	vB
Hexamethylene diacrylate	No	No	No	No	No	No	No
Oligotriacrylate	No	No	No	No	No	No	No
Acrylate resin	No	No	No	No	No	No	No
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	No	No	No	No	No	No	No
Benzene, (1-methylethenyl)-, homopolymer, ar-(2-hydroxy- 2-methyl-1-oxopropyl) derivs.	No	No	No	No	No	No	No
Phosphine oxide, phenylbis (2,4,6-trimethylbenzoyl)- Methylbenzoylformiat	No	No	No	No	No	No	No
(1-methyl-1,2-ethanediyl)bis [oxy(methyl-2,1-ethanediyl)] diacrylate	No	No	No	No	No	No	No
2-Butoxyethanol	No	No	No	No	No	No	No
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro- 2,3-epoxypropane, esters with acrylic acid	No	No	No	No	No	No	No
copper bis (dimethyldithiocarbamate)	No	No	No	No	No	No	No

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

12.6 Endocrine disrupting properties

Not available.

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

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : Avoid release to the environment. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Dispose of contents and container in accordance with all local, regional, national and international regulations.

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

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.

SECTION 13: Disposal considerations

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	UN3082	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PAINT)
14.3 Transport hazard class(es)	9  	9  	9  	9  
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.	Yes.

Additional information

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

Tunnel code (-)

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

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

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

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

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

SECTION 15: Regulatory information

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

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

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

SECTION 15: Regulatory information

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 6790-03	≥90	3

Labelling :

Synthetic polymer microparticles - Designation 78

Generic identity of polymer(s) : 3901 - Polymers of ethylene.

Total percentage of synthetic polymer microparticles : 2.5%

The synthetic polymer microparticles supplied is subject to conditions laid down by entry 78 of Annex XVII to Regulation (EC) No 1907/2006 of the European Parliament and of the Council.

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 (EU 2024/590)

Not listed.

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

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
1

National regulations

Austria

Limitation of the use of organic solvents : Permitted.

Belgium

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

Ingredient name	Status
Noirs de charbon	Listed

Czech Republic

Storage code : W

Denmark

Fire class : W-1

Executive Order No. 1795/2015

Ingredient name	Annex I Section A	Annex I Section B
carbon black respirable	Listed	-

SECTION 15: Regulatory information

MAL-code : 00-5

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: 00-5

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. During non-atomising spraying in existing* facilities of the combined-cabin, spray-cabin and spray-booth type where the operator is working inside the spray zone. When 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 all spraying where atomisation occurs in cabins or spray booths where the operator is inside the spray zone and during spraying outside a closed facility, cabin or booth.

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

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

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

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

*See Regulations.

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

List of undesirable substances : Not listed

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

SECTION 15: Regulatory information

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

Finland

France

Social Security Code, Articles L 461-1 to L 461-7 : (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 controlled under the Germany Hazardous Incident Ordinance.

Danger criteria

Category	Reference number
1	1.3.1

Hazard class for water : 2

Technical instruction on air quality control (TA Luft)

Number [Class]	Description	%
5.2.1	Total dust	32
5.2.2 [III]	Dusty inorganic substances	0.028
5.2.5	Organic substances	68
5.2.5 [I]	Organic substances	3.2

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

Norway

Sweden

Epoxy/Isocyanate : The product is covered by the specific rules for certain allergenic chemical products (acrylates, epoxies, diisocyanates, formaldehyde resins and organic acid anhydrides) in provision AFS 2023:10 Chemical Hazards in the Working Environment. Pay attention to that handling the product requires certificate of undergone necessary training and can require medical examination (AFS 2023:15). Waste must be labelled with named substance and as Hazardous waste. This requirement is in addition to the training requirement described in the REACH regulation, Annex XVII, entry 74 (COMMISSION REGULATION (EU) 2020/1149).

Switzerland

VOC content : Exempt.

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.

SECTION 15: Regulatory information

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 Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H361f	Suspected of damaging fertility.
H400	Very toxic to aquatic life.
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. 2	ACUTE TOXICITY - Category 2
Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
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
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
Skin Sens. 1A	SKIN SENSITISATION - Category 1A
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3

Date of issue/ Date of revision

: 02/12/2025

SECTION 16: Other information

Date of previous issue : 23/08/2023

Version : 2

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TS 21388 BLACK

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.

