



ABchimie836UV LED
UV LED curable conformal coating

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** ABchimie836UV LED
UV LED curable conformal coating
- Other means of identification:**
- UFI:** 4D20-R0K9-J00T-PTKS
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Relevant uses (Industrial user): Resin
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Details of the supplier of the safety data sheet:**
ABchimie
1230, route de la porte ZA La Rivoire
38630 CORBELIN - FRANCE
Phone: 04.74.83.12.19 - Fax: 04.74.83.68.62
info@abchimie.com
www.abchimie.com
- 1.4 Emergency telephone number:** 112
ORFILA (INRS) : + 33 (0)1 45 42 59 59 (Francais)

SECTION 2: HAZARDS IDENTIFICATION **

- 2.1 Classification of the substance or mixture:**
CLP Regulation (EC) No 1272/2008:
Classification of this product has been carried out in accordance with CLP Regulation (EC) No 1272/2008.
Aquatic Acute 1: Hazardous to the aquatic environment, acute hazard, Category 1, H400
Aquatic Chronic 1: Hazardous to the aquatic environment, long-term hazard, Category 1, H410
Carc. 2: Carcinogenicity, Category 2, H351
Eye Irrit. 2: Eye irritation, Category 2, H319
Skin Irrit. 2: Skin irritation, Category 2, H315
Skin Sens. 1A: Sensitisation, skin, Category 1A, H317
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335
- 2.2 Label elements:**
CLP Regulation (EC) No 1272/2008:
Warning

Hazard statements:
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.
Carc. 2: H351 - Suspected of causing cancer.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
STOT SE 3: H335 - May cause respiratory irritation.
Precautionary statements:
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing.
P308+P313: IF exposed or concerned: Get medical advice/attention.
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
P363: Wash contaminated clothing before reuse.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P501: Dispose of contents/ container in accordance with local/regional/national/international regulation.
Supplementary information:
EUH204: Contains isocyanates. May produce an allergic reaction.
Contains Oligomer Urethane Acrylate, (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate, Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine, 2,2-bis(acryloyloxymethyl)butyl acrylate, Trimethoxyvinylsilane, 2-hydroxyethyl acrylate.

** Changes with regards to the previous version

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SECTION 2: HAZARDS IDENTIFICATION ** (continued)

Substances that contribute to the classification

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate; Dodecyl acrylate; Tetradecyl acrylate; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Additional Labelling:

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

UFI: 4D20-R0K9-J00T-PTKS

2.3 Other hazards:

Product does not meet PBT/vPvB criteria

Endocrine-disrupting properties: The product does not meet the criteria.

*** Changes with regards to the previous version*

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS **

3.1 Substance:

Not relevant

3.2 Mixture:

Chemical description: Mixture composed of additives and acrylic oligomers

Components:

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification		Concentration
CAS: 2179291-84-8 EC: Not relevant Index: Not relevant REACH: Not relevant	Oligomer Urethane Acrylate⁽¹⁾ Self-classified		25 - <50%
	Regulation 1272/2008	Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning 	
CAS: 5888-33-5 EC: 227-561-6 Index: 607-756-00-6 REACH: 01-2119957862-25-XXXX	Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate⁽¹⁾ Self-classified		25 - <50%
	Regulation 1272/2008	Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Skin Sens. 1A: H317 - Warning  	
CAS: 42594-17-2 EC: 255-901-3 Index: Not relevant REACH: 01-2120051112-76-XXXX	(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate⁽¹⁾ Self-classified		10 - <25%
	Regulation 1272/2008	Aquatic Chronic 2: H411; Skin Sens. 1B: H317 - Warning  	
CAS: 2156-97-0 EC: 218-463-4 Index: 607-133-00-9 REACH: 01-2119976296-23-XXXX	Dodecyl acrylate⁽¹⁾ ATP CLP00		10 - <25%
	Regulation 1272/2008	Aquatic Chronic 2: H411; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning  	
CAS: 21643-42-5 EC: 244-491-1 Index: Not relevant REACH: 01-2119976297-21-XXXX	Tetradecyl acrylate⁽¹⁾ Self-classified		2.5 - <10%
	Regulation 1272/2008	Aquatic Chronic 2: H411; Eye Irrit. 2: H319; Skin Irrit. 2: H315; STOT SE 3: H335 - Warning  	
CAS: Not relevant EC: 946-043-7 Index: Not relevant REACH: 01-2120786563-43-XXXX	Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine⁽¹⁾ Self-classified		2.5 - <10%
	Regulation 1272/2008	Aquatic Chronic 3: H412; Skin Irrit. 2: H315; Skin Sens. 1B: H317 - Warning 	
CAS: 162881-26-7 EC: 423-340-5 Index: 015-189-00-5 REACH: 01-2119489401-38-XXXX	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide⁽¹⁾ ATP ATP14		1 - <2.5%
	Regulation 1272/2008	Aquatic Chronic 4: H413; Skin Sens. 1A: H317 - Warning 	
CAS: 15625-89-5 EC: 239-701-3 Index: 607-111-00-9 REACH: 01-2119489896-11-XXXX	2,2-bis(acryloyloxymethyl)butyl acrylate⁽¹⁾ ATP ATP18		1 - <2.5%
	Regulation 1272/2008	Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Carc. 2: H351; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317 - Warning   	
CAS: 2768-02-7 EC: 220-449-8 Index: Not relevant REACH: 01-2119513215-52-XXXX	Trimethoxyvinylsilane⁽¹⁾ Self-classified		0.1 - <1%
	Regulation 1272/2008	Acute Tox. 4: H332; Flam. Liq. 3: H226; Skin Sens. 1B: H317 - Warning  	

⁽¹⁾ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

⁽²⁾ Substance with a Union workplace exposure limit

*** Changes with regards to the previous version*

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SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS ** (continued)

Identification	Chemical name/Classification		Concentration
CAS: 28182-81-2 EC: 931-274-8 Index: Not relevant REACH: 01-2119485796-17-XXXX	Hexamethylene diisocyanate, oligomers ⁽¹⁾ Self-classified		0.1 - <1%
	Regulation 1272/2008	Acute Tox. 4: H332; Skin Sens. 1: H317; STOT SE 3: H335 - Warning 	
CAS: 128-37-0 EC: 204-881-4 Index: Not relevant REACH: 01-2119555270-46-XXXX	2,6-di-tert-butyl-p-cresol ⁽¹⁾ Self-classified		0.1 - <1%
	Regulation 1272/2008	Aquatic Acute 1: H400; Aquatic Chronic 1: H410 - Warning 	
CAS: 818-61-1 EC: 212-454-9 Index: 607-072-00-8 REACH: 01-2119459345-34-XXXX	2-hydroxyethyl acrylate ⁽¹⁾ ATP CLP00		<0.1%
	Regulation 1272/2008	Acute Tox. 3: H311; Aquatic Acute 1: H400; Skin Corr. 1B: H314; Skin Sens. 1: H317 - Danger    	
CAS: 79-10-7 EC: 201-177-9 Index: 607-061-00-8 REACH: 01-2119452449-31-XXXX	acrylic acid ⁽²⁾ ATP CLP00		<0.1%
	Regulation 1272/2008	Acute Tox. 4: H302+H312+H332; Aquatic Acute 1: H400; Flam. Liq. 3: H226; Skin Corr. 1A: H314; STOT SE 3: H335 - Danger    	

⁽¹⁾ Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

⁽²⁾ Substance with a Union workplace exposure limit

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Other information:

Identification	M-factor	
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	Acute	1
	Chronic	1

Identification	Specific concentration limit
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	% (w/w) >=10: STOT SE 3 - H335
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	% (w/w) >=10: STOT SE 3 - H335
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	% (w/w) >=0,2: Skin Sens. 1 - H317
acrylic acid CAS: 79-10-7 EC: 201-177-9	% (w/w) >=1: STOT SE 3 - H335

** Changes with regards to the previous version

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures:

The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort, showing the SDS of this product.

By inhalation:

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact:

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact:

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration:

Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. Keep the person affected at rest. Rinse out the mouth and throat, as they may have been affected during ingestion.

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SECTION 4: FIRST AID MEASURES (continued)

- 4.2 Most important symptoms and effects, both acute and delayed:**
Acute and delayed effects are indicated in sections 2 and 11.
- 4.3 Indication of any immediate medical attention and special treatment needed:**
Not relevant

SECTION 5: FIREFIGHTING MEASURES

- 5.1 Extinguishing media:**
Suitable extinguishing media:
Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.
Unsuitable extinguishing media:
Non-applicable
- 5.2 Special hazards arising from the substance or mixture:**
As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.
- 5.3 Advice for firefighters:**
Depending on the magnitude of the fire it may be necessary to use full protective clothing and Self Contained Breathing Apparatus. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...)
Additional provisions:
Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures:**
For non-emergency personnel:
Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.
For emergency responders:
Wear protective equipment. Keep unprotected persons away. See section 8.
- 6.2 Environmental precautions:**
Avoid at all cost any type of spillage into an aqueous medium. Contain the product absorbed appropriately in hermetically sealed containers. Notify the relevant authority in case of exposure to the general public or the environment.
- 6.3 Methods and material for containment and cleaning up:**
It is recommended:
Prevent the entrance of product in drains, sewers or watercourses. Absorb the spill using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. Collect the product in appropriate containers and manage it according to current legislation.
Spillages in water or sea:
Small spillages:
Contain spillage using barriers or similar equipment. Use suitable absorbents for collection and treat the waste in accordance with current regulations.
Large spillages:
If possible, contain spillage in open water using barriers or similar equipment. If this is not possible, try to control its spread and collect the product with suitable mechanical means. Always consult experts before using dispersants and make sure you have the necessary approvals if they are to be used. Treat the waste according to current regulations.
- 6.4 Reference to other sections:**
See sections 8 and 13.

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SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling:

A.- General precautions for safe use

Comply with the current legislation concerning the prevention of industrial risks. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Avoid the evaporation of the product as it contains flammable substances, which could form flammable vapour/air mixtures in the presence of sources of ignition. Control sources of ignition (mobile phones, sparks,...) and transfer at slow speeds to avoid the creation of electrostatic charges. Consult section 10 for conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

Due to the danger of this product for the environment it is recommended to use it within an area containing contamination control barriers in case of spillage, as well as having absorbent material in close proximity.

7.2 Conditions for safe storage, including any incompatibilities:

A.- Specific storage requirements

Minimum Temp.: 5 °C

Maximum Temp.: 30 °C

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

7.3 Specific end use(s):

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

Directive (EU) 2000/39, Directive 2004/37/EC, Directive (EU) 2006/15, Directive (EU) 2009/161, Directive (EU) 2017/164, Directive (EU) 2019/1831:

Identification		Occupational exposure limits		
acrylic acid CAS: 79-10-7 EC: 201-177-9		IOELV (8h)	10 ppm	29 mg/m ³
		IOELV (STEL)	20 ppm	59 mg/m ³

DNEL (Workers):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate CAS: 5888-33-5 EC: 227-561-6	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	1,39 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	4,9 mg/m ³	Not relevant
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	138,9 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	97,9 mg/m ³	Not relevant
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	138,9 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	97,9 mg/m ³	Not relevant
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	3 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	21 mg/m ³	Not relevant
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	83 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	3,5 mg/m ³	Not relevant

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	3,9 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	27,6 mg/m³	Not relevant
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	1 mg/m³	Not relevant	0,5 mg/m³
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	0,5 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	3,5 mg/m³	Not relevant
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	2,4 mg/m³
acrylic acid CAS: 79-10-7 EC: 201-177-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	30 mg/m³	30 mg/m³	30 mg/m³	30 mg/m³

DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate CAS: 5888-33-5 EC: 227-561-6	Oral	Not relevant	Not relevant	0,83 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	0,83 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	1,45 mg/m³	Not relevant
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	Oral	Not relevant	Not relevant	1,5 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	1,5 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	5,2 mg/m³	Not relevant
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	Oral	Not relevant	Not relevant	0,5 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	42 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,87 mg/m³	Not relevant
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	Oral	Not relevant	Not relevant	0,3 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	7,8 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	18,9 mg/m³	Not relevant
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	0,25 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	0,86 mg/m³	Not relevant
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	Not relevant	Not relevant	Not relevant	1,2 mg/m³
acrylic acid CAS: 79-10-7 EC: 201-177-9	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	Not relevant	Not relevant
	Inhalation	3,6 mg/m³	3,6 mg/m³	3,6 mg/m³	3,6 mg/m³

PNEC:

Identification					
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate CAS: 5888-33-5 EC: 227-561-6	STP	2 mg/L	Fresh water	0,001 mg/L	
	Soil	0,029 mg/kg	Marine water	0 mg/L	
	Intermittent	0,007 mg/L	Sediment (Fresh water)	0,145 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	0,015 mg/kg	
(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate CAS: 42594-17-2 EC: 255-901-3	STP	10 mg/L	Fresh water	0,0016 mg/L	
	Soil	0,131 mg/kg	Marine water	0,00016 mg/L	
	Intermittent	0,016 mg/L	Sediment (Fresh water)	0,658 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	0,066 mg/kg	

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Identification				
Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine CAS: Not relevant EC: 946-043-7	STP	62,5 mg/L	Fresh water	0,003 mg/L
	Soil	0,003 mg/kg	Marine water	0 mg/L
	Intermittent	0,03 mg/L	Sediment (Fresh water)	0,017 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,002 mg/kg
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	STP	1 mg/L	Fresh water	0,001 mg/L
	Soil	20 mg/kg	Marine water	0,001 mg/L
	Intermittent	0,001 mg/L	Sediment (Fresh water)	0,712 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,712 mg/kg
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	STP	6,25 mg/L	Fresh water	0,00087 mg/L
	Soil	0,003 mg/kg	Marine water	0,000087 mg/L
	Intermittent	0,0087 mg/L	Sediment (Fresh water)	0,017 mg/kg
	Oral	0,01 g/kg	Sediment (Marine water)	0,002 mg/kg
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	STP	88 mg/L	Fresh water	0,127 mg/L
	Soil	53183 mg/kg	Marine water	0,013 mg/L
	Intermittent	1,27 mg/L	Sediment (Fresh water)	266701 mg/kg
	Oral	Not relevant	Sediment (Marine water)	26670 mg/kg
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	STP	0,17 mg/L	Fresh water	0,000199 mg/L
	Soil	0,04769 mg/kg	Marine water	0,00002 mg/L
	Intermittent	0,00199 mg/L	Sediment (Fresh water)	0,0996 mg/kg
	Oral	0,00833 g/kg	Sediment (Marine water)	0,00996 mg/kg
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	STP	10 mg/L	Fresh water	0,017 mg/L
	Soil	0,003 mg/kg	Marine water	0,002 mg/L
	Intermittent	0,036 mg/L	Sediment (Fresh water)	0,064 mg/kg
	Oral	Not relevant	Sediment (Marine water)	0,006 mg/kg
acrylic acid CAS: 79-10-7 EC: 201-177-9	STP	0,9 mg/L	Fresh water	0,003 mg/L
	Soil	1 mg/kg	Marine water	0 mg/L
	Intermittent	0,001 mg/L	Sediment (Fresh water)	0,024 mg/kg
	Oral	0,03 g/kg	Sediment (Marine water)	0,002 mg/kg

8.2 Exposure controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.

B.- Respiratory protection

If the working conditions and/or safety measures adopted do not allow keeping the airborne concentration of the product below the exposure limits (if any) or at acceptable levels (if no exposure limits exist), suitable respiratory protection equipment chosen by a qualified professional should be used.

C.- Specific protection for the hands

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves		EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

D.- Eye and face protection

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Panoramic glasses against splash/projections.		EN 166:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

E.- Body protection

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks		EN 13034:2005+A1:2009 UNE-EN ISO 18526-1 al 4:2020 EN ISO 13982-1:2005/A1:2011 EN ISO 6529:2013 EN ISO 6530:2005 EN 464:1995	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk		EN ISO 20345:2022 EN 13832-1:2019	Replace boots at any sign of deterioration.

F.- Additional emergency measures

It is advised to implement additional emergency equipments in workplaces that are particularly exposed to the product or in situations where risk assessments highlight the necessity of such equipments.

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls:

To comply with environmental protection regulations, it is recommended to prevent any spillage of the product and its container. For more detailed information, please refer to subsection 7.1.D.

Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	1,84 % weight
V.O.C. density at 20 °C:	18,32 kg/m ³ (18,32 g/L)
Average carbon number:	14,27
Average molecular weight:	235,6 g/mol

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid
Appearance:	Semitransparent
Colour:	Light yellow
Odour:	Not relevant *
Odour threshold:	Not relevant *

Volatility:

Boiling point at atmospheric pressure:	237 °C
Vapour pressure at 20 °C:	87 Pa
Vapour pressure at 50 °C:	489,63 Pa (0,49 kPa)
Evaporation rate at 20 °C:	Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

Product description:

Density at 20 °C:	995,8 kg/m ³
Relative density at 20 °C:	1,03
Dynamic viscosity at 20 °C:	Not relevant *
Kinematic viscosity at 20 °C:	40 - 80 mm ² /s
Kinematic viscosity at 40 °C:	Not relevant *
Concentration:	Not relevant *
pH:	Not relevant *
Vapour density at 20 °C:	Not relevant *
Partition coefficient n-octanol/water 20 °C:	Not relevant *
Solubility in water at 20 °C:	Not relevant *
Solubility properties:	Not relevant *
Decomposition temperature:	Not relevant *
Melting point/freezing point:	Not relevant *

Flammability:

Flash Point:	Non Flammable (>60 °C)
Flammability (solid, gas):	Not relevant *
Autoignition temperature:	180 °C
Lower flammability limit:	Not relevant *
Upper flammability limit:	Not relevant *

Particle characteristics:

Median equivalent diameter:	Not relevant *
-----------------------------	----------------

9.2 Other information:

Information with regard to physical hazard classes:

Explosive properties:	Not relevant *
Oxidising properties:	Not relevant *
Corrosive to metals:	Not relevant *
Heat of combustion:	Not relevant *
Aerosols-total percentage (by mass) of flammable components:	Not relevant *

Other safety characteristics:

Surface tension at 20 °C:	Not relevant *
Refraction index:	Not relevant *

*Not relevant due to the nature of the product, not providing information property of its hazards.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

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SECTION 10: STABILITY AND REACTIVITY (continued)

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Precaution	Avoid direct impact	Not applicable

10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Avoid direct impact	Not applicable	Avoid alkalis or strong bases

10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO₂), carbon monoxide and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION **

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

The experimental information related to the toxicological properties of the product itself is not available

Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure:

A- Ingestion (acute effect):

- Acute toxicity: Based on available data, the classification criteria are not met, however, it contains substances classified as dangerous for consumption. For more information see section 3.
- Corrosivity/Irritability: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.

B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met. However, it contains substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Produces skin inflammation.
- Contact with the eyes: Causes serious eye irritation.

D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Exposure to this product can cause cancer. For more specific information on the possible health effects see section 2. IARC: 2,2-bis(acryloyloxymethyl)butyl acrylate (2B); 2,6-di-tert-butyl-p-cresol (3); acrylic acid (3); 2,6-di-tert-butyl-p-cresol (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Prolonged contact with the skin can result in episodes of allergic contact dermatitis.

F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Other information:

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SECTION 11: TOXICOLOGICAL INFORMATION ** (continued)

Not relevant

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	LD50 oral	5570 mg/kg	Rat
	LD50 dermal	>5000 mg/kg	Rat
	LC50 inhalation vapour		
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	LD50 oral	>5000 mg/kg	Rat
	LD50 dermal	5170 mg/kg	Rabbit
	LC50 inhalation vapour		
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	LD50 oral		
	LD50 dermal	3870 mg/kg	Rabbit
	LC50 inhalation vapour		
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	LD50 oral	5100 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation vapour		
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	LD50 oral	10000 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation dust		
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	LD50 oral		
	LD50 dermal	300 mg/kg	Rabbit
	LC50 inhalation vapour		
acrylic acid CAS: 79-10-7 EC: 201-177-9	LD50 oral	357 mg/kg	Rat
	LD50 dermal		
	LC50 inhalation vapour		

11.2 Information on other hazards:

Endocrine disrupting properties

Endocrine-disrupting properties: The product does not meet the criteria.

Other information

Not relevant

** Changes with regards to the previous version

SECTION 12: ECOLOGICAL INFORMATION **

The experimental information related to the eco-toxicological properties of the product itself is not available

Very toxic to aquatic life with long lasting effects.

12.1 Toxicity:

Acute toxicity:

Identification	Concentration		Species	Genus
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate CAS: 5888-33-5 EC: 227-561-6	LC50	>0.1 - 1 mg/L (96 h)		Fish
	EC50	>0.1 - 1 mg/L (48 h)		Crustacean
	EC50	>0.1 - 1 mg/L (72 h)		Algae
(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate CAS: 42594-17-2 EC: 255-901-3	LC50	1,65 mg/L (96 h)	Danio rerio	Fish
	EC50	2,4 mg/L (48 h)	N/A	Crustacean
	EC50	1,2 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	LC50	2,1 mg/L (96 h)	QSAR	Fish
	EC50	Not relevant		
	EC50	Not relevant		
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	LC50	>1 - 10 mg/L (96 h)		Fish
	EC50	>1 - 10 mg/L (48 h)		Crustacean
	EC50	>1 - 10 mg/L (72 h)		Algae

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SECTION 12: ECOLOGICAL INFORMATION ** (continued)

Identification	Concentration		Species	Genus
Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine	LC50	Not relevant		
CAS: Not relevant	EC50	>27 mg/L (48 h)	Daphnia magna	Crustacean
EC: 946-043-7	EC50	12 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae
2,2-bis(acryloyloxymethyl)butyl acrylate	LC50	>0.1 - 1 mg/L (96 h)		Fish
CAS: 15625-89-5	EC50	>0.1 - 1 mg/L (48 h)		Crustacean
EC: 239-701-3	EC50	>0.1 - 1 mg/L (72 h)		Algae
Hexamethylene diisocyanate, oligomers	LC50	Not relevant		
CAS: 28182-81-2	EC50	Not relevant		
EC: 931-274-8	EC50	1000 mg/L (72 h)	Scenedesmus subspicatus	Algae
2,6-di-tert-butyl-p-cresol	LC50	0,57 mg/L (96 h)	Brachydanio rerio	Fish
CAS: 128-37-0	EC50	0,61 mg/L (48 h)	Daphnia magna	Crustacean
EC: 204-881-4	EC50	Not relevant		
2-hydroxyethyl acrylate	LC50	4,7 mg/L (96 h)	Pimephales promelas	Fish
CAS: 818-61-1	EC50	0,78 mg/L (48 h)	Daphnia magna	Crustacean
EC: 212-454-9	EC50	Not relevant		
acrylic acid	LC50	27 mg/L (96 h)	Oncorhynchus mykiss	Fish
CAS: 79-10-7	EC50	95 mg/L (48 h)	Daphnia magna	Crustacean
EC: 201-177-9	EC50	0,13 mg/L (72 h)	Desmodesmus subspicatus	Algae

Chronic toxicity:

Identification	Concentration		Species	Genus
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	NOEC	Not relevant		
CAS: 5888-33-5 EC: 227-561-6	NOEC	0,092 mg/L	Daphnia magna	Crustacean
Dodecyl acrylate	NOEC	0,001 mg/L	Danio rerio	Fish
CAS: 2156-97-0 EC: 218-463-4	NOEC	0,00025 mg/L	Daphnia magna	Crustacean
Tetradecyl acrylate	NOEC	0,001 mg/L	Danio rerio	Fish
CAS: 21643-42-5 EC: 244-491-1	NOEC	0,00025 mg/L	Daphnia magna	Crustacean
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	NOEC	Not relevant		
CAS: 162881-26-7 EC: 423-340-5	NOEC	0,0081 mg/L	Daphnia magna	Crustacean
2,6-di-tert-butyl-p-cresol	NOEC	0,053 mg/L	Oryzias latipes	Fish
CAS: 128-37-0 EC: 204-881-4	NOEC	0,069 mg/L	Daphnia magna	Crustacean
2-hydroxyethyl acrylate	NOEC	Not relevant		
CAS: 818-61-1 EC: 212-454-9	NOEC	1,8 mg/L	Daphnia magna	Crustacean

12.2 Persistence and degradability:

Substance-specific information:

Identification	Degradability		Biodegradability	
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	15 days
	BOD5/COD	Not relevant	% Biodegradable	75 %
Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine CAS: Not relevant EC: 946-043-7	BOD5	Not relevant	Concentration	19 mg/L
	COD	Not relevant	Period	29 days
	BOD5/COD	Not relevant	% Biodegradable	69 %
2,2-bis(acryloyloxymethyl)butyl acrylate CAS: 15625-89-5 EC: 239-701-3	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	28 %
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	BOD5	Not relevant	Concentration	104 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	51 %
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	BOD5	Not relevant	Concentration	50 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	4,5 %

** Changes with regards to the previous version

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SECTION 12: ECOLOGICAL INFORMATION ** (continued)

Identification	Degradability		Biodegradability	
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	BOD5	Not relevant	Concentration	100 mg/L
	COD	Not relevant	Period	28 days
	BOD5/COD	Not relevant	% Biodegradable	78 %
acrylic acid CAS: 79-10-7 EC: 201-177-9	BOD5	315 g O ₂ /g	Concentration	3 mg/L
	COD	1480 g O ₂ /g	Period	28 days
	BOD5/COD	0,21	% Biodegradable	88 %

12.3 Bioaccumulative potential:

Substance-specific information:

Identification	Bioaccumulation potential	
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	BCF	60000
	Pow Log	
	Potential	Very High
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	BCF	70
	Pow Log	7.22
	Potential	Moderate
Reaction mass of trimethylolpropane triacrylate and hexamethyleneimine CAS: Not relevant EC: 946-043-7	BCF	
	Pow Log	4.3
	Potential	
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	BCF	
	Pow Log	-0.82
	Potential	
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	BCF	1365
	Pow Log	5.1
	Potential	Very High
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	BCF	0.41
	Pow Log	-0.21
	Potential	Low
acrylic acid CAS: 79-10-7 EC: 201-177-9	BCF	3
	Pow Log	0.46
	Potential	Low

12.4 Mobility in soil:

Identification	Absorption/desorption		Volatility	
Tetradecyl acrylate CAS: 21643-42-5 EC: 244-491-1	Koc	14290	Henry	373 Pa·m ³ /mol
	Conclusion	Immobile	Dry soil	Yes
	Surface tension	Not relevant	Moist soil	Yes
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	Koc	0.95	Henry	4,61E-1 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Yes
	Surface tension	Not relevant	Moist soil	Yes
2,6-di-tert-butyl-p-cresol CAS: 128-37-0 EC: 204-881-4	Koc	8183	Henry	3,42E-1 Pa·m ³ /mol
	Conclusion	Immobile	Dry soil	Yes
	Surface tension	1,255E-2 N/m (258,85 °C)	Moist soil	Yes
2-hydroxyethyl acrylate CAS: 818-61-1 EC: 212-454-9	Koc	Not relevant	Henry	Not relevant
	Conclusion	Not relevant	Dry soil	Not relevant
	Surface tension	2,487E-2 N/m (25 °C)	Moist soil	Not relevant
acrylic acid CAS: 79-10-7 EC: 201-177-9	Koc	42.8	Henry	2,9E-2 Pa·m ³ /mol
	Conclusion	Very High	Dry soil	Not relevant
	Surface tension	2,85E-2 N/m (25 °C)	Moist soil	Not relevant

12.5 Results of PBT and vPvB assessment:

Product does not meet PBT/vPvB criteria

12.6 Endocrine disrupting properties:

** Changes with regards to the previous version

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SECTION 12: ECOLOGICAL INFORMATION ** (continued)

Endocrine-disrupting properties: The product does not meet the criteria.

12.7 Other adverse effects:

Not described

**** Changes with regards to the previous version**

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
08 01 11* 15 01 10*	waste paint and varnish containing organic solvents or other hazardous substances packaging containing residues of or contaminated by hazardous substances	Hazardous

Type of waste (Regulation (EU) No 1357/2014):

HP14 Ecotoxic, HP7 Carcinogenic, HP13 Sensitising, HP4 Irritant — skin irritation and eye damage

Waste management (disposal and evaluation):

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management:

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

SECTION 14: TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2025 and RID 2025:



- | | |
|--|--|
| 14.1 UN number or ID number: | UN3082 |
| 14.2 UN proper shipping name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate) |
| 14.3 Transport hazard class(es): | 9 |
| Labels: | 9 |
| 14.4 Packing group: | III |
| 14.5 Environmental hazards: | Yes |
| 14.6 Special precautions for user | |
| Special regulations: | 274, 335, 375, 601, 650 |
| Tunnel restriction code: | - |
| Physico-Chemical properties: | see section 9 |
| Limited quantities: | 5 L |
| 14.7 Maritime transport in bulk according to IMO instruments: | Not relevant |

Transport of dangerous goods by sea:

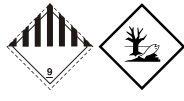
With regard to IMDG 42-24:

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SECTION 14: TRANSPORT INFORMATION (continued)

	14.1 UN number or ID number:	UN3082
	14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
	14.3 Transport hazard class(es):	9
	Labels:	9
	14.4 Packing group:	III
	14.5 Marine pollutant:	Yes
	14.6 Special precautions for user	
	Special regulations:	335, 969, 274
	EmS Codes:	F-A, S-F
	Physico-Chemical properties:	see section 9
	Limited quantities:	5 L
	Segregation group:	Not relevant
	14.7 Maritime transport in bulk according to IMO instruments:	Not relevant
	Transport of dangerous goods by air:	
	With regard to IATA/ICAO 2025:	
	14.1 UN number or ID number:	UN3082
	14.2 UN proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate)
	14.3 Transport hazard class(es):	9
	Labels:	9
	14.4 Packing group:	III
	14.5 Environmental hazards:	Yes
	14.6 Special precautions for user	
	Physico-Chemical properties:	see section 9
	14.7 Maritime transport in bulk according to IMO instruments:	Not relevant

SECTION 15: REGULATORY INFORMATION **

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

- Article 95, REGULATION (EU) No 528/2012: Not relevant
- Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Not relevant
- Regulation (EU) 2019/1021 on persistent organic pollutants: Not relevant
- Regulation (EU) No 2024/590, about substances that deplete the ozone layer: Not relevant
- REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Not relevant
- Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Not relevant

Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc):

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

Contains more than 0.1 % of diisocyanates by weight. 1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).

2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:

(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or (b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".

3. For the purpose of this entry "industrial and professional user(s)" means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.

4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management

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SECTION 15: REGULATORY INFORMATION ** (continued)

measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:

- (a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).
- (b) the training elements in points (a) and (b) of paragraph 5 for the following uses:
 - handling open mixtures at ambient temperature (including foam tunnels)
 - spraying in a ventilated booth
 - application by roller
 - application by brush
 - application by dipping and pouring
 - mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore
 - cleaning and waste
 - any other uses with similar exposure through the dermal and/or inhalation route
- (c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
 - handling incompletely cured articles (e.g. freshly cured, still warm)
 - foundry applications
 - maintenance and repair that needs access to equipment
 - open handling of warm or hot formulations (> 45 °C)
 - spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers)
 - and any other uses with similar exposure through the dermal and/or inhalation route.

5. Training elements:

- (a) general training, including on-line training, on:
 - chemistry of diisocyanates
 - toxicity hazards (including acute toxicity)
 - exposure to diisocyanates
 - occupational exposure limit values
 - how sensitisation can develop
 - odour as indication of hazard
 - importance of volatility for risk
 - viscosity, temperature, and molecular weight of diisocyanates
 - personal hygiene
 - personal protective equipment needed, including practical instructions for its correct use and its limitations
 - risk of dermal contact and inhalation exposure
 - risk in relation to application process used
 - skin and inhalation protection scheme
 - ventilation
 - cleaning, leakages, maintenance
 - discarding empty packaging
 - protection of bystanders
 - identification of critical handling stages
 - specific national code systems (if applicable)
 - behaviour-based safety
 - certification or documented proof that training has been successfully completed
- (b) intermediate level training, including on-line training, on:
 - additional behaviour-based aspects
 - maintenance
 - management of change
 - evaluation of existing safety instructions
 - risk in relation to application process used
 - certification or documented proof that training has been successfully completed
- (c) advanced training, including on-line training, on:
 - any additional certification needed for the specific uses covered
 - spraying outside a spraying booth
 - open handling of hot or warm formulations (> 45 °C)
 - certification or documented proof that training has been successfully completed

6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.

7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.

8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.

9. Member States shall include in their reports pursuant to Article 117(1) the following information:

- (a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law

** Changes with regards to the previous version

- CONTINUED ON NEXT PAGE -



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SECTION 15: REGULATORY INFORMATION ** (continued)

- (b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates
 - (c) national exposure limits for diisocyanates, if there are any
 - (d) information about enforcement activities related to this restriction.
10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.
- Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

Other legislation:

The product could be affected by sectorial legislation

15.2 Chemical safety assessment:

The supplier has not carried out evaluation of chemical safety.

*** Changes with regards to the previous version*

SECTION 16: OTHER INFORMATION **

Legislation related to safety data sheets:

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.:

COMPOSITION/INFORMATION ON INGREDIENTS (SECTION 3, SECTION 11, SECTION 12):

· New declared substances

2,2-bis(acryloyloxymethyl)butyl acrylate (15625-89-5)

Substances that contribute to the classification (SECTION 2):

· New declared substances

(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate (42594-17-2)

· Removed substances

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)

CLP Regulation (EC) No 1272/2008 (SECTION 2, SECTION 16):

· Pictograms

· Hazard statements

· Substances contained in EUH208:

· New declared substances

2,2-bis(acryloyloxymethyl)butyl acrylate (15625-89-5)

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide (162881-26-7)

· Removed substances

(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate (42594-17-2)

REGULATORY INFORMATION (SECTION 15):

· Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc)

Texts of the legislative phrases mentioned in section 2:

H400: Very toxic to aquatic life.

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

H317: May cause an allergic skin reaction.

H315: Causes skin irritation.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer.

H319: Causes serious eye irritation.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

CLP Regulation (EC) No 1272/2008:

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SECTION 16: OTHER INFORMATION ** (continued)

Acute Tox. 3: H311 - Toxic in contact with skin.
Acute Tox. 4: H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled.
Acute Tox. 4: H332 - Harmful if inhaled.
Aquatic Acute 1: H400 - Very toxic to aquatic life.
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.
Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.
Aquatic Chronic 3: H412 - Harmful to aquatic life with long lasting effects.
Aquatic Chronic 4: H413 - May cause long lasting harmful effects to aquatic life.
Carc. 2: H351 - Suspected of causing cancer.
Eye Irrit. 2: H319 - Causes serious eye irritation.
Flam. Liq. 3: H226 - Flammable liquid and vapour.
Skin Corr. 1A: H314 - Causes severe skin burns and eye damage.
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.
Skin Irrit. 2: H315 - Causes skin irritation.
Skin Sens. 1: H317 - May cause an allergic skin reaction.
Skin Sens. 1A: H317 - May cause an allergic skin reaction.
Skin Sens. 1B: H317 - May cause an allergic skin reaction.
STOT SE 3: H335 - May cause respiratory irritation.

Classification procedure:

Aquatic Acute 1: Calculation method
Aquatic Chronic 1: Calculation method
Skin Sens. 1A: Calculation method
Skin Irrit. 2: Calculation method
STOT SE 3: Calculation method
Carc. 2: Calculation method
Eye Irrit. 2: Calculation method

Advice related to training:

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

Principal bibliographical sources:

<http://echa.europa.eu>
<http://eur-lex.europa.eu>

Abbreviations and acronyms:

ADR: European agreement concerning the international carriage of dangerous goods by road
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organisation
COD: Chemical Oxygen Demand
BOD5: 5day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
LC50: Lethal Concentration 50
EC50: Effective concentration 50
LogPOW: Octanolwater partition coefficient
Koc: Partition coefficient of organic carbon
UFI: unique formula identifier
IARC: International Agency for Research on Cancer

**** Changes with regards to the previous version**

The information contained in this safety data sheet is based on sources, technical knowledge and current legislation at European and state level, without being able to guarantee its accuracy. This information cannot be considered a guarantee of the properties of the product, it is simply a description of the security requirements. The occupational methodology and conditions for users of this product are not within our awareness or control, and it is ultimately the responsibility of the user to take the necessary measures to obtain the legal requirements concerning the manipulation, storage, use and disposal of chemical products. The information on this safety data sheet only refers to this product, which should not be used for needs other than those specified.

- END OF SAFETY DATA SHEET -