




**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

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

- 1.1 Product identifier:** ABchimie836UV LED Blue  
Blue UV LED conformal coating
- Other means of identification:**  
Non-applicable
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**  
Relevant uses: 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:**

**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  
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 Acute 1: H400 - Very toxic to aquatic life.  
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.  
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.  
P333+P313: If skin irritation or rash occurs: Get medical advice/attention.  
P363: Wash contaminated clothing before reuse.  
P391: Collect spillage.  
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 (octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate, Oligomer Urethane Acrylate, Trimethoxyvinylsilane.
- Substances that contribute to the classification**  
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate; Dodecyl acrylate; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide; Hexamethylene diisocyanate, oligomers
- Additional Labelling:**

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 2: HAZARDS IDENTIFICATION (continued)**

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

**2.3 Other hazards:**

Product fails to meet PBT/vPvB criteria  
Endocrine-disrupting properties: The product fails to meet the criteria.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substance:**
















Non-applicable

**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: Non-applicable Index: Non-applicable REACH: Non-applicable	<b>Oligomer Urethane Acrylate<sup>(1)</sup></b> 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	<b>Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate<sup>(1)</sup></b> Self-classified	25 - <50 %
	Regulation 1272/2008 Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Eye Irrit. 2: H319; Skin Irrit. 2: H315; Skin Sens. 1: H317; STOT SE 3: H335 - Warning  	
CAS: 42594-17-2 EC: 255-901-3 Index: Non-applicable REACH: 01-2120051112-76-XXXX	<b>(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate<sup>(1)</sup></b> 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	<b>Dodecyl acrylate<sup>(1)</sup></b> 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: 162881-26-7 EC: 423-340-5 Index: 015-189-00-5 REACH: 01-2119489401-38-XXXX	<b>phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide<sup>(1)</sup></b> ATP ATP14	1 - <2,5 %
	Regulation 1272/2008 Aquatic Chronic 4: H413; Skin Sens. 1A: H317 - Warning 	
CAS: 28182-81-2 EC: 931-274-8 Index: Non-applicable REACH: 01-2119485796-17-XXXX	<b>Hexamethylene diisocyanate, oligomers<sup>(1)</sup></b> Self-classified	1 - <2,5 %
	Regulation 1272/2008 Acute Tox. 4: H332; Skin Sens. 1: H317; STOT SE 3: H335 - Warning 	
CAS: 2768-02-7 EC: 220-449-8 Index: 014-049-00-0 REACH: 01-2119513215-52-XXXX	<b>Trimethoxyvinylsilane<sup>(1)</sup></b> ATP ATP15	0,1 - <1 %
	Regulation 1272/2008 Flam. Liq. 3: H226; Skin Sens. 1B: H317 - Warning  	
CAS: 79-10-7 EC: 201-177-9 Index: 607-061-00-8 REACH: 01-2119452449-31-XXXX	<b>acrylic acid<sup>(2)</sup></b> 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 - Danger    	

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

<sup>(2)</sup> 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	Specific concentration limit
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	% (w/w) >=10: STOT SE 3 - H335
acrylic acid CAS: 79-10-7 EC: 201-177-9	% (w/w) >=1: STOT SE 3 - H335

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

- CONTINUED ON NEXT PAGE -


**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**
**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)**

Identification	Acute toxicity		Genus
	LD50 oral	Non-applicable	
Hexamethylene diisocyanate, oligomers	LD50 oral	Non-applicable	
CAS: 28182-81-2	LD50 dermal	Non-applicable	
EC: 931-274-8	LC50 inhalation	11 mg/L (ATEi)	

**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.

**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:**

Non-applicable

**SECTION 5: FIREFIGHTING MEASURES**
**5.1 Extinguishing media:**
**Suitable extinguishing media:**

Product is non-flammable under normal conditions of storage, manipulation and use, but the product contains flammable substances. In the case of inflammation as a result of improper manipulation, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

**Unsuitable extinguishing media:**

IT IS RECOMMENDED NOT to use full jet water as an extinguishing agent.

**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 (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

**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**

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**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 6: ACCIDENTAL RELEASE MEASURES (continued)**

**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:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**6.4 Reference to other sections:**

See sections 8 and 13.

**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.- Technical measures for storage

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):

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**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**
**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

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
IOELV (STEL)		20 ppm	59 mg/m <sup>3</sup>

**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	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	1,39 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	4,9 mg/m <sup>3</sup>	Non-applicable
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	138,9 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	97,9 mg/m <sup>3</sup>	Non-applicable
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	3 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	21 mg/m <sup>3</sup>	Non-applicable
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	Non-applicable	1 mg/m <sup>3</sup>	Non-applicable	0,5 mg/m <sup>3</sup>
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	3,9 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	27,6 mg/m <sup>3</sup>	Non-applicable
acrylic acid CAS: 79-10-7 EC: 201-177-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>	30 mg/m <sup>3</sup>

**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	Non-applicable	Non-applicable	0,83 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	0,83 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	1,45 mg/m <sup>3</sup>	Non-applicable
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	Oral	Non-applicable	Non-applicable	1,5 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	1,5 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	5,2 mg/m <sup>3</sup>	Non-applicable
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	Oral	Non-applicable	Non-applicable	0,3 mg/kg	Non-applicable
	Dermal	Non-applicable	Non-applicable	7,8 mg/kg	Non-applicable
	Inhalation	Non-applicable	Non-applicable	18,9 mg/m <sup>3</sup>	Non-applicable
acrylic acid CAS: 79-10-7 EC: 201-177-9	Oral	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Dermal	Non-applicable	Non-applicable	Non-applicable	Non-applicable
	Inhalation	3,6 mg/m <sup>3</sup>	3,6 mg/m <sup>3</sup>	3,6 mg/m <sup>3</sup>	3,6 mg/m <sup>3</sup>

**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	Non-applicable	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	Non-applicable	Sediment (Marine water)	0,066 mg/kg

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

Identification				
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	Non-applicable	Sediment (Marine water)	0,712 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	Non-applicable	Sediment (Marine water)	26670 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**



The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.

**C.- Specific protection for the hands**



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Protective gloves against minor risks			Replace gloves in case of any sign of damage. For prolonged periods of exposure to the product for professional users/industrials, we recommend using CE III gloves in line with standards EN 420:2004+A1:2010 and EN ISO 374-1:2016+A1:2018

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**

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
	Work clothing			Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 6529:2013, EN ISO 6530:2005, EN ISO 13688:2013, EN 464:1994.
	Anti-slip work shoes		EN ISO 20347:2012	Replace before any evidence of deterioration. For periods of prolonged exposure to the product for professional/industrial users CE III is recommended, in accordance with the regulations in EN ISO 20345:2012 y EN 13832-1:2007

**F.- Additional emergency measures**

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

- CONTINUED ON NEXT PAGE -


**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**
**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**
**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**Volatile organic compounds:**

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

V.O.C. (Supply):	1,83 % weight
V.O.C. density at 25 °C:	18,62 kg/m <sup>3</sup> (18,62 g/L)
Average carbon number:	7
Average molecular weight:	148,19 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:	 Blue
Odour:	Not available
Odour threshold:	Non-applicable *

**Volatility:**

Boiling point at atmospheric pressure:	267 °C
Vapour pressure at 25 °C:	29 Pa
Vapour pressure at 50 °C:	151,1 Pa (0,15 kPa)
Evaporation rate at 25 °C:	Non-applicable *

**Product description:**

Density at 25 °C:	1015,3 kg/m <sup>3</sup>
Relative density at 25 °C:	1,03
Dynamic viscosity at 25 °C:	Non-applicable *
Kinematic viscosity at 25 °C:	55 - 85 mm <sup>2</sup> /s
Kinematic viscosity at 40 °C:	Non-applicable *
Concentration:	Non-applicable *
pH:	Non-applicable *
Vapour density at 25 °C:	Non-applicable *
Partition coefficient n-octanol/water 25 °C:	Non-applicable *
Solubility in water at 25 °C:	Non-applicable *
Solubility properties:	Non-applicable *
Decomposition temperature:	Non-applicable *
Melting point/freezing point:	Non-applicable *

**Flammability:**

Flash Point:	Non Flammable (>60 °C)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	180 °C
Lower flammability limit:	Non-applicable *
Upper flammability limit:	Non-applicable *

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

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)**

**Particle characteristics:**

Median equivalent diameter: Non-applicable

**9.2 Other information:**

**Information with regard to physical hazard classes:**

Explosive properties: Non-applicable \*

Oxidising properties: Non-applicable \*

Corrosive to metals: Non-applicable \*

Heat of combustion: Non-applicable \*

Aerosols-total percentage (by mass) of flammable components: Non-applicable \*

**Other safety characteristics:**

Surface tension at 25 °C: Non-applicable \*

Refraction index: Non-applicable \*

\*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.

**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:

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 (CO<sub>2</sub>), 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):

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.

- CONTINUED ON NEXT PAGE -





**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

- Acute toxicity : Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.
- Corrosivity/Irritability:
- C- Contact with the skin and the eyes (acute effect):
  - Contact with the skin: Produces skin inflammation.
  - Contact with the eyes: Produces eye damage after contact.
- D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):
  - Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: 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:**

Non-applicable

**Specific toxicology information on the substances:**

Identification	Acute toxicity		Genus
	LD50 oral	LD50 dermal	
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	LD50 oral	5100 mg/kg	Rat
	LD50 dermal	Non-applicable	
	LC50 inhalation	11 mg/L (ATEi)	
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	LD50 oral	7236 mg/kg	Rat
	LD50 dermal	3880 mg/kg	Rabbit
	LC50 inhalation	Non-applicable	
acrylic acid CAS: 79-10-7 EC: 201-177-9	LD50 oral	500 mg/kg	Rat
	LD50 dermal	1100 mg/kg	Rat
	LC50 inhalation	11 mg/L (4 h)	Rat

**11.2 Information on other hazards:**

**Endocrine disrupting properties**

Endocrine-disrupting properties: The product fails to meet the criteria.

**Other information**

Non-applicable

**SECTION 12: ECOLOGICAL INFORMATION**

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

**12.1 Toxicity:**

**Acute toxicity:**

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**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**
**SECTION 12: ECOLOGICAL INFORMATION (continued)**

Identification	Concentration		Species	Genus
	LC50	EC50		
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	Non-applicable		
	EC50	Non-applicable		
Hexamethylene diisocyanate, oligomers CAS: 28182-81-2 EC: 931-274-8	LC50	Non-applicable		
	EC50	Non-applicable		
	EC50	1000 mg/L (72 h)	Scenedesmus subspicatus	Algae
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	LC50	191 mg/L (96 h)	Oncorhynchus mykiss	Fish
	EC50	167 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	957 mg/L (72 h)	N/A	Algae
acrylic acid CAS: 79-10-7 EC: 201-177-9	LC50	27 mg/L (96 h)	Salmo gairdneri	Fish
	EC50	54 mg/L (24 h)	Daphnia magna	Crustacean
	EC50	0,13 mg/L (72 h)	Scenedesmus subspicatus	Algae

**Chronic toxicity:**

Identification	Concentration		Species	Genus
	NOEC	Concentration		
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate CAS: 5888-33-5 EC: 227-561-6	NOEC	Non-applicable		
	NOEC	0,092 mg/L	Daphnia magna	Crustacean
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	NOEC	0,001 mg/L	Danio rerio	Fish
	NOEC	0,00025 mg/L	Daphnia magna	Crustacean
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide CAS: 162881-26-7 EC: 423-340-5	NOEC	Non-applicable		
	NOEC	0,0081 mg/L	Daphnia magna	Crustacean
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	NOEC	Non-applicable		
	NOEC	28,1 mg/L	Daphnia magna	Crustacean
acrylic acid CAS: 79-10-7 EC: 201-177-9	NOEC	Non-applicable		
	NOEC	19 mg/L	Daphnia magna	Crustacean

**12.2 Persistence and degradability:**
**Substance-specific information:**

Identification	Degradability		Biodegradability	
	BOD5	Non-applicable	Concentration	104 mg/L
Trimethoxyvinylsilane CAS: 2768-02-7 EC: 220-449-8	COD	Non-applicable	Period	28 days
	BOD5/COD	Non-applicable	% Biodegradable	51 %
	acrylic acid CAS: 79-10-7 EC: 201-177-9	BOD5	0,29 g O2/g	Concentration
COD		1,41 g O2/g	Period	14 days
BOD5/COD		0,21	% Biodegradable	67,8 %

**12.3 Bioaccumulative potential:**
**Substance-specific information:**

Identification	Bioaccumulation potential	
	BCF	60000
Dodecyl acrylate CAS: 2156-97-0 EC: 218-463-4	Pow Log	
	Potential	Very High
	acrylic acid CAS: 79-10-7 EC: 201-177-9	BCF
Pow Log		0.35
Potential		Low

**12.4 Mobility in soil:**

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 12: ECOLOGICAL INFORMATION (continued)**

Identification	Absorption/desorption		Volatility	
	acrylic acid	Koc	Non-applicable	Henry
CAS: 79-10-7	Conclusion	Non-applicable	Dry soil	Non-applicable
EC: 201-177-9	Surface tension	2,85E-2 N/m (25 °C)	Moist soil	Non-applicable

**12.5 Results of PBT and vPvB assessment:**

Product fails to meet PBT/vPvB criteria

**12.6 Endocrine disrupting properties:**

Endocrine-disrupting properties: The product fails to meet the criteria.

**12.7 Other adverse effects:**

Not described

**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	Dangerous

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

HP14 Ecotoxic, HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity, 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-dangerous 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 2021 and RID 2021:



- 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  
Tunnel restriction code: -  
Physico-Chemical properties: see section 9  
Limited quantities: 5 L
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

**Transport of dangerous goods by sea:**

With regard to IMDG 40-20:

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**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**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: Non-applicable  
**14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

**Transport of dangerous goods by air:**

With regard to IATA/ICAO 2023:



- 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:** Non-applicable

**SECTION 15: REGULATORY INFORMATION**

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

Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable

Article 95, REGULATION (EU) No 528/2012: Non-applicable

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable

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

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 15: REGULATORY INFORMATION (continued)**

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 Octamethylcyclotetrasiloxane, Decamethylcyclopentasiloxane. 1. | Shall not be placed on the market in wash-off cosmetic products in a concentration equal to or greater than 0,1 % by weight of either substance, after 31 January 2020. | 2. | For the purposes of this entry, “wash-off cosmetic products” means cosmetic products as defined in Article 2(1)(a) of Regulation (EC) No 1223/2009 that, under normal conditions of use, are washed off with water after application.

Contains more than 0.1 % of Hexamethylene diisocyanate, oligomers 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 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

- CONTINUED ON NEXT PAGE -



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 15: REGULATORY INFORMATION (continued)**

(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
- (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.

**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.:**

Non-applicable

**Texts of the legislative phrases mentioned in section 2:**

- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H335: May cause respiratory irritation.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- 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:**



**ABchimie836UV LED Blue**  
**Blue UV LED conformal coating**

**SECTION 16: OTHER INFORMATION (continued)**

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 4: H413 - May cause long lasting harmful effects to aquatic life.

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 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:**

Skin Irrit. 2: Calculation method

Skin Sens. 1A: Calculation method

STOT SE 3: Calculation method

Aquatic Acute 1: Calculation method

Aquatic Chronic 1: 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

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 -