

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



UNIPAK UV 282 004 TC SILVER

Version	Revision Date:	SDS Number:	Print Date: 06.12.2023
7.1	05.12.2023	102000029562	Date of first issue: 30.05.2018

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

1.1 Product identifier

Trade name : UNIPAK UV 282 004 TC SILVER

Product code : 023882U20

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

Use of the Substance/Mixture : Colorant; Printing ink related material; Printing ink, Colouring agents, dyes

1.3 Details of the supplier of the safety data sheet

Company : ECKART GmbH
Guentersthal 4
91235 Hartenstein

Telephone : +499152770

Telefax : +499152777008

E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number

NCEC: +44 1235 239670 (Europe)
Call and response in your language is possible.
Contract no.: ECKART29003-NCEC.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Skin irritation, Category 2	H315: Causes skin irritation.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361d: Suspected of damaging the unborn child.
Long-term (chronic) aquatic hazard, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)


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Hazard pictograms	:																	
Signal word	:	Danger																
Hazard statements	:	<table><tr><td>H315</td><td>Causes skin irritation.</td></tr><tr><td>H317</td><td>May cause an allergic skin reaction.</td></tr><tr><td>H318</td><td>Causes serious eye damage.</td></tr><tr><td>H361d</td><td>Suspected of damaging the unborn child.</td></tr><tr><td>H411</td><td>Toxic to aquatic life with long lasting effects.</td></tr></table>	H315	Causes skin irritation.	H317	May cause an allergic skin reaction.	H318	Causes serious eye damage.	H361d	Suspected of damaging the unborn child.	H411	Toxic to aquatic life with long lasting effects.						
H315	Causes skin irritation.																	
H317	May cause an allergic skin reaction.																	
H318	Causes serious eye damage.																	
H361d	Suspected of damaging the unborn child.																	
H411	Toxic to aquatic life with long lasting effects.																	
Precautionary statements	:	<table><tr><td>Prevention:</td><td></td></tr><tr><td>P201</td><td>Obtain special instructions before use.</td></tr><tr><td>P261</td><td>Avoid breathing mist or vapours.</td></tr><tr><td>P273</td><td>Avoid release to the environment.</td></tr><tr><td>P280</td><td>Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.</td></tr><tr><td>Response:</td><td></td></tr><tr><td>P305 + P351 + P338 + P310</td><td>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.</td></tr><tr><td>P391</td><td>Collect spillage.</td></tr></table>	Prevention:		P201	Obtain special instructions before use.	P261	Avoid breathing mist or vapours.	P273	Avoid release to the environment.	P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.	Response:		P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.	P391	Collect spillage.
Prevention:																		
P201	Obtain special instructions before use.																	
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Response:																		
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.																	
P391	Collect spillage.																	

Hazardous components which must be listed on the label:

Propylidynetrimethanol, ethoxylated, esters with acrylic acid
oxybis(methyl-2,1-ethanediyl) diacrylate
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate
Poly(oxy-1,2-ethanediyl),a,a'-[(1-methylethylidene)di-4,1-phenylene]bis[w_hydroxy-, polymer with 1,3-diisocyanatomethylbenzene, 2-propenoate (ester) 3,5,5-trimethylhexanoate (ester) 4,4'-Isopropylidenediphenol, ethoxylated, esters with acrylic acid and isononanoic acid
Glycerol, propoxylated, esters with acrylic acid
dodecylphosphonic acid
Bisphenol A epoxy acrylate

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

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Chemical name	CAS-No. EC-No. Index-No. Registration number	ClassificationREGUL ATION (EC) No 1272/2008	Concentration (% w/w)
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	28961-43-5 500-066-5	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 50 - <= 100
oxybis(methyl-2,1-ethanediyl) diacrylate	57472-68-1 260-754-3	Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317	>= 10 - < 20
aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1 01-2119529243-45	Flam. Sol. 1; H228	>= 10 - < 20
1-isopropyl-2,2- dimethyltrimethylene diisobutyrate	6846-50-0 229-934-9	Repr. 2; H361d Aquatic Chronic 3; H412	>= 3 - < 10
Poly(oxy-1,2-ethanediyl),a,a'-[(1- methylethylidene)di-4,1- phenylene]bis[w_hydroxy-, polymer with 1,3- diisocyanatomethylbenzene, 2- propenoate (ester) 3,5,5-trimethylhexanoate (ester)	2146146-71-4	Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 2.5 - < 10
4,4'-Isopropylidenediphenol, ethoxylated, esters with acrylic acid and isononanoic acid	Not Assigned 919-846-5	Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 2.5 - < 10
2-hydroxy-1-(4-(4-(2-hydroxy-2- methylpropionyl)benzyl)phenyl)-2- methylpropan-1-one	474510-57-1 444-860-9 606-140-00-4	STOT RE 2; H373 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 1 - < 2.5
Glycerol, propoxylated, esters with acrylic acid	52408-84-1 500-114-5	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 1 - < 10
dodecylphosphonic acid	5137-70-2 225-897-8	Skin Corr. 1B; H314 Eye Dam. 1; H318	>= 1 - < 2.5

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		STOT RE 2; H373 (Kidney) Aquatic Chronic 3; H412	
Bisphenol A epoxy acrylate	55818-57-0 500-130-2	Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 0.25 - < 1$
2,6-di-tert-butyl-p-cresol	128-37-0 204-881-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	$\geq 0.1 - < 0.25$

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- General advice : Move the victim to fresh air.
Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
- If inhaled : If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Wash off immediately with soap and plenty of water.
If skin irritation persists, call a physician.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.

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Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of damaging the unborn child.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Dry sand
ABC powder
Foam

Unsuitable extinguishing media : High volume water jet
Carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Use personal protective equipment.

6.2 Environmental precautions

General advice : The product should not be allowed to enter drains, water

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courses or the soil.
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Use mechanical handling equipment.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Do not flush with water.
Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Earthing of containers and apparatuses is essential. Reaction with water liberates extremely flammable gas (hydrogen) Take measures to prevent the build up of electrostatic charge. Use explosion-proof equipment. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Keep container closed when not in use.

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Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : Protect from humidity and water.

Advice on common storage : Do not store near acids.
Do not store together with oxidizing and self-igniting products.
Never allow product to get in contact with water during storage.
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
aluminium powder (stabilised)	7429-90-5	TWA (Inhalable)	10 mg/m ³	GB EH40
		TWA (Respirable fraction)	4 mg/m ³	GB EH40
		TWA (inhalable dust)	10 mg/m ³	GB EH40
Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m-3 8-hour TWA of inhalable dust or 4 mg.m-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore				

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	available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
		TWA (Respirable dust)	4 mg/m ³	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	TWA (Respirable dust)	1 mg/m ³	GB EH40
	Further information: For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/4 General methods for sampling and gravimetric analysis or respirable, thoracic and inhalable aerosols., Talc is defined as the mineral talc together with other hydrous phyllosilicates including chlorite and carbonate materials which occur with it, but excluding amphibole asbestos and crystalline silica., The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m ⁻³ 8-hour TWA of inhalable dust or 4 mg.m ⁻³ 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed to dust above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limits., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system, and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the			

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	nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/4., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			
2,6-di-tert-butyl-p-cresol	128-37-0	TWA	10 mg/m3	GB EH40
	Further information: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure limit should be used.			

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Workers	Inhalation	Long-term systemic effects	16.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.9 mg/m3
	Consumers	Skin contact	Long-term systemic effects	0.48 mg/kg
	Consumers	Oral	Long-term systemic effects	1.39 mg/kg
oxybis(methyl-2,1-ethanediyl) diacrylate	Workers	Skin contact	Long-term systemic effects	2.77 mg/kg
	Workers	Inhalation	Long-term systemic effects	24.48 mg/m3
	Consumers	Ingestion	Long-term systemic effects	2.08 mg/kg
	Consumers	Skin contact	Long-term systemic effects	1.66 mg/kg
	Consumers	Inhalation	Long-term systemic effects	7.24 mg/m3
aluminium powder (stabilised)	Workers	Inhalation	Long-term systemic effects	3.72 mg/m3
	Workers	Inhalation	Long-term local effects	3.72 mg/m3
	Consumers	Oral	Long-term systemic effects	3.95 mg/kg
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	Workers	Skin contact	Long-term systemic effects	5.00 mg/kg
	Workers	Inhalation	Long-term systemic effects	17.62 mg/m3
	Consumers	Ingestion	Long-term systemic effects	5.00 mg/kg
	Consumers	Skin contact	Long-term systemic effects	5.00 mg/kg

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	Consumers	Inhalation	Long-term systemic effects	4.35 mg/m3
Talc (Mg3H2(SiO3)4)	Workers	Inhalation	Long-term systemic effects	2.16 mg/m3
	Workers	Inhalation	Long-term local effects	3.6 mg/m3
	Workers	Skin contact	Long-term systemic effects	43.2 mg/kg
Glycerol, propoxylated, esters with acrylic acid	Workers	Inhalation	Long-term systemic effects	16.22 mg/m3
	Workers	Dermal	Long-term systemic effects	1.92 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.87 mg/m3
	Consumers	Dermal	Long-term systemic effects	1.15 mg/kg
	Consumers	Oral	Long-term systemic effects	1.39 mg/kg
Bisphenol A epoxy acrylate	Workers	Inhalation	Long-term systemic effects	1.17 mg/m3
	Workers	Dermal	Long-term systemic effects	33 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.29 mg/m3
	Consumers	Dermal	Long-term systemic effects	16.67 mg/kg
	Consumers	Oral	Long-term systemic effects	0.17 mg/kg
2,6-di-tert-butyl-p-cresol	Workers	Inhalation	Long-term systemic effects	0.78 mg/m3
	Workers	Dermal	Long-term systemic effects	0.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.435 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.25 mg/kg
	Consumers	Oral	Long-term systemic effects	0.25 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Soil	0.00644 mg/kg
	Fresh water	0.00195 mg/l
	Fresh water sediment	0.038 mg/kg
	STP	10 mg/l
	Marine water	0.000195 mg/l
	Marine sediment	0.0038 mg/kg
	Intermittent Release	0.00195 mg/l

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	Intermittent water release	0.0195 mg/l
oxybis(methyl-2,1-ethanediyl) diacrylate	Soil	0.0013 mg/kg
	Fresh water	0.0034 mg/l
	Fresh water sediment	0.00884 mg/kg
	Marine water	0.00034 mg/l
	STP	100 mg/l
aluminium powder (stabilised)	Fresh water	0.0749 mg/l
	clarification plant	20 mg/l
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	Fresh water	0.014 mg/l
	Marine water	0.0014 mg/l
	Fresh water sediment	5.29 mg/kg
	Soil	1.05 mg/kg
	STP	3 mg/l
	Marine sediment	0.529 mg/kg
	oral (secondary poisoning)	83.3 mg/kg
Talc ($Mg_3H_2(SiO_3)_4$)	Fresh water	598 mg/l
	Marine water	141.3 mg/l
	Fresh water sediment	31.33 mg/kg
	Marine sediment	3.13 mg/kg
Glycerol, propoxylated, esters with acrylic acid	Fresh water	0.0057 mg/l
	Marine water	0.00057 mg/l
	Fresh water sediment	0.0168 mg/kg
	Marine sediment	0.00168 mg/kg
	STP	10 mg/l
	Soil	0.0011 mg/kg
Bisphenol A epoxy acrylate	Fresh water	0.025 mg/l
	Marine water	0.003 mg/l
	Intermittent Release	1 mg/l
	Fresh water sediment	8.96 mg/kg
	Marine sediment	0.896 mg/kg
	STP	10 mg/l
	Soil	1.78 mg/kg
2,6-di-tert-butyl-p-cresol	Fresh water	0.199 µg/l
	Marine water	0.02 µg/l
	STP	0.017 mg/l
	Fresh water sediment	0.0996 mg/kg
	Marine sediment	0.00996 mg/kg
	Soil	0.054 mg/kg
	Secondary Poisoning	8.33 mg/kg
	oral (secondary poisoning)	16.67 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Goggles
Wear face-shield and protective suit for abnormal processing problems.

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Hand protection	
Material	: Solvent-resistant gloves (butyl-rubber)
Remarks	: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection	: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respiratory protection	: Use suitable breathing protection if workplace concentration requires.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	: liquid
Colour	: silver
Odour	: characteristic
Odour Threshold	: No data available
Melting point/range	: Not applicable
Boiling point/boiling range	: > 100 °C
Flammability	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Flash point	: > 100 °C

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Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	substance/mixture is non-soluble (in water)
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Vapor Pressure for Components:		
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	:	0.0032 Pa (20 °C)
oxybis(methyl-2,1-ethanediyl) diacrylate	:	0.00085 hPa (20 °C)
1-isopropyl-2,2-dimethyltrimethylene diisobutyrate	:	1.5 Pa (25 °C)
Glycerol, propoxylated, esters with acrylic acid	:	0.0032 Pa (20 °C) Method: OECD Test Guideline 104
Relative density	:	No data available
Density	:	1.1 g/cm ³
Relative vapour density	:	No data available
Particle characteristics		
Particle Size Distribution	:	No data available

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Contact with acids and alkalis may release hydrogen.
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Stable under recommended storage conditions.

10.4 Conditions to avoid

Conditions to avoid : Do not allow evaporation to dryness.

No data available

10.5 Incompatible materials

Materials to avoid : Acids
Bases
Oxidizing agents

10.6 Hazardous decomposition products

This information is not available.

SECTION 11: Toxicological information

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

Acute toxicity

Not classified based on available information.

Components:

oxybis(methyl-2,1-ethanediyl) diacrylate:

Acute oral toxicity : LD50 (Rat): 3,530 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : (Rat): 0.41 mg/l
Exposure time: 7 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration.

Acute dermal toxicity : (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

aluminium powder (stabilised):

Acute inhalation toxicity : LC50 (Rat): > 5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:

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Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402

2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

2,6-di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

oxybis(methyl-2,1-ethanediyl) diacrylate:

Result : Skin irritation

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:

Species : Rabbit
Exposure time : 4 h
Method : OECD Test Guideline 404
Result : No skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Remarks : May cause irreversible eye damage.

Components:

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:

Result : Irritating to eyes.

oxybis(methyl-2,1-ethanediyl) diacrylate:

Result : Irreversible effects on the eye

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1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:

Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Glycerol, propoxylated, esters with acrylic acid:

Result	:	Eye irritation
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Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Product:

Remarks	:	Causes sensitisation. May cause sensitisation of susceptible persons by skin contact.
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Components:

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:

Result	:	May cause sensitisation by skin contact.
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Remarks	:	Causes sensitisation. May cause sensitisation of susceptible persons by skin contact.
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oxybis(methyl-2,1-ethanediyl) diacrylate:

Result	:	May cause sensitisation by skin contact.
--------	---	--

Poly(oxy-1,2-ethanediyl),a,a'-[(1-methylethylidene)di-4,1-phenylene]bis[w_hydroxy-, polymer with 1,3-

diisocyanatomethylbenzene, 2-propenoate

(ester) 3,5,5-trimethylhexanoate (ester)

:

Result	:	Probability or evidence of low to moderate skin sensitisation rate in humans
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Glycerol, propoxylated, esters with acrylic acid:

Result	:	May cause sensitisation by skin contact.
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Bisphenol A epoxy acrylate:

Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging the unborn child.

Components:

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:

Reproductive toxicity - : Some evidence of adverse effects on development, based on
Assessment animal experiments.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Components:

2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one:

Assessment : The substance or mixture is classified as specific target organ
toxicant, repeated exposure, category 2.

dodecylphosphonic acid:

Target Organs : Kidney
Assessment : The substance or mixture is classified as specific target organ
toxicant, repeated exposure, category 2.

Aspiration toxicity

Not classified based on available information.

11.2 Information on other hazards

Further information

Product:

Remarks : No data available

Components:

dodecylphosphonic acid:

Remarks : No data available

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SECTION 12: Ecological information

12.1 Toxicity

Components:

1-isopropyl-2,2-dimethyltrimethylene diisobutyrate:

Toxicity to daphnia and other : (Daphnia (water flea)): 2.46 mg/l
aquatic invertebrates

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Poly(oxy-1,2-ethanediyl),a,a'-[(1-methylethylidene)di-4,1-phenylene]bis[w_hydroxy-, polymer with 1,3-

diisocyanatomethylbenzene, 2-propenoate

(ester) 3,5,5-trimethylhexanoate (ester)

:

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one:

M-Factor (Short-term (acute) : 1
aquatic hazard)

M-Factor (Long-term : 1
(chronic) aquatic hazard)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

dodecylphosphonic acid:

Ecotoxicology Assessment

Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Bisphenol A epoxy acrylate:

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

2,6-di-tert-butyl-p-cresol:

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M-Factor (Short-term (acute) : 1
aquatic hazard)

M-Factor (Long-term : 1
(chronic) aquatic hazard)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Components:

Poly(oxy-1,2-ethanediyl),a,a'-[(1-methylethylidene)di-4,1-phenylene]bis[w_hydroxy-, polymer with 1,3-

diisocyanatomethylbenzene, 2-propenoate

(ester) 3,5,5-trimethylhexanoate (ester)

:

Partition coefficient: n- : Pow: 1.49 - 4.74
octanol/water Method: OECD Test Guideline 117

Glycerol, propoxylated, esters with acrylic acid:

Partition coefficient: n- : log Pow: 2.52 (23 °C)
octanol/water Method: OECD Test Guideline 107

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

Product:

Additional ecological : An environmental hazard cannot be excluded in the event of
information unprofessional handling or disposal.

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Harmful to aquatic life with long lasting effects.

Components:

Glycerol, propoxylated, esters with acrylic acid:

Additional ecological information : No data available

dodecylphosphonic acid:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

European Waste Catalogue : 08 01 11 - waste paint and varnish containing organic solvents or other dangerous substances

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
In accordance with local and national regulations.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number or ID number

ADR : UN 3082

IMDG : UN 3082

IATA : UN 3082

14.2 UN proper shipping name

ADR : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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IATA : N.O.S.
(2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one)
: Environmentally hazardous substance, liquid, n.o.s.
(2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	: 9	
IMDG	: 9	
IATA	: 9	

14.4 Packing group

ADR
Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

IMDG
Packing group : III
Labels : 9
EmS Code : F-A, S-F

IATA (Cargo)
Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : 9

IATA (Passenger)
Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : 9

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user

Remarks : For single packagings <=5L / 5 kg, or combination packagings containing inner packagings <= 5L / 5 kg net per

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inner packaging, SV375 ADR, 2.10.2.7 IMDG-Code, A197
IATA-DGR may be applied.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	: Conditions of restriction for the following entries should be considered: Number on list 3 Propylidynetrimethanol, ethoxylated, esters with acrylic acid (Number on list 3) oxybis(methyl-2,1-ethanediyl) diacrylate (Number on list 3) aluminium powder (stabilised) (Number on list 40) 1-isopropyl-2,2-dimethyltrimethylene diisobutyrate (Number on list 3) Poly(oxy-1,2-ethanediyl),a,a'-[(1-methylethylidene)di-4,1-phenylene]bis[w_hydroxy-, polymer with 1,3-diisocyanatomethylbenzene, 2-propenoate (ester) 3,5,5-trimethylhexanoate (ester) (Number on list 3) Glycerol, propoxylated, esters with acrylic acid (Number on list 3) Bisphenol A epoxy acrylate (Number on list 3)
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	: Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	: Not applicable
Regulation (EC) No 1005/2009 on substances that	: Not applicable

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deplete the ozone layer

UK REACH List of substances subject to authorisation : Not applicable
(Annex XIV)

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements

H228	: Flammable solid.
H314	: Causes severe skin burns and eye damage.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H361d	: Suspected of damaging the unborn child.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Flam. Sol.	: Flammable solids
Repr.	: Reproductive toxicity
Skin Corr.	: Skin corrosion
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and

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Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:

Skin Irrit. 2	H315
Eye Dam. 1	H318
Skin Sens. 1	H317
Repr. 2	H361d
Aquatic Chronic 2	H411

Classification procedure:

Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN