SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

ROTOSTAR UV/LED 164 614 soft scratch silver

Version	Revision Date:	SDS Number:	Print Date: 16.04.2024
10.0	30.01.2024	102000031535	Date of first issue: 27.05.2019

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

1.1 Product identifier

Trade name : ROTOSTAR UV/LED 164 614 soft scratch silver

Product code : 024893U20

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 Suisse SA
Route de la Brasserie 2
1963 Vétroz

Telephone : +410273454800

Telefax : +410273454859

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.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
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)

Hazard pictograms :

Signal word : Warning

Hazard statements	:		
		H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H319	Causes serious eye irritation.
		H411	Toxic to aquatic life with long lasting effects.
Precautionary statements	:	**Prevention:**	
		P261	Avoid breathing mist or vapours.
		P264	Wash skin thoroughly after handling.
		P273	Avoid release to the environment.
		P280	Wear protective gloves/ eye protection/ face protection.
		Response:	
		P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
		P391	Collect spillage.

Hazardous components which must be listed on the label:
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)
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate
4,4'-Isopropylidenediphenol, ethoxylated, esters with acrylic acid and isononanoic acid
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide
Glycerol, propoxylated, esters with acrylic acid
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate
2-methyl-m-phenylene diisocyanate

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

Chemical name	CAS-No. EC-No.	ClassificationREGULATION (EC) No	Concentration (% w/w)

	Index-No. Registration number	1272/2008	
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	>= 10 - < 20
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate	66492-51-1 266-380-7	Skin Irrit. 2; H315 Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 10 - < 20
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1)	51728-26-8 500-111-9 01-2119969962-19	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Aquatic Chronic 2; H411	>= 10 - < 20
4,4'-Isopropylidenediphenol, ethoxylated, esters with acrylic acid and isononanoic acid	Not Assigned 919-846-5	Skin Sens. 1B; H317 Aquatic Chronic 2; H411	>= 10 - < 20
aluminium powder (stabilised)	7429-90-5 231-072-3 013-002-00-1 01-2119529243-45	Flam. Sol. 1; H228	>= 1 - < 10
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)	28961-43-5 500-066-5 01-2119489900-30	Eye Irrit. 2; H319 Skin Sens. 1; H317 Aquatic Chronic 3; H412	>= 2.5 - < 10
acrylate	Not Assigned	Eye Irrit. 2; H319	>= 1 - < 10
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7 423-340-5 015-189-00-5 01-2119489401-38	Skin Sens. 1; H317 Aquatic Chronic 4; H413	>= 2.5 - < 10
Glycerol, propoxylated, esters with acrylic acid	52408-84-1 500-114-5 01-2119487948-12	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 1 - < 10
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate	15625-89-5 239-701-3 607-111-00-9	Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 0.25 - < 1

		Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 --- M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	
2-methyl-m-phenylene diisocyanate	91-08-7 202-039-0 615-006-00-4	Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Resp. Sens. 1; H334 Skin Sens. 1; H317 Carc. 2; H351 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412 --- specific concentration limit Resp. Sens. 1; H334 >= 0.1 % Resp. Sens. 1; H334 >= 0.1 %	>= 0.0025 - < 0.025

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.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Remove to fresh air.
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 clothes, remove clothes.

In case of eye contact	:	Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist. Immediately flush eye(s) with plenty of water. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Risks	:	Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

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.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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 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).
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.
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 : Normal measures for preventive fire protection.

fire and explosion

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.

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/m3	GB EH40
		TWA (Respirable fraction)	4 mg/m3	GB EH40
		TWA (inhalable dust)	10 mg/m3	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.			
		TWA (Respirable dust)	4 mg/m3	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.			

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

Substance name	End Use	Exposure routes	Potential health effects	Value

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1)	Workers	Inhalation	Long-term systemic effects	0.88 mg/m3
	Workers	Dermal	Long-term systemic effects	0.5 mg/kg
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
1,2,4-Benzenetricarboxylic acid, mixed decyl and octyl triesters	Workers	Dermal	Long-term systemic effects	50 mg/kg
	Workers	Inhalation	Long-term systemic effects	35.242 mg/m3
	Consumers	Oral	Long-term systemic effects	2.5 mg/kg
	Consumers	Dermal	Long-term systemic effects	25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	8.7 mg/m3
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Workers	Inhalation	Long-term systemic effects	7.84 mg/m3
	Workers	Dermal	Long-term systemic effects	3.0 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.93 mg/m3
	Consumers	Dermal	Long-term systemic effects	1.5 mg/kg
	Consumers	Oral	Long-term systemic effects	1.5 mg/kg
	Workers	Inhalation	Acute systemic effects	7.84 mg/m3
	Workers	Dermal	Acute systemic effects	3.3 mg/kg
	Consumers	Inhalation	Acute systemic effects	1.93 mg/m3
	Consumers	Dermal	Acute systemic effects	1.67 mg/kg
	Consumers	Oral	Acute systemic effects	0.00167 ppm
Glycerol,	Workers	Inhalation	Long-term systemic	16.22 mg/m3

propoxylated, esters with acrylic acid			effects	
	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
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate	Workers	Skin contact	Long-term systemic effects	404 mg/kg
	Workers	Inhalation	Long-term systemic effects	17.1 mg/m3
	Consumers	Ingestion	Long-term systemic effects	0.5 mg/kg
	Consumers	Skin contact	Long-term systemic effects	42 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.87 mg/m3

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

Substance name	Environmental Compartment	Value
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1)	Soil	0.0078 mg/kg
	Fresh water	0.00176 mg/l
	Fresh water sediment	0.017 mg/kg
	Marine water	0.000176 mg/l
	Marine sediment	0.0017 mg/kg
	STP	4 mg/l
aluminium powder (stabilised)	Fresh water	0.0749 mg/l
	clarification plant	20 mg/l
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Fresh water	0.8 µg/l
	Marine water	0.8 µg/l
	STP	1 mg/l
	Fresh water sediment	0.712 mg/kg
	Marine sediment	0.712 mg/kg
	Soil	20 mg/kg
	Intermittent water release	0.8 µg/l
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
2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate	Soil	0.0029 mg/kg
	Fresh water	0.00087 mg/l
	Fresh water sediment	0.017 mg/kg
	Marine water	0.000087 mg/l
	Marine sediment	0.0017 mg/kg
	STP	6.25 mg/l
	Secondary Poisoning	10 mg/kg

8.2 Exposure controls

Personal protective equipment

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

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 : Impervious clothing
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
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	6 - 8 Concentration: 100 %
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:		
(5-ethyl-1,3-dioxan-5-yl)methyl acrylate	:	0.6 Pa (20 °C)
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	:	0.0032 Pa (20 °C)
Glycerol, propoxylated, esters with acrylic acid	:	0.0032 Pa (20 °C) Method: OECD Test Guideline 104
2-ethyl-2-[[(1-	:	< 0.1 Pa (20 °C)

oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate		
2-methyl-m-phenylene diisocyanate	:	2.78 Pa (25 °C)
Relative density	:	No data available
Density	:	1.1 g/cm3
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.

No decomposition if stored and applied as directed.

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:

aluminium powder (stabilised):

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

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

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

2-methyl-m-phenylene diisocyanate:

Acute inhalation toxicity : Assessment: The component/mixture is highly toxic after short term inhalation.

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate:

Result : Skin irritation

2-methyl-m-phenylene diisocyanate:

Result : Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : May cause irreversible eye damage.

Components:

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Result : Irritating to eyes.

Glycerol, propoxylated, esters with acrylic acid:
Result : Eye irritation

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate:
Result : Eye irritation

2-methyl-m-phenylene diisocyanate:
Result : Eye irritation

Respiratory or skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Respiratory sensitisation
Not classified based on available information.

Product:
Remarks : Causes sensitisation.

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)

:
Result : Probability or evidence of low to moderate skin sensitisation rate in humans

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Result : May cause sensitisation by skin contact.

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide:
Result : May cause sensitisation by skin contact.

Glycerol, propoxylated, esters with acrylic acid:
Result : May cause sensitisation by skin contact.

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate:
Result : May cause sensitisation by skin contact.

2-methyl-m-phenylene diisocyanate:
Result : May cause sensitisation by skin contact.

Result : May cause sensitisation by inhalation.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Components:

2-methyl-m-phenylene diisocyanate:
Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

Components:

2-methyl-m-phenylene diisocyanate:
Assessment : May cause respiratory irritation.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

11.2 Information on other hazards

Further information

Product:
Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

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)

:

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

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):

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

phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide:

Ecotoxicology Assessment
Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate:
M-Factor (Short-term (acute) aquatic hazard) : 1
M-Factor (Long-term (chronic) aquatic hazard) : 1

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.

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

2-methyl-m-phenylene diisocyanate:

Ecotoxicology Assessment
Chronic aquatic toxicity : Harmful 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-octanol/water	:	Pow: 1.49 - 4.74 Method: OECD Test Guideline 117

Glycerol, propoxylated, esters with acrylic acid:

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

2-methyl-m-phenylene diisocyanate:

Partition coefficient: n-octanol/water	:	log Pow: 3.74

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

Components:

Glycerol, propoxylated, esters with acrylic acid:

Additional ecological	:	No data available

information

SECTION 13: Disposal considerations

European Waste Catalogue : 08 03 12 - waste ink containing 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.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

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.
((5-ethyl-1,3-dioxan-5-yl)methyl acrylate)

IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
((5-ethyl-1,3-dioxan-5-yl)methyl acrylate)

IATA : Environmentally hazardous substance, liquid, n.o.s.
((5-ethyl-1,3-dioxan-5-yl)methyl acrylate)

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 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 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) (5-ethyl-1,3-dioxan-5-yl)methyl acrylate (Number on list 3) aluminium powder (stabilised) (Number on list 40) Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1) (Number on list 3) Glycerol, propoxylated, esters with acrylic acid (Number on list 3) 2-ethyl-2-[[(1-oxoallyl)oxy]methyl]-1,3-propanediyl diacrylate (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 deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable

15.2 Chemical safety assessment

No data available

SECTION 16: Other information

Full text of H-Statements

H228	:	Flammable solid.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H319	:	Causes serious eye irritation.

H330	:	Fatal if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H351	:	Suspected of causing cancer.
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.
H413	:	May cause long lasting harmful effects to aquatic life.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Carc.	:	Carcinogenicity
Eye Irrit.	:	Eye irritation
Flam. Sol.	:	Flammable solids
Resp. Sens.	:	Respiratory sensitisation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single 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 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:		**Classification procedure:**
Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
Aquatic Chronic 2	H411	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.

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