

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

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

1.1 Product identifier

Trade name : ROTOSTAR UV/LED 366 875 FLEXO INK
Product code : 026428U10

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)

Acute toxicity, Category 4	H302: Harmful if swallowed.
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.
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET

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2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very 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:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Hazardous components which must be listed on the label:

Copper
monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid
2-Propenoic acid, reaction products with dipentaerythritol
Glycerol, propoxylated, esters with acrylic acid
Bisphenol A epoxy acrylate
Propylidynetrimethanol, ethoxylated, esters with acrylic acid
2-Propenoic acid, reaction products with pentaerythritol

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.	ClassificationREGUL	Concentration
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



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Version
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	EC-No. Index-No. Registration number	ATION (EC) No 1272/2008	(% w/w)
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	>= 25 - < 50
Copper	7440-50-8 231-159-6 01-2119480154-42	Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	>= 25 - < 50
monoalkylor monoaryl or monoalkylaryl esters of acrylic acid	64194-22-5 264-727-7 607-133-00-9	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1A; H317 STOT SE 3; H335 (Respiratory system) Aquatic Chronic 3; H412 specific concentration limit STOT SE 3; H335 >= 10 % STOT SE 3; H335 >= 10 %	>= 10 - < 20
2-Propenoic acid, reaction products with dipentaerythritol	1384855-91-7 01-2119980666-22	Eye Irrit. 2; H319 Skin Sens. 1A; H317 Aquatic Chronic 3; H412	>= 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
zinc powder — zinc dust (stabilised)	7440-66-6 231-175-3 030-001-01-9 01-2119467174-37	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1	>= 2.5 - < 10

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



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Version
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Revision Date:
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SDS Number:
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		M-Factor (Chronic aquatic toxicity): 1	
Bisphenol A epoxy acrylate	55818-57-0 500-130-2	Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 0.25 - < 1$
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	28961-43-5 500-066-5 01-2119489900-30	Eye Irrit. 2; H319 Skin Sens. 1; H317	$\geq 0.1 - < 1$
2-Propenoic acid, reaction products with pentaerythritol	1245638-61-2	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Chronic 2; H411	$\geq 0.1 - < 0.25$
amines, hydrogenated tallow alkyl	61788-45-2(90640-32-7) 262-976-6 612-284-00-9	Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT RE 2; H373 (Liver, Gastrointestinal tract, Immune system) Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10	$\geq 0.0025 - < 0.025$

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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version	Revision Date:	SDS Number:	Print Date: 10.04.2024
5.0	25.03.2024	102000033795	Date of first issue: 15.12.2020

- 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.
- If swallowed : Induce vomiting immediately and call a physician.
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 : Harmful if swallowed.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause respiratory 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 : Special powder against metal fire
Dry sand
ABC powder
- Unsuitable extinguishing media : Water
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 : Standard procedure for chemical fires.
Collect contaminated fire extinguishing water separately. This
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version	Revision Date:	SDS Number:	Print Date: 10.04.2024
5.0	25.03.2024	102000033795	Date of first issue: 15.12.2020

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.
Ensure adequate ventilation.
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.

Pick up and transfer to properly labelled containers.
Do not flush with water.
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

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 fire and explosion : Keep away from heat and sources of ignition. No smoking.
Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice.
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 : Keep away from sources of ignition - No smoking. Do not store near combustible materials. Keep containers tightly closed in a cool, well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.

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 : Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Do not store together with oxidizing and self-igniting products.

Dampness : Keep in a dry, cool and well-ventilated place.

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
Copper	7440-50-8	TWA (Fumes)	0.2 mg/m ³ (Copper)	GB EH40

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version
5.0

Revision Date:
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SDS Number:
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Print Date: 10.04.2024
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		TWA (Dusts and mists)	1 mg/m ³ (Copper)	GB EH40
		STEL (Dusts and mists)	2 mg/m ³ (Copper)	GB EH40
zinc powder — zinc dust (stabilised)	7440-66-6	TWA (Inhalable)	10 mg/m ³	GB EH40
		TWA (Respirable fraction)	4 mg/m ³	GB EH40

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/m ³
	Workers	Dermal	Long-term systemic effects	0.5 mg/kg
Copper	Workers	Dermal	Long-term systemic effects	137 mg/kg
	Workers	Dermal	Acute systemic effects	273 mg/kg
	Workers	Inhalation	Long-term systemic effects	20 mg/m ³
	Consumers	Inhalation	Long-term local effects	1 mg/m ³
	Consumers	Inhalation	Acute local effects	1 mg/m ³
	Consumers	Dermal	Long-term systemic effects	137 mg/kg
	Consumers	Dermal	Acute systemic effects	273 mg/kg
	Consumers	Oral	Long-term systemic effects	0.041 mg/kg
monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid	Workers	Inhalation	Long-term systemic effects	5.88 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.83 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.45 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.42 mg/kg
	Consumers	Oral	Long-term systemic effects	0.42 mg/kg
2-Propenoic acid, reaction products with	Workers	Inhalation	Long-term systemic effects	1.76 mg/m ³

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version
5.0

Revision Date:
25.03.2024

SDS Number:
102000033795

Print Date: 10.04.2024
Date of first issue: 15.12.2020

dipentaerythritol				
	Workers	Dermal	Long-term systemic effects	0.5 mg/m ³
Glycerol, propoxylated, esters with acrylic acid	Workers	Inhalation	Long-term systemic effects	16.22 mg/m ³
	Workers	Dermal	Long-term systemic effects	1.92 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.87 mg/m ³
	Consumers	Dermal	Long-term systemic effects	1.15 mg/kg
	Consumers	Oral	Long-term systemic effects	1.39 mg/kg
zinc powder — zinc dust (stabilised)	Workers	Inhalation	Long-term systemic effects	5 mg/m ³
	Workers	Dermal	Long-term systemic effects	83 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m ³
	Consumers	Dermal	Long-term systemic effects	83 mg/kg
	Consumers	Oral	Long-term systemic effects	0.83 mg/kg
Bisphenol A epoxy acrylate	Workers	Inhalation	Long-term systemic effects	1.17 mg/m ³
	Workers	Dermal	Long-term systemic effects	33 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0.29 mg/m ³
	Consumers	Dermal	Long-term systemic effects	16.67 mg/kg
	Consumers	Oral	Long-term systemic effects	0.17 mg/kg
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Workers	Inhalation	Long-term systemic effects	16.2 mg/m ³
	Workers	Dermal	Long-term systemic effects	0.8 mg/kg
	Consumers	Inhalation	Long-term systemic effects	4.9 mg/m ³
	Consumers	Dermal	Long-term systemic effects	0.48 mg/kg
	Consumers	Oral	Long-term systemic effects	1.39 mg/kg
amines, hydrogenated tallow alkyl	Workers	Inhalation	Long-term systemic effects	0.38 mg/m ³
	Workers	Inhalation	Long-term local effects	1 mg/m ³
	Workers	Inhalation	Acute local effects	1 mg/m ³
	Consumers	Inhalation	Long-term systemic effects	0.035 mg/m ³

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



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Version
5.0

Revision Date:
25.03.2024

SDS Number:
102000033795

Print Date: 10.04.2024
Date of first issue: 15.12.2020

			effects	
	Consumers	Oral	Long-term systemic effects	0.04 mg/kg

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
Copper	STP	4 mg/l
	Fresh water	0.0078 mg/l
	Marine water	0.0052 mg/l
	STP	0.230 mg/l
	Fresh water sediment	87 mg/kg
monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid	Marine sediment	676 mg/kg
	Soil	65 mg/kg
	Fresh water	0.001 mg/l
	Marine water	0.001 mg/l
	STP	2.7 mg/l
2-Propenoic acid, reaction products with dipentaerythritol	Fresh water sediment	0.031 mg/kg
	Marine sediment	0.003 mg/kg
	water (intermittent release)	0.012 mg/l
	Fresh water	0.013 mg/l
	STP	10 mg/l
Glycerol, propoxylated, esters with acrylic acid	Marine sediment	0.28 mg/kg
	Fresh water sediment	2.8 mg/kg
	Marine water	0.0013 mg/l
	Soil	0.22 mg/kg
	Intermittent water release	0.13 mg/l
zinc powder — zinc dust (stabilised)	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
zinc powder — zinc dust (stabilised)	Soil	0.0011 mg/kg
	Fresh water	0.0206 mg/l
	Marine water	0.0061 mg/l
	STP	0.100 mg/l
	Fresh water sediment	235.6 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version
5.0

Revision Date:
25.03.2024

SDS Number:
102000033795

Print Date: 10.04.2024
Date of first issue: 15.12.2020

	Marine sediment	121 mg/kg
	Soil	35.6 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
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
	Intermittent water release	0.0195 mg/l
2-Propenoic acid, reaction products with pentaerythritol	Fresh water	0.0032 mg/l
	Fresh water sediment	1.73 mg/kg
	Marine sediment	0.173 mg/kg
	STP	10 mg/l
	Soil	0.240 mg/kg
	Intermittent water release	0.032 mg/l
amines, hydrogenated tallow alkyl	Fresh water	0.00026 mg/l
	Marine water	0.000026 mg/l
	Sewage treatment plant	0.55 mg/kg
	Fresh water sediment	3.76 mg/kg
	Marine sediment	376 mg/kg
	Soil	10 mg/kg
	Intermittent Release	0.0016 mg/l

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Safety glasses
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.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version	Revision Date:	SDS Number:	Print Date: 10.04.2024
5.0	25.03.2024	102000033795	Date of first issue: 15.12.2020

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. Equipment should conform to EN 14387

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	:	liquid
Colour	:	gold
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	:	substance/mixture is non-soluble (in water)
Viscosity, kinematic	:	No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

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:
monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid : 0.105 Pa (20 °C)
Glycerol, propoxylated, esters with acrylic acid : 0.0032 Pa (20 °C)
Method: OECD Test Guideline 104

Propylidynetrimethanol, ethoxylated, esters with acrylic acid : 0.0032 Pa (20 °C)
2-Propenoic acid, reaction products with pentaerythritol amines, hydrogenated tallow alkyl : < 1 hPa (20 °C)

Relative density : No data available

Density : 1.4 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 : Stable under recommended storage conditions.

No decomposition if stored and applied as directed.

10.4 Conditions to avoid

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version	Revision Date:	SDS Number:	Print Date: 10.04.2024
5.0	25.03.2024	102000033795	Date of first issue: 15.12.2020

Conditions to avoid : Do not allow evaporation to dryness.
No data available

10.5 Incompatible materials

10.6 Hazardous decomposition products

Thermal decomposition : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,931 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate: > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

Components:

Copper:

Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid:

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

zinc powder — zinc dust (stabilised):

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

Acute inhalation toxicity : LC50 (Rat): 5.41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

amines, hydrogenated tallow alkyl:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg
Method: OECD Test Guideline 401

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

Skin corrosion/irritation

Causes skin irritation.

Product:

Remarks : May cause skin irritation and/or dermatitis.

Components:

Copper:

Remarks : May cause skin irritation in susceptible persons.

monoalkylor monoaryl or monoalkylaryl esters of acrylic acid:

Result : Skin irritation

amines, hydrogenated tallow alkyl:

Result : Skin irritation

Remarks : May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Remarks : May cause irreversible eye damage.

Components:

Copper:

Result : Eye irritation

monoalkylor monoaryl or monoalkylaryl esters of acrylic acid:

Result : Eye irritation

2-Propenoic acid, reaction products with dipentaerythritol:

Result : Eye irritation

Glycerol, propoxylated, esters with acrylic acid:

Result : Eye irritation

Propylidynetrimethanol, ethoxylated, esters with acrylic acid:

Result : Irritating to eyes.

amines, hydrogenated tallow alkyl:

Result : Irreversible effects on the eye

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

Remarks : May cause irreversible eye damage.

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:

monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid:

Result : The product is a skin sensitiser, sub-category 1A.

2-Propenoic acid, reaction products with dipentaerythritol:

Result : The product is a skin sensitiser, sub-category 1A.

Glycerol, propoxylated, esters with acrylic acid:

Result : May cause sensitisation by skin contact.

Bisphenol A epoxy acrylate:

Result : May cause sensitisation by skin contact.

Propylidynetrimehanol, ethoxylated, esters with acrylic acid:

Result : May cause sensitisation by skin contact.

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

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

May cause respiratory irritation.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

Components:

monoalkyl or monoaryl or monoalkylarylesters of acrylic acid:

Exposure routes : Inhalation
Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Not classified based on available information.

Components:

amines, hydrogenated tallow alkyl:

Target Organs : Liver, Gastrointestinal tract, Immune system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Aspiration toxicity

Not classified based on available information.

Components:

amines, hydrogenated tallow alkyl:

May be fatal if swallowed and enters airways.

11.2 Information on other hazards

Further information

Product:

Remarks : No data available

Components:

Copper:

Remarks : No data available

zinc powder — zinc dust (stabilised):

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Copper:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

M-Factor (Short-term (acute) aquatic hazard) : 10

M-Factor (Long-term (chronic) aquatic hazard) : 10

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid:

Ecotoxicology Assessment

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

2-Propenoic acid, reaction products with dipentaerythritol:

Ecotoxicology Assessment

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

zinc powder — zinc dust (stabilised):

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.

Bisphenol A epoxy acrylate:

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

amines, hydrogenated tallow alkyl:

M-Factor (Short-term (acute) aquatic hazard) : 10

M-Factor (Long-term (chronic) aquatic hazard) : 10

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

Components:

Glycerol, propoxylated, esters with acrylic acid:

Partition coefficient: n-octanol/water : log Pow: 2.52 (23 °C)
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 information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

Components:

Copper:

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

Glycerol, propoxylated, esters with acrylic acid:

Additional ecological information : No data available

zinc powder — zinc dust (stabilised):

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

amines, hydrogenated tallow alkyl:

Additional ecological information : An environmental hazard cannot be excluded in the event of

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

information unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

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.
(Copper metal powder)
IMDG : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Copper metal powder)
IATA : Environmentally hazardous substance, liquid, n.o.s.
(Copper metal powder)

14.3 Transport hazard class(es)

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

14.4 Packing group

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

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 $\leq 5L / 5 \text{ kg}$, or combination packagings containing inner packagings $\leq 5L / 5 \text{ kg}$ 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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

- 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
monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid (Number on list 3)
2-Propenoic acid, reaction products with dipentaerythritol (Number on list 3)
Glycerol, propoxylated, esters with acrylic acid (Number on list 3)
Bisphenol A epoxy acrylate (Number on list 3)
Propylidynetrimethanol, ethoxylated, esters with acrylic acid (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

- H302 : Harmful if swallowed.
H304 : May be fatal if swallowed and enters airways.
H315 : Causes skin irritation.
H317 : May cause an allergic skin reaction.
H318 : Causes serious eye damage.
H319 : Causes serious eye irritation.
H332 : Harmful if inhaled.
H335 : May cause respiratory irritation.
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

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version 5.0 Revision Date: 25.03.2024 SDS Number: 102000033795 Print Date: 10.04.2024
Date of first issue: 15.12.2020

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
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)
GB EH40 / STEL	:	Short-term exposure limit (15-minute 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; AIIIC - 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:

Acute Tox. 4 H302

Classification procedure:

Calculation method

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



ROTOSTAR UV/LED 366 875 FLEXO INK

Version	Revision Date:	SDS Number:	Print Date: 10.04.2024
5.0	25.03.2024	102000033795	Date of first issue: 15.12.2020

Skin Irrit. 2	H315	Calculation method
Eye Irrit. 2	H319	Calculation method
Skin Sens. 1	H317	Calculation method
STOT SE 3	H335	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

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