

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## UNIPAK LED 485 873 Litho Ink

Version 10.0      Revision Date: 30.01.2024      SDS Number: 102000029451      Print Date: 16.04.2024  
Date of first issue: 12.04.2018

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

#### 1.1 Product identifier

Trade name : UNIPAK LED 485 873 Litho Ink  
Product code : 023801N20

#### 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](mailto: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.

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

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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Hazard pictograms	:	 
Signal word	:	Warning
Hazard statements	:	H302 Harmful if swallowed. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H410 Very toxic to aquatic life with long lasting effects.
Precautionary statements	:	<b>Prevention:</b> 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. <b>Response:</b> P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P391 Collect spillage.

### Hazardous components which must be listed on the label:

Copper  
Fatty acids, C18-unsatd., dimers, polymers with acrylic acid, bisphenol A, epichlorohydrin and nonanoic acid  
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)  
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propenyl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)  
4,4'-Isopropylidenediphenol, ethoxylated, esters with acrylic acid and isononanoic acid  
Glycerol, propoxylated, esters with acrylic acid  
2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one  
Propylidynetrimethanol, ethoxylated, esters with acrylic acid  
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.	ClassificationREGUL	Concentration
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	EC-No. Index-No. Registration number	ATION (EC) No 1272/2008	(% w/w)
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
Fatty acids, C18-unsatd., dimers, polymers with acrylic acid, bisphenol A, epichlorohydrin and nonanoic acid	216689-76-8	Skin Sens. 1; H317	>= 10 - < 20
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
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
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
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	>= 2.5 - < 10
Glycerol, propoxylated, esters with acrylic acid	52408-84-1 500-114-5	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 1 - < 10
2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one	7078-98-0 429-460-4 606-117-00-9	Skin Sens. 1; H317 Aquatic Chronic 4; H413	>= 0.1 - < 0.25

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Propylidyntrimethanol, ethoxylated, esters with acrylic acid	28961-43-5 500-066-5  01-2119489900-30	Eye Irrit. 2; H319 Skin Sens. 1; H317	$\geq 0.1 - < 1$
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	$\geq 0.025 - < 0.1$
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 $\geq 0.1$ % Resp. Sens. 1; H334 $\geq 0.1$ %	$\geq 0.0025 - < 0.025$

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.

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- 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.
- 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.  
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.

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### 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 (CO<sub>2</sub>)

#### 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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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.

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### 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.

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### 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

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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 <sup>3</sup> (Copper)	GB EH40

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		TWA (Dusts and mists)	1 mg/m <sup>3</sup> (Copper)	GB EH40
		STEL (Dusts and mists)	2 mg/m <sup>3</sup> (Copper)	GB EH40
zinc powder — zinc dust (stabilised)	7440-66-6	TWA (Inhalable)	10 mg/m <sup>3</sup>	GB EH40
		TWA (Respirable fraction)	4 mg/m <sup>3</sup>	GB EH40

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Copper	Workers	Skin contact	Long-term systemic effects	137 mg/kg
	Workers	Skin contact	Acute systemic effects	273 mg/kg
	Workers	Inhalation	Long-term systemic effects	20 mg/m <sup>3</sup>
	Consumers	Inhalation	Long-term local effects	1 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	1 mg/m <sup>3</sup>
zinc powder — zinc dust (stabilised)	Consumers	Skin contact	Long-term systemic effects	137 mg/kg
	Consumers	Skin contact	Acute systemic effects	273 mg/kg
	Consumers	Ingestion	Long-term systemic effects	0.041 mg/kg
	Workers	Inhalation	Long-term systemic effects	5 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	83 mg/kg
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Consumers	Inhalation	Long-term systemic effects	4.9 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	0.48 mg/kg
	Consumers	Oral	Long-term systemic effects	1.39 mg/kg
	Consumers	Inhalation	Long-term systemic effects	2.5 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	83 mg/kg
Glycerol, propoxylated, esters	Consumers	Ingestion	Long-term systemic effects	0.83 mg/kg
	Workers	Inhalation	Long-term systemic effects	16.22 mg/m <sup>3</sup>



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with acrylic acid				
	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
amines, hydrogenated tallow alkyl	Workers	Inhalation	Long-term systemic effects	0.38 mg/m3
	Workers	Inhalation	Long-term local effects	1 mg/m3
	Workers	Inhalation	Acute local effects	1 mg/m3
	Consumers	Inhalation	Long-term systemic effects	0.035 mg/m3
	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
Copper	Fresh water	0.0078 mg/l
	Marine water	0.0052 mg/l
	STP	0.230 mg/l
	Fresh water sediment	87 mg/kg
	Marine sediment	676 mg/kg
Propylidynetrimethanol, ethoxylated, esters with acrylic acid	Soil	65 mg/kg
	Soil	0.00644 mg/kg
	Fresh water	0.00195 mg/l
	Fresh water sediment	0.038 mg/kg
	STP	10 mg/l
zinc powder — zinc dust (stabilised)	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
	Fresh water	0.0206 mg/l
Glycerol, propoxylated, esters with acrylic acid	Marine water	0.0061 mg/l
	STP	0.100 mg/l
	Fresh water sediment	235.6 mg/kg
	Marine sediment	121 mg/kg
	Soil	35.6 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

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	Soil	0.0011 mg/kg
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. 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

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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  
Viscosity, kinematic : > 22 mm<sup>2</sup>/s (40 °C)

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)  
Glycerol, propoxylated, esters with acrylic acid : 0.0032 Pa (20 °C)  
Method: OECD Test Guideline 104

amines, hydrogenated tallow alkyl : < 1 hPa (20 °C)  
2-methyl-m-phenylene diisocyanate : 2.78 Pa (25 °C)

Relative density : No data available

Density : 1.4 g/cm<sup>3</sup>

Relative vapour density : No data available

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Particle characteristics

Particle Size Distribution : No data available

### 9.2 Other information

No data available

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## 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

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).

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## 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: 1,617 mg/kg  
Method: Calculation method

#### Components:

#### Copper:

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

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### **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

### **2-methyl-m-phenylene diisocyanate:**

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

### **Skin corrosion/irritation**

Not classified based on available information.

### **Product:**

Remarks : May cause skin irritation and/or dermatitis.

### **Components:**

#### **Copper:**

Remarks : May cause skin irritation in susceptible persons.

#### **amines, hydrogenated tallow alkyl:**

Result : Skin irritation

Remarks : May cause skin irritation in susceptible persons.

#### **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:**

#### **Copper:**

Result : Eye irritation

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**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

**Propylidynetrimethanol, ethoxylated, esters with acrylic acid:**

Result : Irritating to eyes.

**amines, hydrogenated tallow alkyl:**

Result : Irreversible effects on the eye

Remarks : May cause irreversible eye damage.

**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:**

**Fatty acids, C18-unsatd., dimers, polymers with acrylic acid, bisphenol A, epichlorohydrin and nonanoic acid:**

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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**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.

**Glycerol, propoxylated, esters with acrylic acid:**

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.

**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.

**Components:**

**amines, hydrogenated tallow alkyl:**

Target Organs : Liver, Gastrointestinal tract, Immune system  
Assessment : The substance or mixture is classified as specific target organ

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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:

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.



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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.

**zinc powder — zinc dust (stabilised):**

### Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very 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.

**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

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### 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.  
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.

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### **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.

### **Glycerol, propoxylated, esters with acrylic acid:**

Additional ecological information : No data available

### **amines, hydrogenated tallow alkyl:**

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.

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## 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.

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## 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.

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(Copper metal powder)

### 14.3 Transport hazard class(es)

	Class	Subsidiary risks
<b>ADR</b>	: 9	
<b>IMDG</b>	: 9	
<b>IATA</b>	: 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

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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 Fatty acids, C18-unsatd., dimers, polymers with acrylic acid, bisphenol A, epichlorohydrin and nonanoic acid (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) 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) 2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one (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

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

### 15.2 Chemical safety assessment

No data available

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## 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.  
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.  
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.  
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  
Asp. Tox. : Aspiration hazard  
Carc. : Carcinogenicity  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Resp. Sens. : Respiratory sensitisation  
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 -

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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
Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### 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