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

1.1. Product identifier

Tampa® Cure 1 KG TPC 970

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

Use of the substance/preparation

Industrial uses: Pad printing ink

Uses advised against

- Use by consumers (private households), as the necessary technical measures and personal protective equipment are not available to private households.
- Spray processing, as for some ingredients this use is not considered safe

1.3. Details of the supplier of the safety data sheet

Address/Manufacturer

Marabu GmbH & Co. KG
Asperger Strasse 4
71732 Tamm
Deutschland

Telephone no.	+49-7141/691-0
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com
Information provided by / telephone	Department product safety
E-mail address of person responsible for this SDS	PRSI@marabu.com

1.4. Emergency telephone number

(+49) (0)621-60-43333

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Irrit. 2	H319
Skin Sens. 1A	H317
STOT SE 3	H336
Aquatic Chronic 3	H412

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Warning

Hazard statements

H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H317	May cause an allergic skin reaction.
H336	May cause drowsiness or dizziness.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261.9	Avoid breathing vapours/spray.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazardous component(s) to be indicated on label (Regulation (EC) No. 1272/2008)

contains Prop-2-enoic acid, reaction products with pentaerythritol; Hexamethylene diacrylate; Trimethylolpropane ethoxylated, triacrylate; n-Butyl acetate; Hydrocarbons, C9, aromatic; Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

2.3. Other hazards

No special hazards have to be mentioned.
The product contains no PBT substances. The product contains no vPvB substances. This product does not contain a substance that has endocrine disrupting properties with respect to human. The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients

n-Butyl acetate

CAS No.	123-86-4				
EINECS no.	204-658-1				
Registration no.	01-2119485493-29				
Concentration	>=	10	<	20	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 3	H226
STOT SE 3	H336

Hexamethylene diacrylate

CAS No.	13048-33-4				
EINECS no.	235-921-9				
Registration no.	01-2119484737-22				
Concentration	>=	2,5	<	10	%

Classification (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319
Skin Irrit. 2	H315
Skin Sens. 1	H317
Aquatic Chronic 2	H411
Aquatic Acute 1	H400

Trimethylolpropane ethoxylated, triacrylate

CAS No.	28961-43-5				
EINECS no.	500-066-5				
Registration no.	01-2119489900-30				
Concentration	>=	1	<	10	%

Classification (Regulation (EC) No. 1272/2008)

Eye Irrit. 2	H319
Skin Sens. 1	H317
Aquatic Chronic 3	H412

2-Hydroxy-2-methyl-1-phenyl-1-propanone

CAS No.	7473-98-5				
EINECS no.	231-272-0				
Registration no.	01-2119472306-39				
Concentration	>=	1	<	10	%

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H302
Aquatic Chronic 3	H412

ATE	oral	1.694	mg/kg

Polyurethane resin

Concentration	>=	1	<	10	%

Classification (Regulation (EC) No. 1272/2008)

Skin Irrit. 2	H315
Eye Irrit. 2	H319

Hydrocarbons, C9, aromatic

CAS No.	64742-95-6				
EINECS no.	265-199-0				
Registration no.	01-2119455851-35 (LIST-NUMBER 918-668-5)				
Concentration	>=	1	<	2,5	%

Classification (Regulation (EC) No. 1272/2008)

Flam. Liq. 2	H226
STOT SE 3	H336
STOT SE 3	H335
Asp. Tox. 1	H304
Aquatic Chronic 2	H411

Prop-2-enoic acid, reaction products with pentaerythritol

CAS No.	1245638-61-2				
EINECS no.	629-850-6				
Registration no.	01-2119490003-49				
Concentration	>=	1	<	2,5	%

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H302
Eye Dam. 1	H318
Skin Irrit. 2	H315
Skin Sens. 1	H317
Aquatic Chronic 2	H411

ATE	oral	540	mg/kg

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

CAS No.	162881-26-7				
EINECS no.	423-340-5				
Registration no.	01-2119489401-38-0000				
Concentration	>=	0,1	<	1	%

Classification (Regulation (EC) No. 1272/2008)

Skin Sens. 1A	H317
Aquatic Chronic 4	H413

Propylidynetrimethanol

CAS No.	77-99-6				
EINECS no.	201-074-9				
Registration no.	01-2119486799-10				
Concentration	>=	0,1	<	1	%

Classification (Regulation (EC) No. 1272/2008)

Repr. 2	H361fd

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

After skin contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use recognised skin

cleanser. Do NOT use solvents or thinners. In case of accidental skin contact avoid concurrent exposure to the sun or other sources of UV light, which may increase the sensitivity of skin.

After eye contact

Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

Adhere to personal protective measures when giving first aid

Use personal protective equipment in case of possible contact with the product (see section 8).

4.2. Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11. Further symptoms are possible.

4.3. Indication of any immediate medical attention and special treatment needed

Hints for the physician / treatment

Treat symptomatically

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Aalcohol resistant foam, CO2, powders, water spray/mist

Non suitable extinguishing media

water jet

5.2. Special hazards arising from the substance or mixture

In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); dense black smoke; Hydrogen chloride (HCl); Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required.

5.3. Advice for firefighters

Special protective equipment for fire-fighting

Use self-contained breathing apparatus. Wear full chemical protective clothing. Fire fighter's clothing must conform to European standard EN469.

Other information

Cool closed containers exposed to fire with water. Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Keep away sources of ignition. Remove persons to safety. Ensure adequate ventilation. Keep away unprotected persons. Avoid contact with skin, eyes and clothing. Avoid breathing vapours. For emergency responders: Wear personal protective equipment. Use breathing apparatus if exposed to vapours/dust/aerosol.

6.2. Environmental precautions

Do not allow to enter drains or waterways. If the product contaminates lakes, rivers or sewage, inform appropriate authorities in accordance with local regulations.

6.3. Methods and material for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13). Clean preferably with a detergent - avoid use of solvents.

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Skin and eye contact constitutes the principal hazard. Persons with a history of skin sensitisation problems should not be employed in any process in which this mixture is used. Use only in well-ventilated areas. Avoid skin and eye contact. Due to the organic solvents' content of the mixture: Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard. Mixture may charge electrostatically: always use earthing leads when transferring from one container to another. Operators should wear anti-static footwear and clothing and floors should be of the conducting type. Isolate from sources of heat, sparks and open flame. No sparking tools should be used. Avoid the inhalation of particulates and spray mist arising from the application of this mixture. Smoking, eating and drinking shall be prohibited in application area. For personal protection see Section 8. Never use pressure to empty: container is not a pressure vessel. Always keep in containers of same material as the original one. Comply with the health and safety at work laws. Do not allow to enter drains or water courses.

Advice on protection against fire and explosion

Vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Keep away from sources of heat and ignition. No smoking

Classification of fires / temperature class / Ignition group / Dust explosion class

Classification of fires	B (Combustible liquid substances)
Temperature class	T4

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Store in accordance with national regulation

Hints on storage assembly

Store away from oxidising agents, from strongly alkaline and strongly acid materials.

Further information on storage conditions

Observe label precautions. Store between 5 and 35 °C in a dry, well ventilated place away from sources of heat and direct sunlight. If the storage conditions are not observed, the minimum shelf life is no longer guaranteed. Due to the organic solvents' content of the mixture: Keep container tightly closed. Keep away from sources of ignition. No smoking. Prevent unauthorised access. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in original containers. Avoid storage temperature above 60°C and direct exposure to sunlight (exothermic reactions possible).

7.3. Specific end use(s)

Pad printing ink

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit values

n-Butyl acetate

List	EH40			
Type	WEL			
Value	724	mg/m³	150	ppm(V)
Short term exposure limit	966	mg/m³	200	ppm(V)
Status: 2011				

n-Butyl acetate

List	EU			
Value	241	mg/m³	50	ppm(V)
Short term exposure limit	723	mg/m³	150	ppm(V)
Remarks: (EU) 2019/1831				

Derived No/Minimal Effect Levels (DNEL/DMEL)

Trimethylolpropane ethoxylated, triacrylate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	10,5	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	37	mg/kg/d

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3,5	mg/m³

Type of value	Derived No Effect Level (DNEL)
Reference group	Worker
Duration of exposure	Long term
Route of exposure	inhalative

Mode of action	Systemic effects	
Concentration	3,5	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1,25	mg/kg

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1,25	mg/kg

Hexamethylene diacrylate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	2,1	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1,66	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	7,2	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	2,77	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	

Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	24,5	mg/m³

n-Butyl acetate

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	600	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	600	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	300	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	300	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	300	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	300	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	35,7	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Local effects	
Concentration	35,7	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	11	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	11	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	6	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	6	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	2	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Short term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	2	mg/kg/d

Propylidynetrimethanol

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	3,3	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	0,94	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	0,58	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	0,34	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	0,34	mg/kg/d

Hydrocarbons, C9, aromatic

Type of value	Derived No Effect Level (DNEL)
Reference group	Worker
Duration of exposure	Long term

Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	150	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	25	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	32	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	11	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	11	mg/kg/d

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	21	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Worker	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	3,3	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	

Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	inhalative	
Mode of action	Systemic effects	
Concentration	5,2	mg/m³

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	dermal	
Mode of action	Systemic effects	
Concentration	1,5	mg/kg/d

Type of value	Derived No Effect Level (DNEL)	
Reference group	Consumer	
Duration of exposure	Long term	
Route of exposure	oral	
Mode of action	Systemic effects	
Concentration	1,5	mg/kg/d

Predicted No Effect Concentration (PNEC)

Trimethylolpropane ethoxylated, triacrylate

Type of value	PNEC	
Type	Soil	
Concentration	0,06	mg/kg

Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,038	mg/kg

Type of value	PNEC	
Type	Marine sediment	
Concentration	0,004	mg/kg

Type of value	PNEC	
Type	Freshwater	
Concentration	0,002	mg/l

Type of value	PNEC	
Type	Saltwater	
Concentration	0	mg/l

Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	10	mg/l

Type of value	PNEC	

Type	Water (intermittent release)	
Concentration	0,019	mg/l

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Type of value	PNEC	
Type	Freshwater	
Concentration	0,00195	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,000195	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	0,0195	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,00514	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,000514	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,000674	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	45	mg/l

Hexamethylene diacrylate

Type of value	PNEC	
Type	Soil	
Concentration	0,094	mg/kg
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,493	mg/kg
Type of value	PNEC	
Type	Freshwater	
Concentration	0,007	mg/l
Type of value	PNEC	

Type	Saltwater	
Concentration	0,001	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	2,7	mg/l
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,049	mg/kg

n-Butyl acetate

Type of value	PNEC	
Type	Freshwater	
Concentration	0,18	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,018	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,981	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,0981	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,0903	mg/kg
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	35,6	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	0,36	mg/l

Prop-2-enoic acid, reaction products with pentaerythritol

Type of value	PNEC	
Type	Freshwater	
Concentration	0,0032	mg/l
Type of value	PNEC	

Type	Saltwater	
Concentration	0,00032	mg/l
Type of value	PNEC	
Type	Water (intermittent release)	
Concentration	0,032	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	10	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	1,73	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,173	mg/kg
Type of value	PNEC	
Type	Soil	
Concentration	0,34	mg/kg

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Type of value	PNEC	
Type	Freshwater	
Concentration	1	µg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	1	µg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	1	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	0,712	mg/kg
Type of value	PNEC	
Type	Marine sediment	
Concentration	0,712	mg/kg

8.2. Exposure controls

Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

General protective and hygiene measures

Observe the usual precautions for handling chemicals. Wearing closed work clothing is required. Wash hands and / or face before breaks and after work. Take off dirty, soaked clothes immediately. Wash soiled clothing before re-use. Store work clothing separately.

Respiratory protection

In situations where misting or flying may occur use appropriate certified respirators to EN 140. If workers could be exposed to concentrations above the exposure limit they should use a respirator to EN 140, fitted with a filter suitable for both particulates and vapours, to EN 14387, with an assigned protection factor of at least 10 (e.g. A2P3) Selection of any respiratory protective equipment should ensure that it is adequate to reduce exposure to protect the worker's health and is suitable for the wearer, task and environment, including consideration of the facial features of the wearer.

Hand protection

There is no one glove material or combination of materials that will give unlimited resistance to any individual or combination of chemicals.
Use gloves tested according to EN ISO 374.
For prolonged or repeated handling, use

Appropriate Material	nitrile		
Material thickness	>	0,56	
Breakthrough time	<	30	min

PVC or rubber gloves are not recommended.
The breakthrough time must be greater than the end use time of the product.
The instructions and information provided by the glove manufacturer on use, storage, maintenance and replacement must be followed.
Gloves should be replaced regularly and if there is any sign of damage to the glove material.
Always ensure that gloves are free from defects and that they are stored and used correctly.
The performance or effectiveness of the glove may be reduced by physical/ chemical damage and poor maintenance.
Barrier creams may help to protect the exposed areas of the skin, they should however not be applied once exposure has occurred.

Eye protection

Use safety eyewear tested according to EN ISO 16321-1 designed to protect against splash of liquids.

Body protection

Personnel should wear anti-static clothing made of natural fibre or of high temperature resistant synthetic fibre. Cotton or cotton/synthetic overalls or coveralls are normally suitable.

Environmental exposure controls

Do not allow to enter drains or water courses. If the legally prescribed emission limits are exceeded, a suitable exhaust air purification system must be installed.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	white

Odour solvent-like

Melting point

Remarks Not applicable due to nature of the product

Freezing point

Remarks Not applicable due to nature of the product

Boiling point or initial boiling point and boiling range

Reference substance	n-Butyl acetate			
Value	appr.	126		°C
Pressure		1.013	hPa	
Source	Literature value			

Flammability

Flammable.

Upper and lower explosive limits

Reference substance	n-Butyl acetate		
Lower explosion limit	appr.	1,2	%(V)
Reference substance	n-Butyl acetate		
Upper explosion limit	appr.	15	%(V)
Source	Literature value		

Flash point

Value		42	°C
Method	ASTM D 6450 (CCCFP)		

Auto-ignition temperature

Value	appr.	200	°C
Source	Literature value		

Decomposition temperature

Remarks No decomposition if used as prescribed.

pH value

Remarks Not applicable

Remarks substance/mixture is non-soluble (in water)

Viscosity

kinematic

Value	>	1400		mm²/s
Temperature		20	°C	
Method	derived from dynamic viscosity			

Solubility(ies)

Remarks Not applicable due to nature of the product

Partition coefficient n-octanol/water (log value)

Remarks Not applicable due to nature of the product

Vapour pressure

Value		10,2	hPa
Temperature		20	°C
Method	calculated		

Density and/or relative density

Value	1,370		g/cm³
Temperature	20	°C	

Relative vapour density

Value	>	1

Particle characteristics

Remarks	Not applicable due to nature of the product

9.2. Other information

Other information

The physical specifications are approximate values and refer to the used safety relevant component(s).

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions when stored and handled according to prescribed instructions.

10.2. Chemical stability

This mixture contains materials which are unstable under the following conditions: exposure to heat (>50°C), strong UV sources.

10.3. Possibility of hazardous reactions

Keep away from oxides, radical initiators, peroxides, strongly alkaline and strongly acidic materials and reactive metals. These can cause exothermic reactions, such as exothermic polymerisation.

10.4. Conditions to avoid

Unintentional contact with them should be avoided. Protect from heat/overheating. When exposed to high temperatures may produce hazardous decomposition products. Avoid high concentrations of solvent vapours. Observe the notes on ventilation (section 8).

10.5. Incompatible materials

Oxidising agents, Radical initiators, Peroxides, strongly alkaline substances, Strongly acidic substances, reactive metals

10.6. Hazardous decomposition products

See chapter 5.2 (Firefighting measures - Special hazards arising from the substance or mixture). No decomposition during intended use (see section 1).

SECTION 11: Toxicological information

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

Acute oral toxicity

ATE	>	2.000	mg/kg
Method	calculated value (Regulation (EC) No. 1272/2008)		

Acute oral toxicity (Components)

n-Butyl acetate

Species	rat (female)	
LD50	10760	mg/kg
Method	OECD 423	

Prop-2-enoic acid, reaction products with pentaerythritol

Species	rat			
LD50	540	to	1350	mg/kg

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Species	rat	
LD50	1694	mg/kg
Method	OECD 423	

Acute dermal toxicity

Remarks Based on available data, the classification criteria are not met.

Acute dermal toxicity (Components)

n-Butyl acetate

Species	Rats (male/female)	
LD50	14112	mg/kg
Method	OECD 402	

Trimethylolpropane ethoxylated, triacrylate

Species	rabbit	
LD50	> 13200	mg/kg

Acute inhalational toxicity

Remarks Based on available data, the classification criteria are not met.

Acute inhalative toxicity (Components)

n-Butyl acetate

Species	Rats (male/female)	
LC50	> 21	mg/l
Duration of exposure	4 h	
Method	OECD 403	

Skin corrosion/irritation

evaluation irritant

Remarks The classification criteria are met.

Skin corrosion/irritation (Components)

Hexamethylene diacrylate

Species	rabbit
evaluation	irritant
Method	OECD 404

Serious eye damage/irritation

evaluation irritant

Remarks The classification criteria are met.

Serious eye damage/irritation (Components)

Trimethylolpropane ethoxylated, triacrylate

Species	rabbit
evaluation	irritant
Method	OECD 405

Hexamethylene diacrylate

Species	rabbit
evaluation	irritant

Method	OECD 405

Sensitization

evaluation	May cause sensitization by skin contact.
Remarks	The classification criteria are met.

Sensitization (Components)

Trimethylolpropane ethoxylated, triacrylate

Species	guinea pig
evaluation	sensitizing
Method	OECD 406

Hexamethylene diacrylate

Species	guinea pig
evaluation	sensitizing
Method	OECD 406

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Route of exposure	dermal
Species	guinea pig
evaluation	sensitizing
Method	OECD 406

Mutagenicity

Remarks	Based on available data, the classification criteria are not met.

Reproductive toxicity

Remarks	Based on available data, the classification criteria are not met.

Carcinogenicity

Remarks	Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT)

Single exposure

Remarks	The classification criteria are met.
evaluation	May cause drowsiness or dizziness.

Repeated exposure

Remarks	Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

Endocrine disrupting properties with respect to humans

The product does not contain a substance that has endocrine disrupting properties with respect to humans.

Experience in practice

Exposure to component solvents vapours concentration in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Irritating to skin. May cause an allergic skin reaction. The liquid splashed in the eyes

may cause irritation and reversible damage. Ingestion may cause nausea, diarrhoea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Other information

There are no data available on the mixture itself.
The mixture has been assessed following the additivity method of the CLP Regulation (EC) No 1272/2008 and classified for toxicological hazards accordingly.

SECTION 12: Ecological information

12.1. Toxicity

General information

There are no data available on the mixture itself.Do not allow to enter drains or water courses.The mixture has been assessed following the summation method of the CLP Regulation (EC) No 1272/2008 and is classified for eco-toxicological properties accordingly. See Sections 2 and 3 for details.

Fish toxicity (Components)

Prop-2-enoic acid, reaction products with pentaerythritol

Species	carp (Cyprinus carpio)			
LC50	3,2			mg/l
Duration of exposure	96	h		

Prop-2-enoic acid, reaction products with pentaerythritol

Species	carp (Cyprinus carpio)			
NOEC	2,2			mg/l
Duration of exposure	96	h		

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Species	golden orfe (Leuciscus idus)			
LC50	160			mg/l
Duration of exposure	48	h		
Method	DIN 38412 / Part 15			

Hexamethylene diacrylate

Species	golden orfe (Leuciscus idus)			
EC50	1,6	to	10	mg/l
Duration of exposure	96	h		

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Species	zebra fish (Brachydanio rerio)			
LC50	> 0,09			mg/l
Duration of exposure	96	h		
Method	OECD 203			
Remarks	The product was tested above its maximum solubility.			

Daphnia toxicity (Components)

Prop-2-enoic acid, reaction products with pentaerythritol

EC50	13			mg/l
Duration of exposure	48	h		

Prop-2-enoic acid, reaction products with pentaerythritol

NOEC	10,3		mg/l
Duration of exposure	48	h	

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Species	Daphnia magna		
EC50	> 119		mg/l
Duration of exposure	48	h	
Method	OECD 202		

Hexamethylene diacrylate

Species	Daphnia magna		
EC50	2,6		mg/l
Duration of exposure	48	h	

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Species	Daphnia magna		
EC50	> 1,175		mg/l
Duration of exposure	48	h	
Method	OECD 202		
Remarks	The product was tested above its maximum solubility.		

Algae toxicity (Components)

Prop-2-enoic acid, reaction products with pentaerythritol

Species	Pseudokirchneriella subcapitata		
ErC50	12		mg/l
Duration of exposure	24	h	

2-Hydroxy-2-methyl-1-phenyl-1-propanone

Species	Desmodesmus		
EC50	1,95		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Hexamethylene diacrylate

Species	Desmodesmus		
EC50	1,5		mg/l
Duration of exposure	72	h	

Hexamethylene diacrylate

Species	Desmodesmus		
NOEC	0,5		mg/l
Duration of exposure	72	h	

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Species	Scenedesmus subspicatus		
EC50	> 0,26		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Remarks	The product was tested above its maximum solubility.		

Bacteria toxicity (Components)

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Species	activated sludge

EC50	>	100	mg/l
Duration of exposure		3 h	
Method	OECD 209		
Remarks	The product was tested above its maximum solubility.		

12.2. Persistence and degradability

General information

No data available

Biodegradability (Components)

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Value		1	%
Duration of test		28 d	
evaluation	not readily degradable		
Method	OECD 301B / ISO 9439 / EEC 92/69 C.4-C		

12.3. Bioaccumulative potential

General information

There are no data available on the mixture itself.

Partition coefficient n-octanol/water (log value)

Remarks	Not applicable due to nature of the product

Bioconcentration factor (BCF) (Components)

Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

BCF	<	5
Method	OECD 305 C	

12.4. Mobility in soil

General information

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

General information

There are no data available on the mixture itself.

Results of PBT and vPvB assessment

The product contains no PBT substances
The product contains no vPvB substances.

12.6 Endocrine disrupting properties

Endocrine disrupting properties with respect to the envrionment

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

General information

There are no data available on the mixture itself.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Do not allow to enter drains or water courses.
Wastes and emptied containers should be classified in accordance with relevant national regulation.
The European Waste Catalogue classification of this product, when disposed of as waste is
EWC waste code 08 03 12* waste ink containing dangerous substances
If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.
For further information contact your local waste authority.

Disposal recommendations for packaging

Using information provided in this safety data sheet, advice should be obtained from the relevant waste authority on the classification of empty containers.
Empty containers must be scrapped or reconditioned.
Dispose of containers contaminated by the product in accordance with local or national legal provisions.

SECTION 14: Transport information

	Land transport ADR/RID	Marine transport IMDG/GGVSee	Air transport ICAO/IATA
14.1. UN number	1210	1210	1210
14.2. UN proper shipping name	PRINTING INK	PRINTING INK	PRINTING INK
14.3. Transport hazard class(es)	3	3	3
Label			
14.4. Packing group	III	III	III
Remarks	The product is viscous; non-dangerous good in Containers with not more than 450 ltrs.	Transport according to 2.3.2.5 of the IMDG Code	
Limited Quantity	5 l	5 l	
Transport category	3		
14.5. Environmental hazards	-		
Tunnel restriction code	E		

Information for all modes of transport

14.6. Special precautions for user

Transport within the user's premises:
Always transport in closed containers that are upright and secure.
Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Other information

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

VOC

VOC (EU)	22,58	%	
VOC (EU)		309,3	g/l

Other regulations, restrictions and prohibition regulations

The product complies with the requirements of the Persistent Organic Pollutants Regulation 2019/1021.
The product complies with the requirements of Regulation 2024/590 on substances that deplete the ozone layer.
The product is not subject to Regulation 649/2012 on the export and import of dangerous chemicals.

Other information

The product does not contain substances of very high concern (SVHC).

Other information

All components are contained in the ECL inventory.

All components are contained in the AICS inventory.

All components are contained in the TSCA inventory or exempted.

15.2. Chemical safety assessment

For this preparation a chemical safety assessment has not been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H226	Flammable liquid and vapour.
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.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
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.

CLP categories listed in Chapter 3

Acute Tox. 4	Acute toxicity, Category 4
Aquatic Acute 1	Hazardous to the aquatic environment, acute, Category 1

Aquatic Chronic 2	Hazardous to the aquatic environment, chronic, Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment, chronic, Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment, chronic, Category 4
Asp. Tox. 1	Aspiration hazard, Category 1
Eye Dam. 1	Serious eye damage, Category 1
Eye Irrit. 2	Eye irritation, Category 2
Flam. Liq. 2	Flammable liquid, Category 2
Flam. Liq. 3	Flammable liquid, Category 3
Repr. 2	Reproductive toxicity, Category 2
Skin Irrit. 2	Skin irritation, Category 2
Skin Sens. 1	Skin sensitization, Category 1
Skin Sens. 1A	Skin sensitization, Category 1A
STOT SE 3	Specific target organ toxicity - single exposure, Category 3

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***

This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.

The information in this Safety Data Sheet is based on the present state of knowledge and current legislation.

It provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions.

As the specific conditions of use of the product are outside the supplier’s control, the user is responsible for ensuring that the requirements of relevant legislation are complied with.

The information contained in this safety data sheet does not constitute the user’s own assessment of workplace risks, as required by other health and safety legislation.