

Safety Data Sheet

according to Regulation (EC) No 1907/2006

BM ID-CARTR. BK, Art.-Nr. 1044345

Revision date: 27.03.2018

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

1.1. Product identifier

BM ID-CARTR. BK, Art.-Nr. 1044345

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

Use of the substance/mixture

Ink and toners

1.3. Details of the supplier of the safety data sheet

Company name:	PHOENIX CONTACT GmbH & Co. KG	
Street:	Flachsmarktstr. 8	
Place:	D-32825 Blomberg	
Telephone:	+49 (0) 5235/300	Telefax: +495235 341200
e-mail:	info@phoenixcontact.com	
Responsible Department:	sdb@nuc.eu	

1.4. Emergency telephone number: +49 (0) 228 19240 (Informationszentrale gegen Vergiftungen Bonn, 24 h); +49 (0) 700 24112 112 (PCC)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:

Skin corrosion/irritation: Skin Irrit. 2

Serious eye damage/eye irritation: Eye Dam. 1

Respiratory or skin sensitisation: Skin Sens. 1

Reproductive toxicity: Repr. 2

Specific target organ toxicity - repeated exposure: STOT RE 2

Hazardous to the aquatic environment: Aquatic Chronic 3

Hazard Statements:

Causes skin irritation.

Causes serious eye damage.

May cause an allergic skin reaction.

Suspected of damaging fertility. Suspected of damaging the unborn child.

May cause damage to organs through prolonged or repeated exposure.

Harmful to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008

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Hazard components for labelling

2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate
 Hexamethylene diacrylate
 1-vinylhexahydro-2H-azepin-2-one
 oxybis(methyl-2,1-ethanediyl) diacrylate
 2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine
 2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one
 Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
 Vinylesterharz NNB
 Glycerol, propoxylated, esters with acrylic acid
 phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide

Signal word: Danger

Pictograms:



Hazard statements

H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H318 Causes serious eye damage.
 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P264 Wash with water and soap thoroughly after handling.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

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Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate			30-35 %
	239-701-3	607-111-00-9	01-2119489896-11	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1; H315 H319 H317			
13048-33-4	Hexamethylene diacrylate			30-35 %
	235-921-9		01-2119484737-22	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412			
2235-00-9	1-vinylhexahydro-2H-azepin-2-one			<10 %
	218-787-6		01-2119977109-27	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1, STOT RE 1; H312 H302 H319 H317 H372			
119344-86-4	2-(dimethylamino)-2-[[4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one			1-5%
	438-340-0		01-0000018315-73	
	Repr. 2; H361			
57472-68-1	oxybis(methyl-2,1-ethanediy) diacrylate			1-5 %
	260-754-3		01-2119484629-21	
	Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1; H315 H318 H317			
111497-86-0	2-Propenoic acid, (1-methyl-1,2-ethanediy) bis[oxy(methyl-2,1-ethanediy)] ester, reaction products with diethylamine			1-5 %
	601-101-8		01-2119961351-42	
	Skin Irrit. 2, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 3; H315 H319 H317 H412			
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide			<1%
	278-355-8	015-203-00-X	01-2119972295-29	
	Repr. 2, Skin Sens. 1, Aquatic Chronic 2; H361f H317 H411			
	Vinylesterharz NNB			<1%
	Skin Sens. 1; H317			
52408-84-1	Glycerol, propoxylated, esters with acrylic acid			<1%
	500-114-5		01-2119487948-12	
	Eye Irrit. 2, Skin Sens. 1; H319 H317			
	Hilfsmittel NNB			<1%
	Aquatic Acute 1, Aquatic Chronic 1; H400 H410			
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide			<1%
	423-340-5	015-189-00-5	01-2119489401-38	
	Skin Sens. 1, Aquatic Chronic 4; H317 H413			

Full text of H and EUH statements: see section 16.

SECTION 4: First aid measures

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4.1. Description of first aid measures

General information

Remove contaminated, saturated clothing immediately. Do not leave affected person unattended. When in doubt or if symptoms are observed, get medical advice.

After inhalation

Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

After contact with skin

Wash immediately with: Water and soap

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Let water be drunk in little sips (dilution effect).

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

No known symptoms to date.

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol resistant foam.
Carbon dioxide (CO₂).
Dry extinguishing powder.
Atomized water.

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Carbon dioxide (CO₂).
Carbon monoxide

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protection equipment. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Remove persons to safety.

6.2. Environmental precautions

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

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6.3. Methods and material for containment and cleaning up

Universal binder
Absorbing material, organic

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
SECTION 13: Disposal considerations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

All work processes must always be designed so that the following is excluded:
Inhalation of vapours or spray/mists
Skin contact
Eye contact
If handled uncovered, arrangements with local exhaust ventilation have to be used.
Always close containers tightly after the removal of product.

Advice on protection against fire and explosion

Usual measures for fire prevention.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep only in original packaging.
Keep container tightly closed.
storage temperature: 4°C - 25°C

Advice on storage compatibility

No special measures are necessary.

7.3. Specific end use(s)

Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate			
Worker DNEL, long-term		inhalation	systemic	3,5 mg/m ³
Worker DNEL, long-term		dermal	systemic	83 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	0,87 mg/m ³
Consumer DNEL, long-term		dermal	systemic	42 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,5 mg/kg bw/day
13048-33-4	Hexamethylene diacrylate			
Worker DNEL, long-term		inhalation	systemic	24,5 mg/m ³
Worker DNEL, long-term		dermal	systemic	2,77 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	7,2 mg/m ³
Consumer DNEL, long-term		dermal	systemic	1,66 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	2,1 mg/kg bw/day
2235-00-9	1-vinylhexahydro-2H-azepin-2-one			
Worker DNEL, long-term		inhalation	systemic	4,9 mg/m ³
Worker DNEL, long-term		inhalation	local	0,17 mg/m ³
Worker DNEL, long-term		dermal	systemic	0,7 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	1,04 mg/m ³
Consumer DNEL, long-term		inhalation	local	0,04 mg/m ³
Consumer DNEL, long-term		dermal	systemic	0,42 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	0,4 mg/kg bw/day
57472-68-1	oxybis(methyl-2,1-ethanediy) diacrylate			
Worker DNEL, long-term		inhalation	systemic	24,48 mg/m ³
Worker DNEL, long-term		dermal	systemic	2,77 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	7,24 mg/m ³
Consumer DNEL, long-term		dermal	systemic	1,66 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	2,08 mg/kg bw/day
111497-86-0	2-Propenoic acid, (1-methyl-1,2-ethanediy) bis[oxy(methyl-2,1-ethanediy)] ester, reaction products with diethylamine			
Worker DNEL, long-term		inhalation	systemic	23,51 mg/m ³
Worker DNEL, long-term		dermal	systemic	3,33 mg/kg bw/day

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119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one		
Worker DNEL, long-term	inhalation	systemic	1,4 mg/m ³
Worker DNEL, long-term	dermal	systemic	0,2 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,35 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,1 mg/kg bw/day
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		
Worker DNEL, long-term	inhalation	systemic	3,5 mg/m ³
Worker DNEL, long-term	dermal	systemic	1 mg/kg bw/day
52408-84-1	Glycerol, propoxylated, esters with acrylic acid		
Worker DNEL, long-term	inhalation	systemic	3,7 mg/m ³
Worker DNEL, long-term	dermal	systemic	1,04 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,9 mg/m ³
Consumer DNEL, long-term	dermal	systemic	0,52 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,52 mg/kg bw/day
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide		
Worker DNEL, long-term	inhalation	systemic	21 mg/m ³
Worker DNEL, long-term	dermal	systemic	3 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	5,2 mg/m ³
Consumer DNEL, long-term	dermal	systemic	1,5 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	1,5 mg/kg bw/day

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PNEC values

CAS No	Substance		Value
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate	Environmental compartment	
		Freshwater	0,001 mg/l
		Marine water	0 mg/l
		Freshwater sediment	0,015 mg/kg
		Marine sediment	0,003 mg/kg
		Secondary poisoning	10 mg/kg
		Soil	0,005 mg/kg
13048-33-4	Hexamethylene diacrylate		
		Freshwater	0,002 mg/l
		Marine water	0 mg/l
		Freshwater sediment	0,024 mg/kg
		Marine sediment	0,002 mg/kg
		Soil	0,004 mg/kg
2235-00-9	1-vinylhexahydro-2H-azepin-2-one		
		Freshwater	0,1 mg/l
		Marine water	0,01 mg/l
		Freshwater sediment	0,829 mg/kg
		Marine sediment	0,083 mg/kg
		Soil	0,107 mg/kg
57472-68-1	oxybis(methyl-2,1-ethanediyl) diacrylate		
		Freshwater	0,003 mg/l
		Marine water	0 mg/l
		Freshwater sediment	0,009 mg/kg
		Soil	0,001 mg/kg
111497-86-0	2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine		
		Freshwater	0,1 mg/l
		Freshwater (intermittent releases)	1 mg/l
		Marine water	0,01 mg/l
		Micro-organisms in sewage treatment plants (STP)	100 mg/l
119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one		
		Micro-organisms in sewage treatment plants (STP)	10 mg/l
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide		
		Freshwater	0,004 mg/l
		Marine water	0 mg/l
		Freshwater sediment	0,29 mg/kg
		Marine sediment	0,029 mg/kg

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Soil		0,056 mg/kg
52408-84-1	Glycerol, propoxylated, esters with acrylic acid	
Freshwater		0,006 mg/l
Freshwater (intermittent releases)		0,057 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,078 mg/kg
Marine sediment		0,008 mg/kg
Secondary poisoning		5,6 mg/kg
Micro-organisms in sewage treatment plants (STP)		10 mg/l
Soil		0,012 mg/kg
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	
Freshwater		0,001 mg/l
Marine water		0,001 mg/l
Freshwater sediment		0,712 mg/kg
Marine sediment		0,712 mg/kg
Soil		20 mg/kg

8.2. Exposure controls

Protective and hygiene measures

General health and safety measures:
Wash hands before breaks and after work.
Keep away from food, drink and animal feedingstuffs.

Eye/face protection

Suitable eye protection: goggles

Hand protection

Suitable gloves type: Gloves with long cuffs
Suitable material: NBR (Nitrile rubber)
Tested protective gloves must be worn: DIN EN 374
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Observe the wear time limits as specified by the manufacturer.

Skin protection

Suitable protective clothing: lab coat

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	black	
Odour:	characteristic	
pH-Value:		not determined

Changes in the physical state

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Melting point:	not determined
Initial boiling point and boiling range:	not determined
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined
Flash point:	>60 °C

Flammability

Solid:	not determined
Gas:	not determined

Explosive properties

No information available.

Lower explosion limits:	not determined
Upper explosion limits:	not determined
Ignition temperature:	not determined

Auto-ignition temperature

Solid:	not determined
Gas:	not determined

Decomposition temperature:	not determined
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Oxidizing properties

Not oxidising.

Vapour pressure:	not determined
Vapour pressure:	not determined
Density (at 20 °C):	1,076 g/cm ³
Bulk density:	not determined
Water solubility:	not determined

Solubility in other solvents

No information available.

Partition coefficient:	not determined
Viscosity / dynamic: (at 25 °C)	24,8 mPa·s
Flow time:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

Solid content:	not determined
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SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is chemically stable under recommended conditions of storage, use and temperature.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

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10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.

10.4. Conditions to avoid

In case of light influence: Danger of polymerisation

10.5. Incompatible materials

Violent reaction with: Alkali metals, Oxidising agent, strong, Reducing agent, strong

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

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

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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate				
	oral	LD50 > 5000 mg/kg	Rat	Study report (1972)	An acute oral toxicity study was performed
	dermal	LD50 > 2000 mg/kg	Rabbit	Other company data (1981)	
13048-33-4	Hexamethylene diacrylate				
	oral	LD50 >5000 mg/kg	Rat		
	dermal	LD50 >3000 mg/kg	Rabbit		
2235-00-9	1-vinylhexahydro-2H-azepin-2-one				
	oral	LD50 1114 mg/kg	Rat	Study report	OECD Guideline 401
	dermal	LD50 1700 mg/kg	Rabbit	Study report (1993)	OECD Guideline 402
119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one				
	oral	LD50 > 2000 mg/kg	Rat	Study report (2001)	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2001)	OECD Guideline 402
57472-68-1	oxybis(methyl-2,1-ethanediyl) diacrylate				
	oral	LD50 3530 mg/kg	Rat	Study report (1987)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rabbit	Publication (1984)	OECD Guideline 402
111497-86-0	2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine				
	oral	LD50 > 2000 mg/kg	Rat	Study report	OECD Guideline 423
	dermal	LD50 > 2000 mg/kg	Rat	Study report (2010)	OECD Guideline 402
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide				
	oral	LD50 >5000 mg/kg	Rat		
	dermal	LD50 >5000 mg/kg	Rat		
52408-84-1	Glycerol, propoxylated, esters with acrylic acid				
	oral	LD50 > 2000 mg/kg	Rat	Study report (1993)	OECD Guideline 401
	dermal	LD50 > 2000 mg/kg	Rabbit	Study report (1983)	OECD Guideline 402
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide				
	oral	LD50 > 5000 mg/kg	Rat	OECD Guideline 401	

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	dermal	LD50 mg/kg	>= 2000	Rat	OECD Guideline 402	
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Irritation and corrosivity

Causes skin irritation.
Causes serious eye damage.

Sensitising effects

May cause an allergic skin reaction. (2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate; Hexamethylene diacrylate; 1-vinylhexahydro-2H-azepin-2-one; oxybis(methyl-2,1-ethanediyl) diacrylate; 2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine; Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide; Vinylesterharz NNB; Glycerol, propoxylated, esters with acrylic acid; phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide)

Carcinogenic/mutagenic/toxic effects for reproduction

Suspected of damaging fertility. Suspected of damaging the unborn child.
Germ cell mutagenicity: Based on available data, the classification criteria are not met.
Carcinogenicity: Based on available data, the classification criteria are not met.

STOT-single exposure

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

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure. (1-vinylhexahydro-2H-azepin-2-one)

Aspiration hazard

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

SECTION 12: Ecological information

12.1. Toxicity

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] [d]	Species	Source	Method
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate					
	Acute fish toxicity	LC50 mg/l	1,47	96 h	Leuciscus idus	Study report (1988) EU Method C.1
	Acute algae toxicity	ErC50 mg/l	4,86	96 h	Desmodesmus subspicatus	Study report (1989) EU Method C.3
	Acute crustacea toxicity	EC50 mg/l	19,9	48 h	Daphnia magna	Study report (1991) EU Method C.2
13048-33-4	Hexamethylene diacrylate					
	Acute crustacea toxicity	EC50 mg/l	1-10	48 h	Daphnia pulex (water flea)	
2235-00-9	1-vinylhexahydro-2H-azepin-2-one					
	Acute fish toxicity	LC50	318 mg/l	96 h	Danio rerio	Study report (1995) OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	Study report (1993) other: 79/831/EEC, Annex V, part C
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	Study report (1993) EU Method C.2
119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one					
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Danio rerio	REACH Registration Dossier OECD Guideline 203
	Acute algae toxicity	ErC50 mg/l	> 100	72 h	Desmodesmus subspicatus	REACH Registration Dossier OECD Guideline 201
	Acute crustacea toxicity	EC50 mg/l	> 100	48 h	Daphnia magna	REACH Registration Dossier OECD Guideline 202
	Acute bacteria toxicity	(> 100 mg/l)		3 h	activated sludge of a predominantly domestic sewage	REACH Registration Dossier OECD Guideline 209
57472-68-1	oxybis(methyl-2,1-ethanediyl) diacrylate					
	Acute fish toxicity	LC50	2,2 - 4,64 mg/l	96 h	Leuciscus idus	Study report (1989) other: German industrial standard test g
	Acute algae toxicity	ErC50 mg/l	16,7	72 h	Desmodesmus subspicatus	Study report (1990) other: DIN 38412, part 9
	Acute crustacea toxicity	EC50 mg/l	22,3	48 h	Daphnia magna	Study report (1988) EU Method C.2
	Acute bacteria toxicity	(> 1000 mg/l)		0,5 h	activated sludge, domestic	Study report (2002) OECD Guideline 209
111497-86-0	2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine					
	Acute fish toxicity	LC50 mg/l	> 100	96 h	Danio rerio	REACH Registration Dossier OECD Guideline 203

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	Acute bacteria toxicity	(> 1000 mg/l)	0,5 h	Activated sludge	REACH Registration Dossier	OECD Guideline 209
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide					
	Acute algae toxicity	ErC50 >2,01 mg/l	72 h	Pseudokirchneriella subcapitata		
	Acute crustacea toxicity	EC50 3,53 mg/l	48 h	Daphnia magna (Big water flea)		
52408-84-1	Glycerol, propoxylated, esters with acrylic acid					
	Acute fish toxicity	LC50 5,74 mg/l	96 h	Danio rerio	Study report (2010)	OECD Guideline 203
	Acute algae toxicity	ErC50 12,2 mg/l	72 h	Desmodesmus subspicatus	Study report (2010)	OECD Guideline 201
	Acute crustacea toxicity	EC50 91,4 mg/l	48 h	Daphnia magna	Study report (2010)	OECD Guideline 202
162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide					
	Acute fish toxicity	LC50 >0,09 mg/l	96 h	Brachydanio rerio (zebra-fish)		
	Acute algae toxicity	ErC50 >=0,260 mg/l	72 h	Desmodesmus subspicatus		
	Acute crustacea toxicity	EC50 >1,175 mg/l	48 h	Daphnia magna (Big water flea)		
	Crustacea toxicity	NOEC >=0,008 mg/l	21 d	Daphnia magna (Big water flea)		

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
15625-89-5	2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate	>= 3,3
2235-00-9	1-vinylhexahydro-2H-azepin-2-one	1,2
119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	4,1
57472-68-1	oxybis(methyl-2,1-ethanediyl) diacrylate	0,01 - 0,39
52408-84-1	Glycerol, propoxylated, esters with acrylic acid	2,52

BCF

CAS No	Chemical name	BCF	Species	Source
119344-86-4	2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one	758	Cyprinus carpio	REACH Registration D

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Contaminated packaging

Dispose of waste according to applicable legislation.
Completely emptied packages can be recycled.

SECTION 14: Transport information

Land transport (ADR/RID)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

<u>14.1. UN number:</u>	No dangerous good in sense of this transport regulation.
<u>14.2. UN proper shipping name:</u>	No dangerous good in sense of this transport regulation.
<u>14.3. Transport hazard class(es):</u>	No dangerous good in sense of this transport regulation.
<u>14.4. Packing group:</u>	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No dangerous good in sense of this transport regulation.

SECTION 15: Regulatory information

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

National regulatory information

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Employment restrictions: Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe employment restrictions for women of child-bearing age.

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:

2,2-bis(acryloyloxymethyl)butyl acrylate, trimethylolpropane triacrylate

Hexamethylene diacrylate

1-vinylhexahydro-2H-azepin-2-one

oxybis(methyl-2,1-ethanediyl) diacrylate

2-Propenoic acid, (1-methyl-1,2-ethanediyl) bis[oxy(methyl-2,1-ethanediyl)] ester, reaction products with diethylamine

2-(dimethylamino)-2-[(4-methylphenyl)methyl]-1-[4-(morpholin-4-yl)phenyl]butan-1-one

SECTION 16: Other information

Abbreviations and acronyms

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL: Acceptable Operator Exposure Level

AOX: Adsorbable organic halogen compounds

ATE: Acute Toxicity Estimate

Acute Tox.: Acute Toxicity

AGW: Arbeitsplatzgrenzwert

Aquatic Chronic: Long-term hazardous to the aquatic environment

BAM: Bundesanstalt für Materialforschung und -prüfung

BAuA: Bundesanstalt für Arbeitsschutz und Arbeitsmedizin

BCF: Bioconcentration factor

BOD: Biochemical oxygen demand

BSEF: Bromine Science and Environmental Forum

bw: body weight

CAS: Chemical Abstracts Service

CEC: Coordinating European Council of the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO: Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC: Collaborative International Pesticides Analytical Council

CLP: Classification, Labelling & Packaging

CMR: Cancerogen Mutagen Reprotoxic

COD: Chemical oxygen demand

CTFA: Cosmetic, Toiletry, and Fragrance Association

DIN: Deutsches Institut für Normung

DMEL: Derived Minimum Effect Level

DNEL: Derived No Effect Level

DOC: Dissolved organic carbon

DT50: Dwell Time - 50% reduction of start concentration

dw: dry weight

EC 20: Effective Concentration where 20 % of an effect is observed

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EC 50: Half-maximal Effective Concentration
ECHA: European Chemicals Agency
EG: Europäische Gemeinschaft
Eye Dam.: Serious eye damage
Eye Irr.: Serious eye irritation
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
EPA: United States Environmental Protection Agency
ERC: Environmental Release Categories
Flam. Liq.: Flammable Liquids
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GWP: Global warming potential
HET-CAM: Hen's Egg Test - Chorionallantoic Membrane
HGWP: Halocarbon Global Warming Potential
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC: Intermediate Bulk Container
IBC (Code): International Bulk Chemical (Code)
IMDG: International Maritime Code for Dangerous Goods
IUCLID: International Uniform Chemical Information Database
ICAO-TI: International Civil Aviation Organization - Technical Instructions
ISO: Internationale Organisation für Normung
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%
LQ: Limited Quantities
n.a.: Not Applicable
NIOSH: National Institute of Occupational Safety and Health (United States of America)
NOEC: No Observed Effect Level or Concentration
ODP: Ozone Depletion Potential
OECD: Organisation for Economic Co-operation and Development
PAH: Polycyclic Aromatic Hydrocarbon
PBT: Persistent, Bioaccumulative and Toxic
PC: Chemical product category
PNEC: Predicted No Effect Concentration
PROC: Process category
PTFE: Polytetrafluoretilén
REACH: Registration, Evaluation, Authorisation of Chemicals
Repr.: Reproductive toxicity
RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses
SADT: Self-Accelerating Decomposition Temperature
Skin Irr.: Skin irritation
Skin Sens.: Sensitisation of the skin
STOT RE: Specific target organ toxicity (repeated exposure)
STOT SE: Specific target organ toxicity (single exposure)
SU: Sector of use
SVHC: Substances of very High Concern
TA-Luft: Technische Anleitung zur Reinhaltung der Luft
Tel.: Telefon
ThOD: Theoretical oxygen demand

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TOC: Total organic carbon
 UN RTDG: United Nations Recommendation on the Transport of Dangerous Goods
 VOC: Volatile Organic Compound
 VbF: Verordnung über brennbare Flüssigkeiten
 vPvB: Very Persistent and very Bioaccumulative

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Skin Irrit. 2; H315	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method
Repr. 2; H361fd	Calculation method
STOT RE 2; H373	Calculation method
Aquatic Chronic 3; H412	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H361f	Suspected of damaging fertility.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
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.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)