

SAFETY DATA SHEET

According to regulation (EC) n° 1907/2006 Annex II

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

1.1 Product identifier

Product name: LIPLA UV RTR BLACK INK

Product No.: 000001015907

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

Identified uses: Printing ink

Uses advised against: Reserved for industrial and professional use.

1.3 Company/undertaking identification

CMYK Engineering
419 Hindry Ave, Suite F, Inglewood
CA 90301

Ph: (424) 750-9509

Transport Emergency

Non-transportation

Call CHEMTREC : +1 800 4249300
International : +1 703 5273887

Health Emergency Phone : +1 303 6235716

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards

Skin irritation	Category 2	H315: Causes skin irritation.
Serious eye damage	Category 1	H318: Causes serious eye damage.
Skin sensitizer	Category 1	H317: May cause an allergic skin reaction.
Toxic to reproduction	Category 1B	H360Df: May damage the unborn child. Suspected of damaging fertility.
Specific Target Organ Toxicity - Single Exposure	Category 3	H335: May cause respiratory irritation.

Specific Target Organ Toxicity -
Repeated Exposure

Category 2¹.

H373: May cause damage to organs through prolonged or repeated exposure.

Target Organs

1. Liver, Respiratory system

Environmental Hazards

Chronic hazards to the aquatic
environment

Category 2

H411: Toxic to aquatic life with long lasting effects.

2.2 Label Elements

Contains:

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylaat
Oxybis(methyl-2,1-ethanediyl) diacrylate
N-vinyl caprolactam
Isodecyl acrylate
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide



Signal Word:

Danger

Hazard Statement(s):

H315: Causes skin irritation.
H318: Causes serious eye damage.
H317: May cause an allergic skin reaction.
H360Df: May damage the unborn child. Suspected of damaging fertility.
H335: May cause respiratory irritation.
H373: May cause damage to organs through prolonged or repeated exposure.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention:

P201: Obtain special instructions before use.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response:

P333+P313: If skin irritation or rash occurs: Get medical advice/attention.
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.

2.3 Other hazards

Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information:

No data available.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	10 - <20%	5888-33-5	227-561-6	01-2119957862-25-XXXX;	No data available.	
Phenoxyethylacrylate	10 - <20%	48145-04-6	256-360-6	01-2119980532-35-XXXX;	No data available.	
Tetrahydrofurfuryl acrylate	10 - <16,591%	2399-48-6	219-268-7	01-2120738396-46-XXXX;	No data available.	
Oxybis(methyl-2,1-ethanediyl) diacrylate	10 - <20%	57472-68-1	260-754-3	01-2119484629-21-XXXX;	No data available.	
N-vinyl caprolactam	5 - <10%	2235-00-9	218-787-6	01-2119977109-27-XXXX;	No data available.	
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	5 - <10%	67906-98-3		No data available.	No data available.	
Isodecyl acrylate	5 - <10%	1330-61-6	215-542-5	01-2119964031-47-XXXX;	No data available.	
2-Isopropyl-9H-thioxanthen-9-one	5 - <10%	5495-84-1	226-827-9	No data available.	No data available.	
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	1 - <3%	75980-60-8	278-355-8	01-2119972295-29-XXXX;	No data available.	
Ethoxylated phenyl acrylate	1 - <2,5%	56641-05-5		No data available.	No data available.	
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	1 - <5%	162881-26-7		No data available.	No data available.	
2-phenoxyethanol	1 - <5%	122-99-6	204-589-7	01-2119488943-21-XXXX;	No data available.	#
Hexamethylene diacrylate	0,1 - <1%	13048-33-4	235-921-9	01-2119484737-22-XXXX;	No data available.	
Tetrahydrofurfuryl alcohol	0,1 - <0,3%	97-99-4	202-625-6	01-2119968921-26-XXXX;	No data available.	
caprolactam	0,01 - <1%	105-60-2	203-313-2	01-	No data	#

				2119457029-36-XXXX;	available.	
Cetrimonium chloride	0,01 - <0,1%	112-02-7	203-928-6	No data available.	10	
Hydroquinone	0,01 - <0,1%	123-31-9	204-617-8	01-2119524016-51-0002;	10	#

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

Classification

Chemical name	Classification	Notes
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylaat	Skin Irrit.: 2: H315 Eye Irrit.: 2: H319 STOT SE: 3: H335 Skin Sens.: 1B: H317 Aquatic Chronic: 2: H411	Note A
Phenoxyethylacrylate	Skin Sens.: 1A: H317 Repr.: 2: H361d Aquatic Chronic: 2: H411	No data available.
Tetrahydrofurfuryl acrylate	Acute Tox.: 4: H302 Skin Corr.: 1C: H314 Skin Sens.: 1B: H317 Eye Dam.: 1: H318 Repr.: 1B: H360Df Aquatic Chronic: 2: H411	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	Skin Sens.: 1: H317 Eye Dam.: 1: H318 Skin Irrit.: 2: H315	No data available.
N-vinyl caprolactam	Acute Tox.: 4: H302 Eye Irrit.: 2A: H319 Skin Sens.: 1B: H317 STOT RE: 1: H372 Acute Tox.: 4: H312	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	Skin Irrit.: 2: H315 Eye Irrit.: 2: H319	No data available.
Isodecyl acrylate	Skin Irrit.: 2: H315 Eye Irrit.: 2: H319 STOT SE: 3: H335 Skin Sens.: 1B: H317 Aquatic Chronic: 2: H411	Note A
2-Isopropyl-9H-thioxanthen-9-one	STOT RE: 2: H373	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	Repr.: 2: H361f Skin Sens.: 1: H317 Aquatic Chronic: 2: H411	No data available.
Ethoxylated phenyl acrylate	Skin Sens.: 1: H317 Aquatic Chronic: 2: H411	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Skin Sens.: 1: H317 Aquatic Chronic: 4: H413	No data available.
2-phenoxyethanol	Eye Irrit.: 2: H319 Acute Tox.: 4: H302	No data available.
Hexamethylene diacrylate	Skin Irrit.: 2: H315 Eye Irrit.: 2: H319 Skin Sens.: 1: H317	No data available.
Tetrahydrofurfuryl alcohol	Repr.: 1B: H360Df Eye Irrit.: 2: H319	No data available.
caprolactam	Acute Tox.: 4: H302 Skin Irrit.: 2: H315 Acute Tox.: 4: H332 Eye Irrit.: 2: H319 STOT SE: 3: H335	No data available.
Cetrimonium chloride	Acute Tox.: 4: H302 Acute Tox.: 3: H311 Skin Corr.: 1: H314 Eye Dam.: 1: H318 Aquatic Acute: 1: H400 Aquatic Chronic: 1: H410	No data available.
Hydroquinone	Carc.: 2: H351 Muta.: 2: H341 Acute Tox.: 4: H302 Eye Dam.: 1: H318 Skin Sens.: 1: H317 Aquatic Acute: 1: H400 Aquatic Chronic: 1: H410	No data available.

The full text for all H-statements is displayed in section 16.

CLP: Regulation No. 1272/2008.

SECTION 4: First aid measures

General: Get medical attention if symptoms occur.

4.1 Description of first aid measures

Inhalation: Move to fresh air.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-aid Responders: CAUTION! First aid personnel must be aware of own risk during rescue! See Section 8 of the SDS for Personal Protective Equipment.

4.2 Most important symptoms and effects, both acute and delayed: See section 11 of the SDS for additional information on health hazards.

4.3 Indication of any immediate medical attention and special treatment needed

Hazards: See section 11 of the SDS for additional information on health hazards.

Treatment: Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

5.1 Extinguishing media

Suitable extinguishing media: Extinguish with foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture: During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures: See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

6.1.1 For non-emergency personnel: Use personal protective equipment.

6.1.2 For emergency responders: Warn everybody of potential hazards and evacuate if necessary. Use personal protective equipment.

6.2 Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer.

6.3 Methods and material for containment and cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.

6.4 Reference to other sections: See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling: Do not get in eyes. Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.

7.2 Conditions for safe storage, including any incompatibilities: Store locked up.

7.3 Specific end use(s): Reserved for industrial and professional use.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters Occupational Exposure Limits

Chemical name	Type	Exposure Limit Values	Source
2-phenoxyethanol	MAK CEIL	20 ppm 110 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)
	MAK	20 ppm 110 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)
caprolactam - Vapor and dust.	TWA	10 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (12 2009)
	STEL	40 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU, 2017/164/EU (12 2009)
caprolactam - Inhalable fraction.	MAK STEL	40 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)
	MAK	5 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)
caprolactam	STEL	40 mg/m3	EU. Scientific Committee on Occupational Exposure Limit Values (SCOELs), European Commission - SCOEL (2014)
	TWA	10 mg/m3	EU. Scientific Committee on Occupational Exposure Limit Values (SCOELs), European Commission - SCOEL (2014)
Hydroquinone - Inhalable fraction.	MAK CEIL	4 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)
	MAK	2 mg/m3	Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001 (12 2011)

DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylaat	General population	Eyes	Local effect;	No hazard identified
	Workers		Local effect;	No hazard identified
		Dermal	Systemic, long-term; 1,39 mg/kg bw/day	Repeated dose toxicity
	General population		Systemic, long-term; 0,83 mg/kg bw/day	Repeated dose toxicity
		Oral	Systemic, long-term; 0,83 mg/kg bw/day	Repeated dose toxicity
	Workers	Inhalation	Local, long-term; 77 mg/m3	Repeated dose toxicity
Phenoxyethylacrylate			Systemic, long-term; 10 mg/m3	Repeated dose toxicity
		Eyes	Local effect;	No hazard identified
	General population		Local effect;	No hazard identified
	Workers	Dermal	Systemic, long-term; 1,5 mg/kg bw/day	Repeated dose toxicity
		Inhalation	Systemic, long-term; 24,48 mg/m3	Repeated dose toxicity
	General population		Systemic, long-term; 7,24 mg/m3	Repeated dose toxicity
Oxybis(methyl-2,1-ethanediyl)diacrylate	Workers	Eyes	Local effect;	No data available
	General population		Local effect;	No data available
		Dermal	Systemic, long-term; 1,66 mg/kg bw/day	Repeated dose toxicity
		Oral	Systemic, long-term; 2,08 mg/kg bw/day	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 2,77 mg/kg bw/day	Repeated dose toxicity
	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
N-vinyl caprolactam	Workers		Local effect;	Low hazard (no threshold derived)
		Dermal	Local, long-term; 370 µg/cm2	Skin sensitization
		Inhalation	Local, long-term; 37,5 mg/m3	Irritating to respiratory system.
		Eyes	Local effect;	No hazard identified
	General population		Local effect;	No hazard identified
	Workers	Inhalation	Systemic, long-term; 3,5 mg/m3	Repeated dose toxicity
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-		Eyes	Local effect;	No hazard identified
	General population		Local effect;	No data available
	Workers	Dermal	Systemic, long-term; 1 mg/kg bw/day	Repeated dose toxicity
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide		Inhalation	Systemic, long-term; 7,84 mg/m3	Repeated dose toxicity
	General population		Systemic, long-term; 3,92 mg/m3	Repeated dose toxicity
			Systemic, short-term; 1,93 mg/m3	
			Systemic, short-term; 3,92 mg/m3	Repeated dose toxicity
			Systemic, long-term; 1,93 mg/m3	Repeated dose toxicity
		Dermal	Systemic, short-term; 1,67 mg/kg bw/day	
		Inhalation	Systemic, long-term; 2,9 mg/m3	Repeated dose toxicity
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population	Dermal	Systemic, short-term; 1,67 mg/kg bw/day	Repeated dose toxicity
		Inhalation	Systemic, short-term; 3,92 mg/m3	Repeated dose toxicity

	Workers		Systemic, long-term; 16,46 mg/m ³	Repeated dose toxicity
			Systemic, long-term; 11,75 mg/m ³	Repeated dose toxicity
	General population	Eyes	Local effect;	Low hazard (no threshold derived)
	Workers	Dermal	Systemic, long-term; 4,67 mg/kg bw/day	Repeated dose toxicity
	General population	Inhalation	Systemic, short-term; 2,92 mg/m ³	
	Workers	Eyes	Local effect;	No hazard identified
	General population		Local effect;	No hazard identified
	Workers	Inhalation	Systemic, long-term; 7,84 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 1,67 mg/kg bw/day	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 7,84 mg/m ³	Repeated dose toxicity
	General population		Systemic, long-term; 2,92 mg/m ³	Repeated dose toxicity
		Oral	Systemic, short-term; 1,67 mg/kg bw/day	Repeated dose toxicity
		Inhalation	Systemic, long-term; 5,2 mg/m ³	Repeated dose toxicity
		Oral	Systemic, short-term; 1,67 ng/kg bw/day	
	Workers	Dermal	Systemic, long-term; 3,33 mg/kg bw/day	Repeated dose toxicity
			Systemic, long-term; 3 mg/kg bw/day	Repeated dose toxicity
	General population		Systemic, short-term; 1,67 mg/kg bw/day	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 16,46 mg/m ³	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 1,5 mg/kg bw/day	Repeated dose toxicity
		Dermal	Systemic, long-term; 1,67 mg/kg bw/day	Repeated dose toxicity
			Systemic, long-term; 1,5 mg/kg bw/day	Repeated dose toxicity
	Workers	Inhalation	Systemic, short-term; 7,84 mg/m ³	
			Systemic, long-term; 21 mg/m ³	Repeated dose toxicity
2-phenoxyethanol			Systemic, long-term; 8,07 mg/m ³	Repeated dose toxicity
	General population		Systemic, long-term; 2,41 mg/m ³	Repeated dose toxicity
	Workers		Local, short-term; 8,07 mg/m ³	Repeated dose toxicity
	General population		Local, short-term; 2,41 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effect;	No data available
	General population		Local effect;	No data available
	Workers	Dermal	Systemic, long-term; 20,83 mg/kg bw/day	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 9,23 mg/kg bw/day	Repeated dose toxicity
		Dermal	Systemic, long-term; 10,42 mg/kg bw/day	Repeated dose toxicity
		Oral	Systemic, short-term; 9,23 mg/kg bw/day	Repeated dose toxicity
Hexamethylene diacrylate	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population		Local effect;	Low hazard (no threshold derived)
Tetrahydrofurfuryl alcohol		Oral	Systemic, short-term; 0,175 mg/kg bw/day	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 1,4 mg/m ³	Repeated dose toxicity
	General population	Dermal	Systemic, short-term; 0,175 mg/kg bw/day	Repeated dose toxicity

	Workers	Inhalation	Systemic, short-term; 1,4 mg/m3	Repeated dose toxicity
	General population		Systemic, long-term; 0,25 mg/m3	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 0,35 mg/kg bw/day	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 0,175 mg/kg bw/day	Repeated dose toxicity
		Inhalation	Systemic, short-term; 0,25 mg/m3	Repeated dose toxicity
		Dermal	Systemic, long-term; 0,175 mg/kg bw/day	Repeated dose toxicity
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population		Local effect;	Low hazard (no threshold derived)
caprolactam		Inhalation	Systemic, short-term; 2,5 mg/m3	Irritating to respiratory system.
	Workers	Eyes	Local effect;	No data available
	General population	Oral	Systemic, long-term; 8,55 mg/kg bw/day	Repeated dose toxicity
		Eyes	Local effect;	No data available
		Inhalation	Systemic, short-term; 5 mg/m3	Irritating to respiratory system.
	Workers		Systemic, short-term; 5 mg/m3	Irritating to respiratory system.
			Systemic, short-term; 10 mg/m3	Irritating to respiratory system.
Cetrimonium chloride	General population		Systemic, long-term; 0,98 mg/m3	Repeated dose toxicity
	Workers		Systemic, long-term; 3,32 mg/m3	Repeated dose toxicity
		Eyes	Local effect;	Medium hazard (no threshold derived)
	General population	Oral	Systemic, long-term; 2,83 mg/kg bw/day	Repeated dose toxicity
		Eyes	Local effect;	Medium hazard (no threshold derived)
		Dermal	Systemic, long-term; 2,83 mg/kg bw/day	Repeated dose toxicity
	Workers		Systemic, long-term; 4,7 mg/kg bw/day	Repeated dose toxicity
Hydroquinone	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
		Oral	Systemic, long-term; 0,6 mg/kg bw/day	Carcinogenicity
	Workers	Eyes	Local effect;	Medium hazard (no threshold derived)

PNEC-Values

Critical component	Environmental compartment	PNEC-Values
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylaat	freshwater sediment	0,145 mg/kg
	Marine sediments	0,015 mg/kg
	soil	0,029 mg/kg
	Aquatic (marine water)	0 mg/l
	Sewage treatment plant	2 mg/l
	Aquatic (freshwater)	0,001 mg/l
Oxybis(methyl-2,1-ethanediyl) diacrylate	freshwater sediment	0,009 mg/kg
	Aquatic (marine water)	0 mg/l
	soil	0,001 mg/kg
	Aquatic (freshwater)	0,003 mg/l
	Sewage treatment plant	100 mg/l
Isodecyl acrylate	soil	0,18 mg/kg

	Aquatic (intermit. releases)	13 µg/l
	freshwater sediment	0,904 mg/kg
	Marine sediments	0,09 mg/kg
	Aquatic (freshwater)	1,3 µg/l
	Aquatic (marine water)	0,13 µg/l
	Sewage treatment plant	2,3 mg/l
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	freshwater sediment	0,29 mg/kg
	Fresh water	0,00353 mg/l
	Aquatic (marine water)	0 mg/l
	Marine water	0,00353 mg/l
	soil	0,056 mg/kg
	Intermittent release	0,0353 mg/l
	Aquatic (freshwater)	0,004 mg/l
	Sediment-fresh water	0,29 mg/kg
	Marine sediments	0,029 mg/kg
	Soil	0,0557 mg/kg
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	Aquatic (freshwater)	0,8 µg/l
	Aquatic (marine water)	1 µg/l
	freshwater sediment	0,712 mg/kg
	Aquatic (freshwater)	1 µg/l
	soil	20 mg/kg
	Aquatic (intermit. releases)	1 µg/l
	Aquatic (freshwater)	1 µg/l
	Aquatic (intermit. releases)	0,8 µg/l
	Aquatic (marine water)	0,8 µg/l
		1 µg/l
	Marine sediments	0,712 mg/kg
	Aquatic (freshwater)	0,8 µg/l
	Sewage treatment plant	1 mg/l
2-phenoxyethanol	soil	1,26 mg/kg
	Sewage treatment plant	24,8 mg/l
	freshwater sediment	7,237 mg/kg
	Marine sediments	0,724 mg/kg
	Aquatic (freshwater)	0,943 mg/l
	Aquatic (marine water)	0,094 mg/l
Hexamethylene diacrylate		0 mg/l
	freshwater sediment	0,024 mg/kg
	Aquatic (freshwater)	0,002 mg/l
	soil	0,004 mg/kg
	Marine sediments	0,002 mg/kg
	Sewage treatment plant	2,7 mg/l
Tetrahydrofurfuryl alcohol	Marine sediments	0,86 mg/kg
	Aquatic (marine water)	0,19 mg/l
	Aquatic (freshwater)	1,9 mg/l
	Sewage treatment plant	10 mg/l
	freshwater sediment	8,6 mg/kg
	soil	0,6 mg/kg
caprolactam	Aquatic (marine water)	0,2 mg/l
	Aquatic (freshwater)	2 mg/l
	freshwater sediment	18,7 mg/kg
	soil	2,55 mg/kg
Cetrimonium chloride		7 mg/kg
	Aquatic (freshwater)	0,001 mg/l
	Marine sediments	0,927 mg/kg
	Aquatic (marine water)	0 mg/l
	Sewage treatment plant	0,4 mg/l
	freshwater sediment	9,27 mg/kg

8.2 Exposure controls

Appropriate Engineering Controls:

Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Follow training instructions when handling this material.
Eyeface protection:	Safety goggles. EN 166.
Skin protection	
Hand Protection:	Protective gloves should be used if there is a risk of direct contact or splash.(EN374) Chemical resistant gloves required for prolonged or repeated contact. Butyl rubber (EN374) Glove thickness: > 0.35 mm Break-through time: > 240 min Risk of splashes: Nitrile rubber. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.
Other:	Safety clothes : long sleeved clothing EN13688
Respiratory Protection:	In case of inadequate ventilation use suitable respirator (EN14387). Seek advice from local supervisor.
Hygiene measures:	Do not get in eyes. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Wash hands before breaks and immediately after handling the product. Contaminated work clothing should not be allowed out of the workplace.
Environmental Controls:	Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Black
Odor:	Sweetish
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	No data available.
Boiling Point:	No data available.
Flash Point:	No data available.
Evaporation Rate:	No data available.
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%):	No data available.
Flammability Limit - Lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density (air=1):	No data available.
Density:	No data available.
Relative density:	1,0608
Solubility(ies)	

Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

9.2 Other information

VOC Content:	EC Directive 1999/13: 0 g/l ~0 % (calculated)
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SECTION 10: Stability and reactivity

10.1 Reactivity:	Material is stable under normal conditions.
10.2 Chemical Stability:	Material is stable under normal conditions.
10.3 Possibility of hazardous reactions:	Not known.
10.4 Conditions to avoid:	Avoid heat or contamination.
10.5 Incompatible Materials:	None known.
10.6 Hazardous Decomposition Products:	By heating and fire, harmful vapors/gases may be formed.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation:	Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product:	ATEmix: 3.342,28 mg/kg
Specified substance(s):	
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	LD 50 (Rat): 4.350 mg/kg Experimental result, Key study
Phenoxyethylacrylate	LD 50 (Rat): 5.000 mg/kg Experimental result, Key study
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	LD 50 (Rat): 4.626 mg/kg Experimental result, Supporting study
N-vinyl caprolactam	LD 50 (Rat): 1.732 mg/kg Experimental result, Key study

2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-ethoxylated phenyl acrylate	LD 50 (Rat): > 5.000 mg/kg Experimental result, Key study
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	LD 50 (Rat): > 2.000 mg/kg Experimental result, Key study
Hexamethylene diacrylate	LD 50 (Rat): 1.850 mg/kg Experimental result, Key study
Tetrahydrofurfuryl alcohol	LD 50 (Rat): > 5.000 mg/kg Experimental result, Key study
caprolactam	LD 50 (Rat): > 2.000 mg/kg Experimental result, Key study
Cetrimonium chloride	No data available.
Hydroquinone	LD 50 (Rat): 861 mg/kg Experimental result, Key study

Dermal

Product:

ATEmix 18.167,25 mg/kg

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	LD 50 (Rabbit): > 3.000 mg/kg Experimental result, Key study
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	LD 50 (Rabbit): > 2.000 mg/kg Experimental result, Key study
N-vinyl caprolactam	LD 50 (Rabbit): 1.700 mg/kg Experimental result, Key study

2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	LD 50 (Rat): > 2.000 mg/kg
Hexamethylene diacrylate	LD 50 (Rabbit): > 2.214 mg/kg Experimental result, Weight of Evidence study
Tetrahydrofurfuryl	LD 50 (Rabbit): 3.650 mg/kg Experimental result, Key study
	No data available.

alcohol	
caprolactam	No data available.
Cetrimonium chloride	LD 50 (Rabbit): 1.900 mg/kg
Hydroquinone	LD 50 (Rabbit): > 2.000 mg/kg Experimental result, Key study

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	LC 50 (Rat, 8 h) > 1,19 mg/l Vapor, Read-across from supporting substance (structural analogue or surrogate), Key study
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	LC 50 (Rat, 6 h) > 1.000 mg/m ³ Aerosol, Experimental result, Key study
Hexamethylene diacrylate	LC 0 (Rat, 7 h) 0,41 mg/l Vapor, Experimental result, Key study
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	LC 50 (Rat, 2 h) 0,3 mg/l
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Repeated dose toxicity

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	LOAEL (Rat(Female, Male), Inhalation): 0,753 mg/l NOAEL (rat(male/female)): 100 mg/kg NOAEL (Rat(Female, Male), Oral, 28 - 53 d): 100 mg/kg NOAEL (Rat(Female, Male), Inhalation): 0,075 mg/l NOAEL (Rat(Female, Male), Inhalation): 0,226 mg/l NOAEL (Rat(Female, Male), Oral, 2 Weeks): 500 mg/kg
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	NOAEL (Rat(Female, Male), Oral, 28 - 52 d): 250 mg/kg
N-vinyl caprolactam	NOAEL (Rat(Female, Male), Inhalation): 0,058 mg/l
2-Propenoic acid, 1-6-	No data available.

hexanediyl ester, polymer
with 2-aminoethanol
Isodecyl acrylate
2-Isopropyl-9H-
thioxanthen-9-one
Phosphine oxide,
diphenyl(2,4,6-
trimethylbenzoyl)-

NOAEL (Rat(Female, Male), Inhalation): 0,075 mg/l
No data available.

LOAEL (Rat(Female, Male), Oral, 28 d): 250 mg/kg

NOAEL (Rat(Female, Male), Oral, 28 d): 50 mg/kg
LOAEL (Rat(Female, Male), Oral, 64 - 91 d): 300 mg/kg
NOAEL (Rat(Female, Male), Oral, 64 - 91 d): 100 mg/kg
No data available.

Ethoxylated phenyl
acrylate
Phenyl bis(2,4,6-
trimethylbenzoyl)-
phosphine oxide
2-phenoxyethanol

NOAEL (Rat(Female, Male), Oral): 300 mg/kg

LOAEL (Rat(Female, Male), Oral, 13 Weeks): 400 mg/kg
NOAEL (Rat(Female, Male), Oral, 13 Weeks): 80 mg/kg
NOAEL (Rat(Female, Male), Oral, 28 - 52 d): 250 mg/kg

Hexamethylene
diacrylate
Tetrahydrofurfuryl alcohol
caprolactam

No data available.
NOAEL (Rat(Female, Male), Inhalation, 13 - 17 Weeks): 0,066 mg/l
NOAEL (Rat(Female, Male), Inhalation, 13 - 17 Weeks): 0,245 mg/l

Cetrimonium chloride

NOAEL (Rat(Female, Male), Oral, 90 d): 113 mg/kg
NOAEL (Rat(Female, Male), Oral, 90 d): 22 mg/kg
NOAEL (Rabbit(Female, Male), Dermal, 6,5 - 7 h): 10 mg/kg
NOAEL (Rat(Female, Male), Oral, 28 d): 300 mg/kg

Hydroquinone

No data available.

Skin Corrosion/Irritation:

Product:

The health hazard evaluation is based on the toxicological properties of a similar material.

Specified substance(s):

exo-1,7,7-
trimethylbicyclo[2.2.1]h
ept-2-ylacrylate
Phenoxyethylacrylate
Tetrahydrofurfuryl
acrylate
Oxybis(methyl-2,1-
ethanediyl) diacrylate
N-vinyl caprolactam
2-Propenoic acid ,1-6-
hexanediyl ester,
polymer with 2-
aminoethanol
Isodecyl acrylate
2-Isopropyl-9H-
thioxanthen-9-one
Phosphine oxide,
diphenyl(2,4,6-
trimethylbenzoyl)-
Ethoxylated phenyl
acrylate
Phenyl bis(2,4,6-
trimethylbenzoyl)-
phosphine oxide
2-phenoxyethanol
Hexamethylene
diacrylate

No data available.

No data available.

No data available.

No data available.

in vivo (Rabbit): Not irritant Experimental result, Key study

No data available.

No data available.

No data available.

in vivo (Rabbit): Not irritant Experimental result, Key study

No data available.

No data available.

in vivo (Rabbit): Not irritant Experimental result, Key study
in vivo (Rabbit): Category 2 Experimental result, Key study

Tetrahydrofurfuryl alcohol	in vivo (Rabbit): Not irritant Experimental result, Key study
caprolactam	Irritating
Cetrimonium chloride	Irritating
Hydroquinone	in vivo (Rabbit): Not irritant Experimental result, Weight of Evidence study

Serious Eye Damage/Eye Irritation:

Product:	No data available.
Specified substance(s):	
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	in vivo (Rabbit, 24 - 72 hrs): Category 1 OECD GHS
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	Mildly Irritating
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	in vivo (Rabbit, 24 - 72 hrs): Not Classified EU
Hexamethylene diacrylate	in vivo (Rabbit, 24 - 72 hrs): Irritating EU
Tetrahydrofurfuryl alcohol	Severely Irritating
caprolactam	Irritating
Cetrimonium chloride	Irritating
Hydroquinone	Irritating

Respiratory or Skin Sensitization:

Product:	No data available.
Specified substance(s):	
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.

2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Hexamethylene diacrylate	Skin sensitization:, in vivo (Guinea pig): Sensitising
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	Skin sensitization:, in vivo (Guinea pig): Non sensitising
Cetrimonium chloride	No data available.
Hydroquinone	Skin sensitization:, in vivo (Guinea pig): Sensitising

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Carcinogenicity

Product: Not classified The carbon black in this product is embedded in a matrix which minimizes the likelihood of exposure to the pigment.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.

2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Reproductive toxicity

Product: May damage fertility or the unborn child.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.

Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Target Organs

Specific Target Organ Toxicity - Repeated Exposure: Liver, Respiratory system

Aspiration Hazard

Product: No data available.

Specified substance(s):

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.

Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

SECTION 12: Ecological information

General information: Contains a substance which causes risk of hazardous effects to the environment.

12.1 Toxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	LC 50 (Danio rerio, 96 h): 0,704 mg/l (semi-static) Experimental result, Key study
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	NOAEL (Leuciscus idus, 96 h): 1 mg/l (Static) Experimental result, Key study LC 50 (Leuciscus idus, 96 h): 2,2 mg/l (Static)
N-vinyl caprolactam	LC 50 (Danio rerio, 96 h): 318 mg/l (Static) Experimental result, Key study NOAEL (Danio rerio, 96 h): 208 mg/l (Static) Experimental result, Key study LC 0 (Danio rerio, 96 h): 208 mg/l (Static) Experimental result, Key study NOAEL (Danio rerio, 96 h): 215 mg/l (Static) Experimental result, Key study LC 50 (Danio rerio, 96 h): 307 mg/l (Static) Experimental result, Key study
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	LC 50 (Oryzias latipes, 48 h): +/- 6,53 mg/l (semi-static) Experimental result, Key study

Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	LC 50 (Pimephales promelas, 96 h): 344 mg/l (flow-through) Experimental result, Key study
Hexamethylene diacrylate	LC 50 (Leuciscus idus, 96 h): 4,6 - 10 mg/l (Static) Experimental result, Key study
Tetrahydrofurfuryl alcohol	LC 50 (Oryzias latipes, 96 h): > 101 mg/l (semi-static) Experimental result, Key study
caprolactam	LC 50 (Oryzias latipes, 96 h): > 100 mg/l (semi-static) Experimental result, Key study
Cetrimonium chloride	No data available.
Hydroquinone	LC 50 (Oncorhynchus mykiss, 96 h): 0,638 mg/l (flow-through) Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	EC 50 (Daphnia magna, 48 h): 1,21 mg/l (Static) Experimental result, Key study
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	EC 50 (Daphnia magna, 48 h): > 100 mg/l (Static) Experimental result, Key study
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	EC 50 (Daphnia magna, 48 h): 3,53 mg/l (Static) Experimental result, Key study
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	EC 50 (48 h): > 1,175 mg/l experimental result
2-phenoxyethanol	EC 50 (Daphnia magna, 48 h): 460 mg/l (Static) Experimental result, Not specified
Hexamethylene diacrylate	EC 50 (Daphnia magna, 48 h): 2,6 mg/l (Static) Experimental result, Key study
Tetrahydrofurfuryl alcohol	EC 50 (Daphnia magna, 48 h): > 91,7 mg/l (semi-static) Experimental result, Key study
caprolactam	EC 50 (Daphnia magna, 48 h): 0,08 mg/l (Static) Experimental result, Key study
Cetrimonium chloride	No data available.
Hydroquinone	EC 50 (Daphnia magna, 48 h): 0,134 mg/l (semi-static) Experimental result, Key study

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Chronic Toxicity

Fish

Product:	No data available.
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Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.

2-phenoxyethanol	LC 50 (Danio rerio, 6 d): 461,5 - 521,6 mg/l (semi-static) Experimental result, Supporting study
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.

2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

12.2 Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	> 0 % Detected in water. Experimental result, Key study 3,9 % Detected in water. Experimental result, Key study 34,6 % Detected in water. Experimental result, Key study 26 % Detected in water. Experimental result, Key study 57 % Detected in water. Experimental result, Key study (28 d): 22,3 % Detected in water. Experimental result, Key study
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	(28 d): 90 - 100 % Detected in water. Experimental result, Key study
N-vinyl caprolactam	(28 d): 30 - 40 % Detected in water. Experimental result, Key study
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	(15 d): 70 - 80 % Detected in water. Read-across from supporting substance (structural analogue or surrogate), Key study
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	(28 d): > 0 - 10 % Detected in water. Experimental result, Key study
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	> 70 % Detected in water. Experimental result, Supporting study 75 % Detected in water. Experimental result, Key study (20 d): 21,33 % Detected in water. Experimental result, Supporting study 60 % Detected in water. Experimental result, Key study 61 % Detected in water. Experimental result, Supporting study
Hexamethylene diacrylate	(28 d): 60 - 70 % Detected in water. Experimental result, Key study
Tetrahydrofurfuryl alcohol	(28 d): 92 % Detected in water. Experimental result, Key study (60 d): 0 % Detected in water. Experimental result, Supporting study
caprolactam	(28 d): 5 % Detected in water. Experimental result, Key study
Cetrimonium chloride	No data available.

Hydroquinone (14 d): 86 % Detected in water. Experimental result, Supporting study
 >= 99,9 % Sediment Experimental result, Key study
 (14 d): 70 % Detected in water. Experimental result, Supporting study
 100 % Detected in water. Experimental result, Supporting study
 (5 d): 97,5 % Detected in water. Experimental result, Key study

BOD/COD Ratio

Product

No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate No data available.
 Phenoxyethylacrylate No data available.
 Tetrahydrofurfuryl acrylate No data available.
 Oxybis(methyl-2,1-ethanediyl) diacrylate No data available.
 N-vinyl caprolactam No data available.
 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol No data available.
 Isodecyl acrylate No data available.
 2-Isopropyl-9H-thioxanthen-9-one No data available.
 Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- No data available.
 Ethoxylated phenyl acrylate No data available.
 Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide No data available.
 2-phenoxyethanol No data available.
 Hexamethylene diacrylate No data available.
 Tetrahydrofurfuryl alcohol No data available.
 caprolactam No data available.
 Cetrimonium chloride No data available.
 Hydroquinone No data available.

12.3 Bioaccumulative potential

Product

No data available.

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate Danio rerio, Bioconcentration Factor (BCF): 37 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study
 Phenoxyethylacrylate No data available.
 Tetrahydrofurfuryl acrylate No data available.
 Oxybis(methyl-2,1-ethanediyl) diacrylate No data available.
 N-vinyl caprolactam No data available.
 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol No data available.
 Isodecyl acrylate No data available.
 2-Isopropyl-9H-thioxanthen-9-one No data available.

Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	Cyprinus carpio, Bioconcentration Factor (BCF): 22 - 32 Aquatic sediment Experimental result, Key study Cyprinus carpio, Bioconcentration Factor (BCF): 18 - 22 Aquatic sediment Experimental result, Key study Cyprinus carpio, Bioconcentration Factor (BCF): 53 - 72 Aquatic sediment Experimental result, Key study Cyprinus carpio, Bioconcentration Factor (BCF): 23 - 40 Aquatic sediment Experimental result, Key study Cyprinus carpio, Bioconcentration Factor (BCF): 47 - 55 Aquatic sediment Experimental result, Key study
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	Bioconcentration Factor (BCF): 4,5 Aquatic sediment Estimated by calculation, Not specified Bioconcentration Factor (BCF): 0,35 Aquatic sediment Estimated by calculation, Key study
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

12.4 Mobility in soil

Product	No data available.
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Known or predicted distribution to environmental compartments

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

12.5 Results of PBT and vPvB assessment

Product Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

Specified substance(s)

exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylate	No data available.
Phenoxyethylacrylate	No data available.
Tetrahydrofurfuryl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
N-vinyl caprolactam	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Isodecyl acrylate	No data available.
2-Isopropyl-9H-thioxanthen-9-one	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
Ethoxylated phenyl acrylate	No data available.
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	No data available.
2-phenoxyethanol	No data available.
Hexamethylene diacrylate	No data available.
Tetrahydrofurfuryl alcohol	No data available.
caprolactam	No data available.
Cetrimonium chloride	No data available.
Hydroquinone	No data available.

12.6 Other adverse effects: Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information:	Disposal considerations (including disposal of contaminated containers or packaging) Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
Disposal methods:	Discharge, treatment, or disposal may be subject to national, state, or local laws.
Packaging:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

ADR

14.1 UN Number:	UN 3082
14.2 UN Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Acrylate)
14.3 Transport Hazard Class(es)	
Class:	9
Label(s):	9

Hazard No. (ADR): 90
Tunnel restriction code: (-)
14.4 Packing Group: III
Limited quantity 5,00L
Excepted quantity E1
14.5 Environmental Hazards: Yes
14.6 Special precautions for user: SPECIAL PROVISION 375

RID

14.1 UN Number: UN 3082
14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Acrylate)
14.3 Transport Hazard Class(es)
Class: 9
Label(s): 9
14.4 Packing Group: III
14.5 Environmental Hazards: Yes
14.6 Special precautions for user: –

IMDG

14.1 UN Number: UN 3082
14.2 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Acrylate)
14.3 Transport Hazard Class(es)
Class: 9
Label(s): 9
EmS No.: F-A, S-F
14.4 Packing Group: III
Limited quantity 5,00L
Excepted quantity E1
14.5 Environmental Hazards: Environmentally Hazardous
14.6 Special precautions for user: CODE 2.10.2.7

IATA

14.1 UN Number: UN 3082
14.2 Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.(Acrylate)
14.3 Transport Hazard Class(es):
Class: 9
Label(s): 9MI
14.4 Packing Group: III
Limited quantity No data available.
Excepted quantity E1
14.5 Environmental Hazards: Yes
14.6 Special precautions for user: SPECIAL PROVISION A197

Other information

Passenger and cargo aircraft: Allowed.
Cargo aircraft only: Allowed.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: not applicable.

SECTION 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals: none

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended: none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:

The packaging shall be visibly, legibly and indelibly marked as follows:
Restricted to professional users.

Chemical name	CAS-No.	Concentration
Tetrahydrofurfuryl alcohol	97-99-4	0,1 - 1,0%
Heptane	142-82-5	- <0,1%

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.:

Chemical name	CAS-No.	Concentration
Tetrahydrofurfuryl alcohol	97-99-4	0,1 - 1,0%
Hydroquinone	123-31-9	0 - <0,1%

EU. Directive 2012/18/EU (SEVESO III) on major accident hazards involving dangerous substances, Annex I:

E2. Hazardous to the aquatic environment 200 t 500 t

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:

Chemical name	CAS-No.	Concentration
blue organic pigment	147-14-8	0,1 - 1,0%

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-ylacrylaat	5888-33-5	10 - 20%
Isodecyl acrylate	1330-61-6	1,0 - 10%
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	1,0 - 10%
Phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	162881-26-7	1,0 - 10%
2-phenoxyethanol	122-99-6	1,0 - 10%
Hexamethylene diacrylate	13048-33-4	0,1 - 1,0%
Tetrahydrofurfuryl alcohol	97-99-4	0,1 - 1,0%
caprolactam	105-60-2	0,1 - 1,0%
Heptane	142-82-5	0 - <0,1%
Hydroquinone	123-31-9	0 - <0,1%
Phenol, 4-methoxy-	150-76-5	0 - <0,1%

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Revision Information: Not relevant.

References

PBT PBT: persistent, bioaccumulative and toxic substance.
vPvB vPvB: very persistent and very bioaccumulative substance.

Key literature references and sources for data: Safety Data Sheet from the supplier.
ECHA

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]

Classification according to Regulation (EC) No 1272/2008 as amended.	Classification procedure
Skin irritation, Category 2	Calculation method
Serious eye damage, Category 1	Calculation method
Skin sensitizer, Category 1	Calculation method
Toxic to reproduction, Category 1B	Calculation method
Specific Target Organ Toxicity - Single Exposure, Category 3	Calculation method
Specific Target Organ Toxicity - Repeated Exposure, Category 2	Calculation method
Chronic hazards to the aquatic environment, Category 2	Calculation method

Wording of the H-statements in section 2 and 3

H227	Combustible liquid.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H361d	Suspected of damaging the unborn child.
H361f	Suspected of damaging fertility.
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.
H413	May cause long lasting harmful effects to aquatic life.

Training information:

Follow training instructions when handling this material.

Issue Date:

11.04.2019

SDS No.:

Disclaimer:

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.