

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

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

1.1 Product identifier

Product name: INKU-US-1000-BK**UFI:** CW72-40D3-C00V-90MA

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

Identified uses: Printing ink**Uses advised against:** For industrial use only

1.3 Details of the supplier of the safety data sheet

Roland DG EMEA NV
Bell-Telephonelaan 2G
B-2440 Geel
Belgien
Telefon-Nr.+32 14575911
EMAIL: deu-demand-planning@rolanddg.com

National Supplier

ROLAND DG (UK) Ltd.
Griffin House, Windmill
Road Clevedon, North Somerset
BS21 6UJ
Phone: +44 1275 335540
EMAIL: deu-demand-planning@rolanddg.com

1.4 Emergency telephone number:

+35318092566 (National Poisons Information Centre Ireland), 999 and 112 is the national emergency response service in the UK

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 irritation	Category 2	H319: Causes serious eye irritation.
Skin sensitizer	Category 1	H317: May cause an allergic skin reaction.
Toxic to reproduction	Category 2	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific Target Organ Toxicity - Single Exposure	Category 3	H335: May cause respiratory irritation.
Specific Target Organ Toxicity - Repeated Exposure	Category 1 (Liver, Respiratory system)	H372: Causes damage to organs through prolonged or repeated exposure.

Environmental Hazards

Chronic hazards to the aquatic environment	Category 2	H411: Toxic to aquatic life with long lasting effects.
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2.2 Label Elements

Contains: 2-Phenoxyethyl acrylate
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate
1-Vinylhexahydro-2H-azepin-2-one
Isodecyl acrylate
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide
2-phenoxyethyl prop-2-enoate
3-methyl-1,5-pentanediy diacrylate
hexamethylene diacrylate



Signal Word: Danger

Hazard Statement(s): H315: Causes skin irritation.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
H335: May cause respiratory irritation.
H372: Causes 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.
P337+P313: If eye irritation persists: Get medical advice/attention.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Endocrine Disruption-Toxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Endocrine Disruption-Ecotoxicity

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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SECTION 3: Composition/information on ingredients**3.2 Mixtures**

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes
2-Phenoxyethyl acrylate	25 - <50%	48145-04-6	256-360-6	01-2119980532-35-XXXX;	No data available.	
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	10 - <25%	5888-33-5	227-561-6	01-2119957862-25-XXXX;	No data available.	
1-Vinylhexahydro-2H-azepin-2-one	10 - <20%	2235-00-9	218-787-6	01-2119977109-27-XXXX;	No data available.	
Isodecyl acrylate	5 - <10%	1330-61-6	215-542-5	01-2119964031-47-XXXX;	No data available.	
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	5 - <10%	75980-60-8	278-355-8	01-2119972295-29-XXXX;	No data available.	
2-phenoxyethyl prop-2-enoate	2.5 - <5%	56641-05-5	500-133-9	No data available.	No data available.	
3-methyl-1,5-pentanediyldiacrylate	1 - <5%	64194-22-5	264-727-7	No data available.	No data available.	
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	1 - <5%	67906-98-3		No data available.	No data available.	
2-phenoxyethanol	1 - <3%	122-99-6	204-589-7	01-2119488943-21-XXXX;	No data available.	
hexamethylene diacrylate	1 - <2.5%	13048-33-4	235-921-9	01-2119484737-22-XXXX;	No data available.	
Oxybis(methyl-2,1-	0.1 - <1%	57472-68-1	260-754-3	01-	No data	

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ethanediyl) diacrylate				2119484629- 21-XXXX;	available.	
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* 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).

This substance is listed as SVHC.

Classification

Chemical name	Classification	Notes
2-Phenoxyethyl acrylate	Classification: Skin Sens.: 1A: H317; Repr.: 2: H361d; Aquatic Chronic: 2: H411;	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Classification: Eye Irrit.: 2: H319; Skin Irrit.: 2: H315; STOT SE: 3: H335; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; STOT SE: 3: H335; Skin Sens.: 1B: H317; Aquatic Acute: 1: H400; Aquatic Chronic: 2: H411; Aquatic Chronic: 2: H411; Specific concentration limit: Specific target organ toxicity - single exposure Category 3, >= 10 %; Specific target organ toxicity - single exposure Category 3, >= 10 %;	Note A Note A
1-Vinylhexahydro-2H-azepin-2-one	Classification: Acute Tox.: 4: H302; Eye Irrit.: 2A: H319; Skin Sens.: 1B: H317; STOT RE: 1: H372; Acute Tox.: 4: H312; Acute toxicity, oral: LD 50: 1,732 mg/kg Acute toxicity, dermal: LD 50: 1,700 mg/kg	No data available.
Isodecyl acrylate	Classification: STOT SE: 3: H335; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; STOT SE: 3: H335; Skin Sens.: 1B: H317; Aquatic Chronic: 2: H411; Aquatic Chronic: 2: H411; Specific concentration limit: Specific target organ toxicity - single exposure Category 3, >= 10 %; Specific target organ toxicity - single exposure Category 3, >= 10 %;	Note A Note A
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Classification: Repr.: 2: H361f; Repr.: 2: H361f; Skin Sens.: 1B: H317; Aquatic Chronic: 2: H411;	No data available.
2-phenoxyethyl prop-2-enoate	Classification: Skin Sens.: 1: H317; Aquatic Chronic: 2: H411;	No data available.
3-methyl-1,5-pentanediy diacrylate	Classification: Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; STOT SE: 3: H335; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Skin Sens.: 1: H317; Aquatic Chronic: 2: H411; Aquatic Chronic: 3: H412; Specific concentration limit: Specific target organ toxicity - single exposure Category 3, >= 10 %;	Note A Note A
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	Classification: Skin Irrit.: 2: H315; Eye Irrit.: 2: H319;	No data available.
2-phenoxyethanol	Classification: Eye Dam.: 1: H318; Acute Tox.: 4: H302; Acute Tox.: 4: H302; Eye Irrit.: 2: H319; STOT SE: 3: H335; Acute toxicity, oral: LD 50: 4,070 mg/kg Acute toxicity, inhalation: LC 50: > 1,000 mg/m3 Acute toxicity, dermal: LD 50: > 2,214 mg/kg	No data available.
hexamethylene diacrylate	Classification: Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Skin	Note D

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	Sens.: 1: H317; Skin Sens.: 1: H317; Skin Irrit.: 2: H315; Eye Irrit.: 2: H319; Aquatic Acute: 1: H400; Aquatic Chronic: 2: H411; Specific concentration limit: Specific target organ toxicity - single exposure Category 3, >= 10 %; Specific target organ toxicity - single exposure Category 3, >= 10 %;	
Oxybis(methyl-2,1-ethanediy) diacrylate	Classification: Skin Sens.: 1: H317; Eye Dam.: 1: H318; Skin Irrit.: 2: H315;	No data available.

CLP: Regulation No. 1272/2008.

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

SECTION 4: First aid measures

General: Get medical attention if symptoms occur.

4.1 Description of first aid measures

Inhalation: In case of inhalation of spray mist: Move person into fresh air and keep at rest.**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. Get medical attention.**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.

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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 entry into waterways, sewer, basements or confined areas. Contact local authorities in case of spillage to drain/aquatic environment. Do not contaminate water sources or sewer.
6.3 Methods and material for containment and cleaning up:	Prevent further leakage or spillage if safe to do so. Stop the flow of material, if this is without risk. Small Spillages: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Containers with collected spillage must be properly labelled with correct contents and hazard symbol. Clean surface thoroughly to remove residual contamination. Large Spillages: 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 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. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing.
7.2 Conditions for safe storage, including any incompatibilities:	Store locked up. Store in tightly closed original container in a dry, cool and well-ventilated place. Store away from incompatible materials.
7.3 Specific end use(s):	For industrial use only

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters Occupational Exposure Limits	None of the components have assigned exposure limits.
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Biological Limit Values

None of the components have assigned exposure limits.

DNEL-Values

Critical component	Type	Route of Exposure	Health Warnings	Remarks
2-Phenoxyethyl acrylate	Workers	Inhalation	Local, long-term; 77 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 12 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effect;	No hazard identified
	General population	Eyes	Local effect;	No hazard identified
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Workers	Dermal	Systemic, long-term; 3.5 mg/kg	Repeated dose toxicity
	General population	Eyes	Local effect;	No hazard identified
	Workers	Eyes	Local effect;	No hazard identified
	General population	Oral	Systemic, long-term; 0.83 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 1.39 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 4.9 mg/m ³	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 1.45 mg/m ³	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 0.83 mg/kg	Repeated dose toxicity
1-Vinylhexahydro-2H-azepin-2-one	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
Isodecyl acrylate	General population	Eyes	Local effect;	No hazard identified
	Workers	Eyes	Local effect;	No hazard identified
	Workers	Inhalation	Local, long-term; 37.5 mg/m ³	irritation respiratory tract
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Workers	Dermal	Systemic, long-term; 0.233 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 0.822 mg/m ³	Repeated dose toxicity
	General population	Eyes	Local effect;	No hazard identified
	General population	Dermal	Systemic, long-term; 83.3 µg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 83.3 µg/kg	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 0.145 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effect;	No hazard identified
2-phenoxyethyl prop-2-enoate	General population	Eyes	Local effect;	No hazard identified
	Workers	Eyes	Local effect;	No hazard identified
	Workers	Inhalation	Local, long-term; 97 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 12 mg/m ³	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 3.5 mg/kg	Repeated dose toxicity
3-methyl-1,5-pentanedyl diacrylate	General population	Inhalation	Systemic, long-term; 2.6 mg/m ³	Repeated dose toxicity
	Workers	Eyes	Local effect;	Medium hazard (no threshold derived)
	Workers	Inhalation	Systemic, long-term; 14.81 mg/m ³	Repeated dose toxicity
	General population	Eyes	Local effect;	Medium hazard (no threshold derived)
	General population	Dermal	Systemic, long-term; 15 mg/kg	Repeated dose toxicity
General population	Oral	Systemic, long-term; 1.5 mg/kg	Repeated dose toxicity	

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	Workers	Dermal	Systemic, long-term; 42 mg/kg	Repeated dose toxicity
2-phenoxyethanol	General population	Inhalation	Systemic, long-term; 2.41 mg/m3	Repeated dose toxicity
	General population	Oral	Systemic, short-term; 9.23 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 10.42 mg/kg	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 5.7 mg/m3	
	General population	Oral	Systemic, long-term; 9.23 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 20.83 mg/kg	Repeated dose toxicity
	General population	Inhalation	Local, long-term; 2.41 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Local, long-term; 5.7 mg/m3	
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population	Eyes	Local effect;	Low hazard (no threshold derived)
hexamethylene diacrylate	General population	Eyes	Local effect;	Low hazard (no threshold derived)
	General population	Inhalation	Systemic, long-term; 7.2 mg/m3	Repeated dose toxicity
	Workers	Inhalation	Systemic, long-term; 24.5 mg/m3	Repeated dose toxicity
	Workers	Eyes	Local effect;	Low hazard (no threshold derived)
	General population	Dermal	Systemic, long-term; 1.66 mg/kg	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 2.77 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 2.1 mg/kg	Repeated dose toxicity
Oxybis(methyl-2,1-ethanediyl) diacrylate	Workers	Inhalation	Systemic, long-term; 24.48 mg/m3	Repeated dose toxicity
	General population	Inhalation	Systemic, long-term; 7.24 mg/m3	Repeated dose toxicity
	Workers	Dermal	Systemic, long-term; 2.77 mg/kg	Repeated dose toxicity
	General population	Oral	Systemic, long-term; 2.08 mg/kg	Repeated dose toxicity
	General population	Dermal	Systemic, long-term; 1.66 mg/kg	Repeated dose toxicity

PNEC-Values

Critical component	Environmental compartment	PNEC-Values	Remarks
2-Phenoxyethyl acrylate	Sewage treatment plant	1.77 mg/l	
	Aquatic (marine water)	0.2 µg/l	
	Aquatic (freshwater)	2 µg/l	
	Marine sediments	0.002 mg/kg	
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	freshwater sediment	0.02 mg/kg	
	soil	0.029 mg/kg	
	Aquatic (marine water)	0 mg/l	
	Marine sediments	0.015 mg/kg	
	Aquatic (freshwater)	0.001 mg/l	
	Sewage treatment plant	2 mg/l	
Isodecyl acrylate	freshwater sediment	0.145 mg/kg	
	Aquatic (freshwater)	84.9 µg/l	
	Sewage treatment plant	34 mg/l	
	soil	0.064 mg/kg	
	Marine sediments	5.904 mg/kg	
	freshwater sediment	59.039 mg/kg	
	Aquatic (marine water)	8.49 µg/l	

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Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	soil	22.2 µg/kg	
	Fresh water	0.00353 mg/l	
	Marine sediments	11.5 µg/kg	
	Marine water	0.00353 mg/l	
	Aquatic (freshwater)	1.4 µg/l	
	Intermittent release	0.0353 mg/l	
	Aquatic (marine water)	0.14 µg/l	
	Sediment-fresh water	0.29 mg/kg	
	freshwater sediment	0.115 mg/kg	
	Soil	0.0557 mg/kg	
2-phenoxyethyl prop-2-enoate	Aquatic (freshwater)	2 µg/l	
	soil	0.009 mg/kg	
	Aquatic (marine water)	0.2 µg/l	
	freshwater sediment	0.053 mg/kg	
	Sewage treatment plant	1.77 mg/l	
	Marine sediments	0.005 mg/kg	
3-methyl-1,5-pentanediyldiacrylate	Aquatic (marine water)	0.001 mg/l	
	Aquatic (freshwater)	0.005 mg/l	
	Sewage treatment plant	10 mg/l	
	freshwater sediment	0.138 mg/kg	
	Marine sediments	0.014 mg/kg	
2-phenoxyethanol	Aquatic (marine water)	0.094 mg/l	
	Sewage treatment plant	36 mg/l	
	freshwater sediment	7.237 mg/kg	
	Marine sediments	0.724 mg/kg	
	Aquatic (freshwater)	0.943 mg/l	
	soil	1.31 mg/kg	
hexamethylene diacrylate		0.094 mg/kg	
	Marine sediments	0.049 mg/kg	
	Aquatic (marine water)	0.001 mg/l	
	Sewage treatment plant	2.7 mg/l	
	freshwater sediment	0.493 mg/kg	
	Aquatic (freshwater)	0.007 mg/l	
Oxybis(methyl-2,1-ethanediyl) diacrylate		0.003 mg/l	
	Aquatic (marine water)	0 mg/l	
	soil	0.001 mg/kg	
	Sewage treatment plant	100 mg/l	
	freshwater sediment	0.009 mg/kg	

8.2 Exposure controls

Appropriate Engineering Controls:

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.

Individual protection measures, such as personal protective equipment

General information:

Follow training instructions when handling this material. Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection:

Safety goggles. EN 166.

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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.
Skin and Body Protection:	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 handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Observe good industrial hygiene practices. 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.
Freezing point:	No data available.
Boiling Point:	No data available.
Flammability:	not applicable
Upper/lower limit on flammability or explosive limits	
Explosive limit - upper:	not applicable
Explosive limit - lower:	not applicable
Flash Point:	> 212 °F/> 100 °C
Self Ignition Temperature:	No data available.
Decomposition Temperature:	No data available.
pH:	not applicable
Viscosity	
Dynamic viscosity:	not applicable
Kinematic viscosity:	Not determined.
Flow Time:	not applicable
Solubility(ies)	
Solubility in Water:	No data available.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	not applicable
Vapor pressure:	No data available.
Relative density:	1.0540

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Density: not applicable
Bulk density: not applicable
Relative vapor density: No data available.

Particle characteristics

Particle Size not applicable
Distribution:
Specific surface area: not applicable
Surface charge/Zeta potential: not applicable
Assessment: not applicable
Shape: not applicable
Crystallinity: not applicable
Surface treatment: not applicable

9.2 Other information

VOC Content: EC Directive 1999/13: 18.67 g/l ~1.87 % (calculated)

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 irritation.
Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product: ATEmix: 12,408.92 mg/kg
Components:
2-Phenoxyethyl acrylate LD 50 (Rat): 5,000 mg/kg Experimental result, Key study
Exo-1,7,7- LD 50 (Rat): 4,350 mg/kg Experimental result, Key study

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trimethylbicyclo[2.2.1]hept-2-yl acrylate	LD 50 (Rat): 1,732 mg/kg Experimental result, Key study
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	LD 50 (Rat): > 5,000 mg/kg Experimental result, Key study
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	LD 50 (Rat): 4,070 mg/kg Experimental result, Key study LD 50 (Rat): 2,740 mg/kg Experimental result, Key study LD 50 (Rat): 1,840 mg/kg Experimental result, Key study
hexamethylene diacrylate	LD 50 (Rat): > 5,000 mg/kg Experimental result, Key study
Oxybis(methyl-2,1-ethanediyldiacrylate)	LD 50 (Rat): 3,530 mg/kg Experimental result, Key study LD 50 (Rat): 2,810 mg/kg Experimental result, Key study LD 50 (Rat): 4,270 mg/kg Experimental result, Key study

Dermal

Product:	ATEmix 13,934.43 mg/kg
Components:	
2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	LD 50 (Rabbit): > 3,000 mg/kg Experimental result, Key study
1-Vinylhexahydro-2H-azepin-2-one	LD 50 (Rabbit): 1,700 mg/kg Experimental result, Key study
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	LD 50 (Rat): > 2,000 mg/kg Experimental result, Key study
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	LD 50 (Rabbit): > 2,214 mg/kg Experimental result, Weight of Evidence study
hexamethylene diacrylate	LD 50 (Rabbit): 3,650 mg/kg Experimental result, Key study
Oxybis(methyl-2,1-ethanediyldiacrylate)	LD 50 (Rabbit): > 2,000 mg/kg Experimental result, Key study

Inhalation

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Product:	Not classified for acute toxicity based on available data.
Components:	
2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	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
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	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
Oxybis(methyl-2,1-ethanediyldiacrylate)	LC 0 (Rat, 7 h) 0.41 mg/l Vapor, Read-across from supporting substance (structural analogue or surrogate), Key study

Repeated dose toxicity

Product:	No data available.
Components:	
2-Phenoxyethyl acrylate	NOAEL (Rat(Female, Male), Oral, 43 - 53 d): 300 mg/kg
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	NOAEL (Rat(Female, Male), Oral, 28 - 53 d): 100 mg/kg
1-Vinylhexahydro-2H-azepin-2-one	NOAEL (Rat(Female, Male), Inhalation): 0.058 mg/l
Isodecyl acrylate	NOAEL (Rat(Female, Male), Inhalation): 0.075 mg/l NOAEL (Rat(Female, Male), Inhalation): 0.226 mg/l
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	NOAEL (Rat(Female, Male), Oral, 64 - 91 d): 100 mg/kg
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	NOAEL (Rat(Female, Male), Oral, 28 - 52 d): 250 mg/kg

Skin Corrosion/Irritation:

Product:	Causes skin irritation.
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SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Components:

2-Phenoxyethyl acrylate	Not irritant Experimental result, Supporting study
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	in vivo Not irritant Experimental result, Key study
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	in vivo Not irritant Experimental result, Key study
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediy diacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	in vivo Not irritant Experimental result, Key study
hexamethylene diacrylate	in vivo Category 2 Experimental result, Key study
Oxybis(methyl-2,1-ethanediy) diacrylate	in vivo Category 2 Experimental result, Supporting study

Serious Eye Damage/Eye Irritation:**Product:** Causes serious eye irritation.**Components:**

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	Mildly Irritating
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediy diacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	Irritating
Oxybis(methyl-2,1-ethanediy) diacrylate	in vivo Category 1 OECD GHS

Respiratory or Skin Sensitization:

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Product: May cause an allergic skin reaction.**Components:**

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediy diacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol hexamethylene diacrylate	Skin sensitization:, in vivo (Guinea pig): Non sensitising Skin sensitization:, in vivo (Guinea pig): Sensitising
Oxybis(methyl-2,1-ethanediy) diacrylate	No data available.

Germ Cell Mutagenicity**Product:** Based on available data, the classification criteria are not met.**In vitro****Components:**

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediy diacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediy) diacrylate	No data available.

In vivo**Components:**

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediy) diacrylate	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.

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediy) diacrylate	No data available.

Reproductive toxicity

Product:

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

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Specific Target Organ Toxicity - Single Exposure

Product: May cause respiratory irritation.

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: Causes damage to organs through prolonged or repeated exposure.

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiacrylate, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Target Organs: Liver, Respiratory system

Aspiration Hazard

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

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiacrylate, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

11.2 Information on health hazards

Endocrine Disruption

Product: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.;

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediy) diacrylate	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

Remarks:

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

Fish

Product: No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	LC50 (Pisces (fish), 96 h): 0.704 mg/l (OECD Test Guideline 203)
1-Vinylhexahydro-2H-azepin-2-one	LC 50 (Danio rerio, 96 h): 318 mg/l (Static) Experimental result, Key study NOAEL (Danio rerio, 96 h): 215 mg/l (Static) Experimental result, Key study
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediy ester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	LC 50 (Pimephales promelas, 96 h): 344 mg/l (flow-through) Experimental result, Key study
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediy) diacrylate	LC 50 (Leuciscus idus, 96 h): 2.2 - 4.64 mg/l (Static) Experimental result, Key study

Aquatic Invertebrates

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Product: No data available.**Components**

2-Phenoxyethyl acrylate	EC 50 (Daphnia magna, 48 h): 1.21 mg/l (Static) Experimental result, Key study
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	EC 50 (Daphnia magna, 48 h): > 100 mg/l (Static) Experimental result, Key study
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	EC 50 (Daphnia magna, 48 h): 3.53 mg/l (Static) Experimental result, Key study
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	LC 50 (Daphnia magna, 48 h): 488 mg/l (Static) Experimental result, Supporting study
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	EC 50 (Daphnia magna, 48 h): 22.3 mg/l (Static) Experimental result, Key study

Toxicity to Aquatic Plants**Product:** No data available.**Components**

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Toxicity to microorganisms**Product:** No data available.**Components**

2-Phenoxyethyl acrylate	No data available.
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SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	EC50 (Pseudomonas putida (bacteria), 0.5 h): > 10,000 mg/l (QSAR)
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	EC50 (waste sludge, 17 h): > 880 mg/l (OECD-Guideline No.209; 88/302/EEC C.11)
hexamethylene diacrylate	EC50 (0.5 h): ca. 270 mg/l (OECD-Guideline No.209; 88/302/EEC C.11)
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Chronic Toxicity

Remarks:

Toxic to aquatic life with long lasting effects.

Fish

Product: No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	NOAEL (Pimephales promelas, 34 d): 23 mg/l (flow-through) Experimental result, Key study
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Aquatic Invertebrates

Product: No data available.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

Toxicity to Aquatic Plants

Product: No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

12.2 Persistence and Degradability

Biodegradation

Product: No data available.

Components

2-Phenoxyethyl acrylate (28 d): 22.3 % Detected in water. Experimental result, Key study

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	57 % Detected in water. Experimental result, Key study
1-Vinylhexahydro-2H-azepin-2-one	(28 d): 30 - 40 % Detected in water. Experimental result, Key study
Isodecyl acrylate	(15 d): 70 - 80 % Detected in water. Read-across from supporting substance (structural analogue or surrogate), Key study
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	(28 d): > 0 - 10 % Detected in water. Experimental result, Key study
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	90 % Detected in water. Experimental result, Key study
hexamethylene diacrylate	(28 d): 60 - 70 % Detected in water. Experimental result, Key study
Oxybis(methyl-2,1-ethanediyldiacrylate)	(28 d): 90 - 100 % Detected in water. Experimental result, Key study

BOD/COD Ratio

Product No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

12.3 Bioaccumulative potential

Product: No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Danio rerio, Bioconcentration Factor (BCF): 37 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Weight of Evidence study

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	Cyprinus carpio, Bioconcentration Factor (BCF): 53 - 72 Aquatic sediment Experimental result, Key study
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	Bioconcentration Factor (BCF): 0.35 Aquatic sediment Estimated by calculation, Key study
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

12.4 Mobility in soil

Product: No data available.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1-6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

12.5 Results of PBT and vPvB assessment

Product: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

12.6 Endocrine disrupting properties

Product: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Components:

2-Phenoxyethyl acrylate	No data available.
Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	No data available.
1-Vinylhexahydro-2H-azepin-2-one	No data available.
Isodecyl acrylate	No data available.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	No data available.
2-phenoxyethyl prop-2-enoate	No data available.
3-methyl-1,5-pentanediyldiacrylate	No data available.
2-Propenoic acid, 1,6-hexanediyldiester, polymer with 2-aminoethanol	No data available.
2-phenoxyethanol	No data available.
hexamethylene diacrylate	No data available.
Oxybis(methyl-2,1-ethanediyldiacrylate)	No data available.

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

SECTION 13: Disposal considerations

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

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.
- Since emptied containers retain product residue, follow label warnings even after container is emptied.
- Contaminated Packaging:** Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

- 14.1 UN number or ID 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 (<= 5kg/<= 5L)

RID

- 14.1 UN number or ID 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 or ID 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

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Excepted quantity E1
 14.5 Environmental Hazards: Environmentally Hazardous
 14.6 Special precautions for user: CODE 2.10.2.7 if packaging <= 5L or <= 5kg

IATA

14.1 UN number or ID 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
 Excepted quantity E1
 14.5 Environmental Hazards: Yes
 14.6 Special precautions for user: SPECIAL PROVISION A197 if packaging <= 5L or <= 5kg

Other information

Passenger and cargo aircraft: Allowed.

Cargo aircraft only: Allowed.

14.7 Maritime transport in bulk according to IMO instruments: not applicable

SECTION 15: Regulatory information

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

EU Regulations

EU. REACH Candidate List of Substances of Very High Concern for Authorization (SVHC): none

EU. REACH Annex XIV, Substances Subject to Authorization: none

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

Chemical name	CAS-No.	Concentration
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	1.0 - 10%
2-phenoxyethanol	122-99-6	1.0 - 10%
hexamethylene diacrylate	13048-33-4	1.0 - 10%
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	147-14-8	0.1 - 1.0%
PIGMENT RED 122	980-26-7	0.1 - 1.0%
caprolactam	105-60-2	0.1 - 1.0%
Mequinol	150-76-5	- <0.1%

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex I, Controlled Substances: none

Regulation 1005/2009/EC on substances that deplete the ozone layer, Annex II, New Substances: none

EU. Regulation 2019/1021/EU on persistent organic pollutants (POPs) (recast), as amended: none

EU. Directive 2010/75/EU on Industrial Emissions (IPPC), Annex II, L 334/17:

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Chemical name	CAS-No.
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended: none

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended: none

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
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	1.0 - 10%

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

Classification	Lower-tier Requirements	Upper-tier Requirements
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
29H,31H-Phthalocyaninato(2-)-N29,N30,N31,N32 copper	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-yl acrylate	5888-33-5	20 - 30%
Isodecyl acrylate	1330-61-6	1.0 - 10%
Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide	75980-60-8	1.0 - 10%
3-methyl-1,5-pentanediy diacrylate	64194-22-5	1.0 - 10%
2-phenoxyethanol	122-99-6	1.0 - 10%
hexamethylene diacrylate	13048-33-4	1.0 - 10%
caprolactam	105-60-2	0.1 - 1.0%
Mequinol	150-76-5	0 - <0.1%

15.2 Chemical safety assessment:

Chemical Safety Assessment has been carried out.

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

SECTION 16: Other information**Abbreviations and acronyms:**

ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
ADNR	Accord européen relatif au transport international des marchandises Dangereuses par la Rhin
AGW	Arbeitsplatzgrenswerte (DE)
ATEmix	Acute toxicity estimate of the mixture
CLP	Classification, Labelling and Packaging of substances and mixtures
CMR	carcinogenicity, mutagenicity and toxicity for reproduction
DNEL	Derived No Effect Level
EC0	Effective Concentration 0%
EC5	Effective Concentration 5%
EC10	Effective Concentration 10%
EC50	Median Effective Concentration
EC100	Effective Concentration 100%
EH40 WEL	Workplace Exposure Limit (GB)
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IC50	inhibitory concentration 50%
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
IUCLID	International Uniform Chemical Information Database
LC50	Lethal Concentration 50%
LC100	Lethal Concentration 100%
LOAEL	Lowest Observed Adverse Effect Level
LDL0	Lethal Dose (minimum found to be lethal)
LD50	Lethal Dose 50%
MAC	Maximaal Aanvaardbare Concentratie (NL)
MAK	Maximale Arbeitsplatz-Konzentration
NOAEL	No Observed Adverse Effect Level
NOEL	No Observed Effect Level
NOEC	No Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent, Bioaccumulative and Toxic substance
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Transport of Dangerous Goods by Rail
STEL	Short Term Exposure Limit
TLV	Threshold Limit Value
TRGS900	Arbeitsplatzgrenswerte (DE)
TWA	Time Weighted Average
VOC	Volatile Organic Compound
vPvB	very Persistent and very Bioaccumulative substance

Notes:

Exo-1,7,7-trimethylbicyclo[2.2.1]hept-2-yl acrylate	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
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SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
Isodecyl acrylate	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
3-methyl-1,5-pentanediy diacrylate	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
	Note A	Without prejudice to Article 17(2), the name of the substance must appear on the label in the form of one of the designations given in Part 3. In Part 3, use is sometimes made of a general description such as '...compounds' or '...salts'. In this case, the supplier is required to state on the label the correct name, due account being taken to Paragraph 1.1.1.4.
hexamethylene diacrylate	Note D	Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3. However, such substances are sometimes placed on the market in a non-stabilised form. In this case, the supplier must state on the label the name of the substance followed by the words 'non-stabilised'.

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 irritation, Category 2	Calculation method
Skin sensitizer, Category 1	Calculation method

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended

Toxic to reproduction, Category 2	Calculation method
Specific Target Organ Toxicity - Single Exposure, Category 3	Calculation method
Specific Target Organ Toxicity - Repeated Exposure, Category 1	Calculation method
Chronic hazards to the aquatic environment, Category 2	Calculation method

Wording of the H-statements in section 2 and 3

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.
H335	May cause respiratory irritation.
H361d	Suspected of damaging 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.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Training information:

Follow training instructions when handling this material.

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.