

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: ANAPURNA 040 WHITE INK

Product No.: 000001014815

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 Details of the supplier of the safety data sheet

Manufacturer

Agfa Graphics NV
Septestraat 27
2640 Mortsel
Belgium

Telephone: +32 3 4442111

Fax: +32 3 4447094

E-mail: electronic.sds@agfa.com

National Supplier

Agfa-Gevaert Ltd.
Vantage West
Great West Road
Brentford, Middlesex TW8 9AX
United Kingdom

Telephone: +44 (0)20 8 231 4616

Fax: +44 (0)20 8 231 4951

E-mail: electronic.sds@agfa.com

1.4 Emergency telephone number:

Emergency telephone number (Belgium) : +32 3 4443333 (24h/24h)

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 1A	H317: May cause an allergic skin reaction.
Toxic to reproduction	Category 2	H361f: Suspected of damaging fertility.

Specific Target Organ Toxicity - Single Exposure	Category 3	H335: May cause respiratory irritation.
Specific Target Organ Toxicity - Repeated Exposure	Category 2	H373: May cause 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: Phenoxyethylacrylate
 Isobornyl acrylate
 N-vinyl caprolactam
 Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
 Hexamethylene diacrylate



Signal Words: Warning

Hazard Statement(s): H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.
 H335: May cause respiratory irritation.
 H361f: Suspected of damaging fertility.
 H373: May cause damage to organs through prolonged or repeated exposure.
 H411: Toxic to aquatic life with long lasting effects.

Target Organs:
 Liver

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.
 P281: Use personal protective equipment as required.

Response: P337+P313: If eye irritation persists: Get medical advice/attention.
 P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

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
Phenoxyethyl acrylate	25 - <50%	48145-04-6	256-360-6	01-2119980532-35-XXXX	No data available.	
Isobornyl acrylate	10 - <25%	5888-33-5	227-561-6	01-2119957862-25-XXXX	No data available.	
Titanium dioxide	10 - <20%	13463-67-7	236-675-5	01-2119489379-17-XXXX	No data available.	#
N-vinyl caprolactam	5 - <10%	2235-00-9	218-787-6	01-2119977109-27-XXXX	No data available.	
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	5 - <10%	75980-60-8	278-355-8	01-2119972295-29-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.	
Hexamethylene diacrylate	5 - <10%	13048-33-4	235-921-9	01-2119484737-22-XXXX	No data available.	
2-(2-Vinylloxyethoxy) ethyl acrylate	5 - <10%	86273-46-3		01-2119441302-54-XXXX	No data available.	

Oxybis(methyl-2,1-ethanediyl) diacrylate	0.1 - <1%	57472-68-1	260-754-3	01-2119484629-21-XXXX	No data available.	
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	0.1 - <0.25%	128-37-0	204-881-4	01-2119565113-46-0000	1	#

* 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).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Classification	Notes
Phenoxyethylacrylate	Skin Sens.: 1A: H317 Aquatic Chronic: 2: H411	
Isobornyl acrylate	STOT SE: 3: H335 Aquatic Chronic: 2: H411 Skin Irrit.: 2: H315 Eye Irrit.: 2: H319	Note A
Titanium dioxide	No data available.	
N-vinyl caprolactam	Acute Tox.: 4: H302 Eye Irrit.: 2: H319 Skin Sens.: 1B: H317 STOT RE: 1: H372	
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	Repr.: 2: H361f Aquatic Chronic: 2: H411	No data available.
2-Propenoic acid, 1-6-hexanediyl ester, polymer with 2-aminoethanol	Skin Irrit.: 2: H315 Eye Irrit.: 2: H319	
Hexamethylene diacrylate	Skin Sens.: 1: H317 Eye Irrit.: 2: H319 Skin Irrit.: 2: H315	
2-(2-Vinyloxyethoxy) ethyl acrylate	Acute Tox.: 4: H302 Skin Sens.: 1: H317 Aquatic Chronic: 3: H412	
Oxybis(methyl-2,1-ethanediyl) diacrylate	Skin Sens.: 1: H317 Eye Dam.: 1: H318 Skin Irrit.: 2: H315	
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	Aquatic Acute: 1: H400 Aquatic Chronic: 1: H410	No data available.

CLP: Regulation No. 1272/2008.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Move to fresh air.
Eye contact:	Rinse immediately with plenty of water.
Skin Contact:	Remove contaminated clothing and wash the skin thoroughly with soap and water after work.
Ingestion:	Rinse mouth thoroughly.

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: Get medical attention if symptoms occur.

SECTION 5: Firefighting measures

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

5.1 Extinguishing media
Suitable extinguishing media:

Use fire-extinguishing media appropriate for surrounding materials. Use fire-extinguishing media appropriate for surrounding materials.

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:

Use personal protective equipment. Put on protective equipment before entering danger area.

6.2 Environmental Precautions:

Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up:

Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent.

6.4 Reference to other sections:

For personal protection see section 8. 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.

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

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
Titanium dioxide - Respirable.	TWA	4 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
Titanium dioxide - Inhalable	TWA	10 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	TWA	10 mg/m ³	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)

Biological Limit Values

None.

DNEL-Values

Critical component	type	Route of Exposure		Remarks
Phenoxyethylacrylate	Workers	Dermal	1.5 mg/kg	Repeated dose toxicity
	Workers	Inhalation	77 mg/m ³	Repeated dose toxicity
	Workers	Inhalation	10 mg/m ³	Repeated dose toxicity
Isobornyl acrylate	General population	Oral	0.83 mg/kg	Repeated dose toxicity
	General population	Dermal	0.83 mg/kg	Repeated dose toxicity
	Workers	Dermal	1.39 mg/kg	Repeated dose toxicity
Titanium dioxide	General population	Oral	700 mg/kg	Repeated dose toxicity
	Workers	Inhalation	10 mg/m ³	Repeated dose toxicity
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	Workers	Dermal	1 mg/kg	Repeated dose toxicity
	Workers	Inhalation	3.5 mg/m ³	Repeated dose toxicity
2-(2-Vinyloxyethoxy) ethyl acrylate	General population	Inhalation	0.005 mg/m ³	
	General population	Oral	0.5 mg/kg	
	General population	Dermal	20 mg/kg	
Oxybis(methyl-2,1-ethanediyl) diacrylate	General population	Dermal	1.66 mg/kg	Repeated dose toxicity
	General population	Oral	2.08 mg/kg	Repeated dose toxicity
	Workers	Inhalation	24.48 mg/m ³	Repeated dose toxicity
	Workers	Dermal	2.77 mg/kg	Repeated dose toxicity
#-caprolactam	General population	Inhalation	7.24 mg/m ³	Repeated dose toxicity
	General population	Inhalation	5 mg/m ³	Irritating to respiratory system.
	General population	Oral	8.55 mg/kg	Repeated dose toxicity
	General population	Inhalation	2.5 mg/m ³	Irritating to respiratory system.
	Workers	Inhalation	10 mg/m ³	Irritating to respiratory system.

	Workers	Inhalation	5 mg/m ³	Irritating to respiratory system.
2,6-bis(1,1-dimethylethyl)-4-methylphenol	General population	Dermal	0.25 mg/kg	Repeated dose toxicity
	Workers	Dermal	8.3 mg/kg	
	General population	Inhalation	1.74 mg/m ³	
	Workers	Dermal	0.3 mg/kg	
	Workers	Dermal	0.5 mg/kg	Repeated dose toxicity
	General population	Dermal	0.17 mg/kg	
	General population	Oral	0.17 mg/kg	
	General population	Inhalation	2.5 mg/m ³	
	Workers	Dermal	166 mg/kg	
	General population	Inhalation	0.86 mg/m ³	Repeated dose toxicity
	General population	Dermal	100 mg/kg	
	Workers	Inhalation	3.5 mg/m ³	Repeated dose toxicity
	General population	Oral	100 mg/kg	
	Workers	Inhalation	5.8 mg/m ³	
	General population	Dermal	5 mg/kg	
Phenol, 4-methoxy-	Workers	Inhalation	10 mg/m ³	Acute toxicity
	Workers	Inhalation	3 mg/m ³	Repeated dose toxicity

PNEC-Values

Critical component	Environmental compartment		Remarks
Isobornyl acrylate	Aquatic (freshwater)	0.00092 mg/l	
	soil	0.0285 mg/kg	
	freshwater sediment	0.145 mg/kg	
	Marine sediments	0.0145 mg/kg	
	Sewage treatment plant	2 mg/l	
Titanium dioxide	Aquatic (marine water)	0.000092 mg/l	
	Aquatic (intermit. releases)	0.00704 mg/l	
	Aquatic (marine water)	1 mg/l	
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	freshwater sediment	1000 mg/kg	
	Sewage treatment plant	100 mg/l	
	Aquatic (intermit. releases)	0.61 mg/l	
	soil	100 mg/kg	
	Aquatic (freshwater)	0.127 mg/l	
	Marine sediments	100 mg/kg	
	Predator	1667 mg/kg	
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	soil	0.0557 mg/kg	
	Fresh water	0.00353 mg/l	
	Marine sediments	0.029 mg/kg	
	Marine water	0.00353 mg/l	
	Aquatic (intermit. releases)	0.0353 mg/l	

	Intermittent release	0.0353 mg/l	
	Aquatic (marine water)	0.000353 mg/l	
	Sediment-fresh water	0.29 mg/kg	
	freshwater sediment	0.29 mg/kg	
	Soil	0.0557 mg/kg	
	Aquatic (freshwater)	0.00353 mg/l	
Hexamethylene diacrylate	Aquatic (freshwater)	0.0015 mg/l	
	Marine sediments	0.00243 mg/kg	
	Aquatic (marine water)	0.00015 mg/l	
	soil	0.00397 mg/kg	
	Sewage treatment plant	2.7 mg/l	
	freshwater sediment	0.0243 mg/kg	
2-(2-Vinyloxyethoxy) ethyl acrylate	Aquatic (freshwater)	0.0078 mg/l	
	Aquatic (marine water)	0.00078 mg/l	
	Sewage treatment plant	7.41 mg/l	
	Aquatic (intermit. releases)	0.068 mg/l	
	soil	0.00569 mg/kg	
	freshwater sediment	0.012 mg/kg	
Oxybis(methyl-2,1-ethanediyl) diacrylate	soil	0.0013 mg/kg	
	Sewage treatment plant	100 mg/l	
	Aquatic (marine water)	0.00034 mg/l	
	Aquatic (intermit. releases)	0.034 mg/l	
	freshwater sediment	0.00884 mg/kg	
	Aquatic (freshwater)	0.0034 mg/l	
#-caprolactam	soil	2.55 mg/kg	
	Sewage treatment plant	1737 mg/l	
	Aquatic (marine water)	0.2 mg/l	
	Aquatic (freshwater)	2 mg/l	
	freshwater sediment	18.7 mg/kg	
	Aquatic (intermit. releases)	1 mg/l	
2,6-bis(1,1-dimethylethyl)-4-methylphenol	Aquatic (marine water)	0.0041 mg/l	
	Aquatic (freshwater)	0.1 mg/l	
	soil	1.04 mg/kg	
	Predator	8.33 mg/kg	
	Aquatic (marine water)	0.01 mg/l	
	Predator	16.7 mg/kg	

	Aquatic (intermit. releases)	1 mg/l	
	Marine sediments	0.731 mg/kg	
	Sewage treatment plant	10 mg/l	
	Sewage treatment plant	100 mg/l	
	freshwater sediment	0.731 mg/kg	
	Sewage treatment plant	0.17 mg/l	
	freshwater sediment	1.29 mg/kg	
	soil	0.35 mg/kg	
	Aquatic (freshwater)	0.0041 mg/l	
Phenol, 4-methoxy-	freshwater sediment	0.125 mg/kg	
	Aquatic (freshwater)	0.0136 mg/l	
	Aquatic (marine water)	0.00136 mg/l	
	Sewage treatment plant	10 mg/l	
	soil	0.017 mg/kg	
	Marine sediments	0.0125 mg/kg	

8.2 Exposure controls

Appropriate Engineering Controls: Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: 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.

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. Glove thickness: > 0.70 mm Break-through time: > 480 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 handle until all safety precautions have been read and understood. Obtain special instructions before use.

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:	White
Odor:	Characteristic
Odor Threshold:	No data available.
pH:	No data available.
Freezing point:	< 0 °C
Boiling Point:	> 100 °C
Flash Point:	> 100 °C
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.
Relative density:	1.2035
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 2004/42: 467.24 g/l ~46.72 % (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:	No data available.
10.4 Conditions to avoid:	Avoid heat or contamination.
10.5 Incompatible Materials:	No data available.

10.6 Hazardous Decomposition By heating and fire, harmful vapors/gases may be formed.
Products:

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.
- Ingestion:** May be ingested by accident. Ingestion may cause irritation and malaise.
- Skin Contact:** Moderately irritating to skin with prolonged exposure.
- Eye contact:** Eye contact is possible and should be avoided.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product: ATEmix: 10,549.62 mg/kg

Specified substance(s)

- Phenoxyethylacrylate LD 50 (Rat): 5,000 mg/kg
- Isobornyl acrylate LD 50 (Rat): 4,350 mg/kg
- Titanium dioxide LD 50 (Rat): > 5,000 mg/kg
- N-vinyl caprolactam LD 50 (Rat): 1,400 mg/kg
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- LD 50 (Rat): > 5,000 mg/kg
- 2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol No data available.
- Hexamethylene diacrylate LD 50 (Rat): > 5,000 mg/kg
- 2-(2-Vinyloxyethoxy) ethyl acrylate LD 50 (Rat): 1,790 mg/kg
- Oxybis(methyl-2,1-ethanediyl) diacrylate LD 50 (Rat): 4,626 mg/kg
- 2,6-bis(1,1-dimethylethyl)-4-methyl-phenol LD 50 (Rat): > 6,000 mg/kg

Dermal

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

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	LD 50 (Rabbit): > 3,000 mg/kg
Titanium dioxide	No data available.
N-vinyl caprolactam	LD 50 (Rat): > 2,000 mg/kg
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)-	LD 50 (Rat): > 2,000 mg/kg
2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2- aminoethanol	No data available.
Hexamethylene diacrylate	LD 50 (Rabbit): 3,650 mg/kg
2-(2-Vinyloxyethoxy) ethyl acrylate	LD 50 (Rat): > 2,000 mg/kg
Oxybis(methyl-2,1- ethanediyl) diacrylate	LD 50 (Rabbit): > 2,000 mg/kg
2,6-bis(1,1- dimethylethyl)-4- methyl-phenol	LD 50 (Rat): > 2,000 mg/kg

Inhalation

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

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	LC 50 (Rat, 4 h): > 6.82 mg/l
N-vinyl caprolactam	LC 50 (Rat, 8 h): > 1.6 mg/l
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	LC 0 (Rat, 7 h): 0.41 mg/l
2-(2-Vinyloxyethoxy) ethyl acrylate	LC 50 (Rat, 4 h): > 5.04 mg/l
Oxybis(methyl-2,1- ethanediyl) diacrylate	No data available.
2,6-bis(1,1- dimethylethyl)-4-methyl- phenol	No data available.

Repeated dose toxicity

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	NOAEL (Rat(Female, Male), Oral, 2 Weeks): 500 mg/kg
Isobornyl acrylate	NOAEL (Rat(Female, Male), Inhalation): 0.226 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 LOAEL (Rat(Female, Male), Inhalation): 0.753 mg/l
Titanium dioxide	NOAEL (Hamster, Syrian(Female), Inhalation): 2.1 mg/m ³ NOAEL (Rat(Female, Male), Inhalation): 10 mg/m ³ NOAEL (Rat(Female, Male), Inhalation): 50 mg/m ³ NOAEL (Rat(Male), Oral, 29 d): 24,000 mg/kg NOAEL (Hamster, Syrian(Female), Inhalation): 9.9 mg/m ³
N-vinyl caprolactam	NOAEL (Rat(Female, Male), Inhalation): 0.058 mg/l
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)-	LOAEL (Rat(Female, Male), Oral, 28 d): 250 mg/kg LOAEL (Rat(Female, Male), Oral, 64 - 91 d): 300 mg/kg NOAEL (Rat(Female, Male), Oral, 64 - 91 d): 100 mg/kg NOAEL (Rat(Female, Male), Oral, 28 d): 50 mg/kg
2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	NOAEL (Rat(Female, Male), Oral, 28 - 52 d): 250 mg/kg
2-(2-Vinyloxyethoxy) ethyl acrylate	NOAEL (Rat(Female, Male), Oral, 28 d): 160 mg/kg
Oxybis(methyl-2,1- ethanediyl) diacrylate	NOAEL (Rat(Female, Male), Oral, 28 - 52 d): 250 mg/kg
2,6-bis(1,1- dimethylethyl)-4-methyl- phenol	NOAEL (Rat(Male), Oral, 1.25 - 22.75 Months): 25 mg/kg

Skin Corrosion/Irritation:

Product: Causes skin irritation.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	in vivo (Rabbit): Not irritating
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2- aminoethanol	No data available.

Hexamethylene diacrylate	in vivo (Rabbit): Category 2
2-(2-Vinyloxyethoxy) ethyl acrylate	in vivo (Rabbit): Not irritating
Oxybis(methyl-2,1-ethanediyl) diacrylate	in vivo (Rabbit): Category 2
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	in vivo (Rabbit): Not irritating

Serious Eye Damage/Eye Irritation:

Product: Causes serious eye irritation.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	in vivo (Rabbit, 24 hrs): Not irritating EU
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	Irritating
2-(2-Vinyloxyethoxy) ethyl acrylate	in vivo (Rabbit): Not irritating EU
Oxybis(methyl-2,1-ethanediyl) diacrylate	in vivo (Rabbit, 24 - 72 hrs): Category 1 OECD GHS
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	in vivo (Rabbit, 24 - 72 hrs): Not irritating EU

Respiratory or Skin Sensitization:

Product: May cause an allergic skin reaction.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.

2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

Germ Cell Mutagenicity

In vitro

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

In vivo

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.

2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methylphenol	No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methylphenol	No data available.

Reproductive toxicity

Product: Suspected of damaging fertility or the unborn child.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.

2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.

2,6-bis(1,1-dimethylethyl)-4-methylphenol No data available.

Target Organs:
 Liver

Aspiration Hazard

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methylphenol	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)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	LC 50 (Pimephales promelas, 96 h): > 1,000 mg/l (Static) experimental result
N-vinyl caprolactam	No data available.
Phosphine oxide,	No data available.

diphenyl(2,4,6-trimethylbenzoyl)-2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	LC 50 (Leuciscus idus, 96 h): 4.6 - 10 mg/l (Static) experimental result
2-(2-Vinyloxyethoxy) ethyl acrylate	LC 50 (Danio rerio, 96 h): 6.8 mg/l (semi-static) experimental result NOAEL (Danio rerio, 96 h): 2.2 mg/l (semi-static) experimental result
Oxybis(methyl-2,1-ethanediyl) diacrylate	LC 50 (Leuciscus idus, 96 h): 2.2 - 4.64 mg/l (Static) experimental result
2,6-bis(1,1-dimethylethyl)-4-methylphenol	LC 50 (Danio rerio, 96 h): > 100 mg/l (Static) experimental result

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	EC 50 (48 h): > 1,000 mg/l (Static) experimental result
N-vinyl caprolactam	No data available.
Phosphine oxide,	No data available.
diphenyl(2,4,6-trimethylbenzoyl)-2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	EC 50 (48 h): 2.6 mg/l (Static) experimental result
2-(2-Vinyloxyethoxy) ethyl acrylate	EC 50 (48 h): 55 mg/l (Static) experimental result NOAEL (48 h): 25 mg/l (Static) experimental result
Oxybis(methyl-2,1-ethanediyl) diacrylate	EC 50 (48 h): 22.3 mg/l (Static) experimental result
2,6-bis(1,1-dimethylethyl)-4-methylphenol	EC 50 (48 h): 0.48 mg/l (Static) experimental result

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	LC 50 (Oncorhynchus mykiss, 28 d): 7.31 mg/l (Static renewal) interpreted
N-vinyl caprolactam	No data available.
Phosphine oxide,	No data available.
diphenyl(2,4,6-	

trimethylbenzoyl)- 2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1- ethanediyl) diacrylate	No data available.
2,6-bis(1,1- dimethylethyl)-4-methyl- phenol	No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)- 2-Propenoic acid ,1-6- hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1- ethanediyl) diacrylate	No data available.
2,6-bis(1,1- dimethylethyl)-4-methyl- phenol	No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6- trimethylbenzoyl)- 2-Propenoic acid ,1-6- hexanediyl ester, polymer	No data available.

with 2-aminoethanol	
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

12.2 Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	OECD 301D Readily biodegradable 82 %
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

BOD/COD Ratio

Product No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.

2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

12.3 Bioaccumulative Potential

Product: No data available.

Specified substance(s)

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

12.4 Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	No data available.

12.5 Results of PBT and vPvB assessment:	Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria
Phenoxyethylacrylate	No data available.
Isobornyl acrylate	No data available.
Titanium dioxide	No data available.
N-vinyl caprolactam	No data available.
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	No data available.
2-Propenoic acid ,1-6-hexanediyl ester, polymer with 2-aminoethanol	No data available.
Hexamethylene diacrylate	No data available.
2-(2-Vinyloxyethoxy) ethyl acrylate	No data available.
Oxybis(methyl-2,1-ethanediyl) diacrylate	No data available.
2,6-bis(1,1-dimethylethyl)-4-methyl-phenol	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.

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:	(E)
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	30.00KG
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: 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.: none

Directive 96/82/EC (Seveso III): on the control of major accident hazards involving dangerous substances:

Chemical name	CAS-No.	Concentration
Isobornyl acrylate	5888-33-5	20 - 30%
Hexamethylene diacrylate	13048-33-4	1.0 - 10%

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants: none

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

Chemical name	CAS-No.	Concentration
Isobornyl acrylate	5888-33-5	20 - 30%
Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-	75980-60-8	1.0 - 10%
Hexamethylene diacrylate	13048-33-4	1.0 - 10%
#-caprolactam	105-60-2	0.1 - 1.0%
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. Not relevant.

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

Wording of the H-statements in section 2 and 3

H302 Harmful if swallowed.

H315	Causes skin irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
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.
H412	Harmful to aquatic life with long lasting effects.

Training information: No data available.

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

Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1A, H317
Repr. 2, H361f
STOT SE 3, H335
STOT RE 2, H373
Aquatic Chronic 2, H411

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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.