1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or mixture:

Product name	:	AJ UV G4 OA YELLOW INK
REACH Registration No	:	Registration numbers of the individual components: see section 3.2, if applicable.

1.2 Use of the substance/mixture:

Identified relevant uses	:	Printer ink
Uses advised against	:	Do not use for products which come into direct contact with the skin. Do not use for products which come into direct contact with food stuffs. Do not use for private purposes (household).

1.3 Company/undertaking identification

Agfa-Gevaert Ltd.
Vantage West
Great West Road
Brentford, Middlesex TW8 9AX
United Kingdom
Tel. : +44 (0)20 8 231 4616
Fax : +44 (0)20 8 231 4951
E-mail: electronic.sds@agfa.com

1.4 Emergency telephone

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture:

Regulation(EC) No 1272/2008 (CLP)	
• Hazard classes	Skin irritation
Hazard categories	Category 2
Hazard statements	H315
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.
• Hazard classes	Serious eye irritation
Hazard categories	Category 2
Hazard statements	H319
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.
• Hazard classes	Skin sensitizer
Hazard categories	Category 1
Hazard statements	H317
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.
• Hazard classes	Specific target organ toxicity - single exposure
Hazard categories	Category 3
Hazard statements	H335
Classification procedure	According the classification criteria of CLP Regulation (EC)

	No 1272/2008.
• Hazard classes	Specific target organ toxicity - repeated exposure
Hazard categories	Category 1
Hazard statements	H372
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.
• Hazard classes	Chronic hazards to the aquatic environment
Hazard categories	Category 2
Hazard statements	H411
Classification procedure	According the classification criteria of CLP Regulation (EC) No 1272/2008.

67/548/EEC or 1999/45/EC	
Hazards characteristics	Toxic, Dangerous for the environment
R-phrase(s)	R36/37/38, R43, R48/23, R51/53

Full text of each relevant R and H phrase is listed in section 16.

2.2 Label elements:

Hazardous components which must be listed on the label :

- CAS-No. : 2235-00-9 N-vinyl caprolactam
  5888-33-5 Isobornyl acrylate
  119-61-9 Benzophenone

Symbol(s)

GHS07

GHS08

GHS09

Signal word	:	DANGER	
Hazard statements	:	H315	Causes skin irritation.
		H317	May cause an allergic skin reaction.
		H319	Causes serious eye irritation.
		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	:	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P273	Avoid release to the environment.
Precautionary statements: response	:	P337+P313	If eye irritation persists: Get medical advice/attention.
		P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
		P363	Wash contaminated clothing before reuse.
		P312	Call a POISON CENTER/ doctor/#/if you feel unwell.
		P391	Collect spillage.

2.3 Other hazards:

This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixture related information:

Printer ink, mainly consisting of:

3.2 Hazard ingredients:

The hazard and labelling information in this section is that of the individual ingredients. The corresponding information relative to this product as supplied is given in section 2.1.

Hazardous components in the meaning of regulation(EC) No 1272/2008 (CLP)

- Isobornyl acrylate — Concentration [%] : 20.0 - 40.0
  - CAS-No. : 5888-33-5
  - REACH Registration No : 01-2119957862-25-XXXX
  - Hazard classes : Skin irritation, Serious eye irritation, Specific target organ toxicity - single exposure, Chronic hazards to the aquatic environment
  - Hazard categories : Category 2, Category 2, Category 3, Category 2
  - Hazard statements : H315, H319, H335, H411
- Phenoxyethylacrylate — Concentration [%] : 10.0 - 20.0
  - CAS-No. : 48145-04-6
  - EINECS-No. : 256-360-6
  - REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
  - Hazard classes : Skin sensitizer
  - Hazard categories : Category 1
  - Hazard statements : H317
- N-vinyl caprolactam — Concentration [%] : 10.0 - 20.0
  - CAS-No. : 2235-00-9
  - EINECS-No. : 218-787-6
  - REACH Registration No : 01-2119977109-27-XXXX
  - Hazard classes : Acute toxicity Oral, Serious eye irritation, Skin sensitizer, Specific target organ toxicity - repeated exposure Inhalation
  - Hazard categories : Category 4, Category 2, Category 1B, Category 1
  - Hazard statements : H302, H319, H317, H372
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 5.0 - 10.0
  - CAS-No. : 67906-98-3
  - REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
  - Hazard classes : Skin irritation, Serious eye irritation
  - Hazard categories : Category 2, Category 2
  - Hazard statements : H315, H319
- Ethoxylated nonylphenol acrylate — Concentration [%] : 1.0 - 5.0
  - REACH Registration No : Substance must not be registered according to REACH annex IV and V.
  - Hazard classes : Serious eye irritation, Skin irritation

Hazard categories : Category 2, Category 2
Hazard statements : H319, H315

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- Concentration [%] : 1.0 - 3.0

CAS-No. : 75980-60-8
EINECS-No. : 278-355-8
REACH Registration No : 01-2119972295-29-XXXX
Hazard classes : Toxic to reproduction, Chronic hazards to the aquatic environment, Skin sensitizer
Hazard categories : Category 2, Category 2, Category 1
Hazard statements : H361f, H411, H317

- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide Concentration [%] : 1.0 - 5.0

CAS-No. : 162881-26-7
Index-No. : 015-189-00-5
REACH Registration No : Transition time according to REACH regulation article 23 is still not expired.
Hazard classes : Skin sensitizer, Chronic hazards to the aquatic environment
Hazard categories : Category 1A, Category 4
Hazard statements : H317, H413

- Benzophenone Concentration [%] : 1.0 - 5.0

CAS-No. : 119-61-9
EINECS-No. : 204-337-6
REACH Registration No :
Hazard classes : Skin irritation, Serious eye irritation, Acute hazards to the aquatic environment, Specific target organ toxicity - single exposure, Chronic hazards to the aquatic environment
Hazard categories : Category 2, Category 2, Category 1, Category 3, Category 1
Hazard statements : H315, H319, H400, H335, H410

- 2-Ethylhexyl 4-(dimethylamino)benzoate Concentration [%] : 1.0 - 5.0

CAS-No. : 21245-02-3
EINECS-No. : 244-289-3
REACH Registration No :
Hazard classes : Serious eye irritation
Hazard categories : Category 2
Hazard statements : H319

- Hexamethylene diacrylate Concentration [%] : 0.1 - 0.5

CAS-No. : 13048-33-4
Index-No. : 607-109-00-8
EINECS-No. : 235-921-9
REACH Registration No : 01-2119484737-22-XXXX
Hazard classes : Serious eye irritation, Skin irritation, Skin sensitizer
Hazard categories : Category 2, Category 2, Category 1
Hazard statements : H319, H315, H317

Hazardous components in the meaning of 67/548/EEC or 1999/45/EC

- Isobornyl acrylate Concentration [%] : 20.0 - 40.0

CAS-No. : 5888-33-5
Symbol(s) : Xi, N
R-phrase(s) : R36/37/38, R51/53

- Phenoxyethylacrylate Concentration [%] : 10.0 - 20.0

CAS-No. : 48145-04-6
EINECS-No. : 256-360-6
Symbol(s) : Xi
R-phrase(s) : R43

- N-vinyl caprolactam — Concentration [%] : 10.0 - 20.0
  CAS-No. : 2235-00-9
  EINECS-No. : 218-787-6
  Symbol(s) : T
  R-phrase(s) : R22, R36, R43, R48/23
- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol — Concentration [%] : 5.0 - 10.0
  CAS-No. : 67906-98-3
  Symbol(s) : Xi
  R-phrase(s) : R36/38
- Ethoxylated nonylphenol acrylate — Concentration [%] : 1.0 - 5.0
  Symbol(s) : Xi
  R-phrase(s) : R36/38
- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)- — Concentration [%] : 1.0 - 3.0
  CAS-No. : 75980-60-8
  EINECS-No. : 278-355-8
  Symbol(s) : N
  R-phrase(s) : R51/53, R43, R62
- phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide — Concentration [%] : 1.0 - 5.0
  CAS-No. : 162881-26-7
  Index-No. : 015-189-00-5
  Symbol(s) : Xi
  R-phrase(s) : R43, R53
- Benzophenone — Concentration [%] : 1.0 - 5.0
  CAS-No. : 119-61-9
  EINECS-No. : 204-337-6
  Symbol(s) : Xi
  R-phrase(s) : R36/37/38, R52/53
- 2-Ethylhexyl 4-(dimethylamino)benzoate — Concentration [%] : 1.0 - 5.0
  CAS-No. : 21245-02-3
  EINECS-No. : 244-289-3
  Symbol(s) : Xi
  R-phrase(s) : R36
- Hexamethylene diacrylate — Concentration [%] : 0.1 - 0.5
  CAS-No. : 13048-33-4
  Index-No. : 607-109-00-8
  EINECS-No. : 235-921-9
  Symbol(s) : Xi
  R-phrase(s) : R36/38, R43

Components with a community workplace exposure limit

- Hexamethylene diacrylate
- Caprolactam

3.3 Remark:

Full text of each relevant R and H phrase is listed in section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures:

Eye contact	:	Immediately flush eye(s) with plenty of water. Consult an oculist if necessary.
Skin contact	:	Wash off with soap and water.
Ingestion	:	Rinse mouth with plenty of water. Consult a physician if necessary. Do not induce vomiting.
Inhalation	:	Take patient to fresh air if necessary. Consult a physician if necessary.

4.2 Most important symptoms and effects:

Symptoms	:	Upon contact with skin: redness, pain. In case of eye contact: redness and pain. Ingestion can cause nausea, vomiting and diarrhea. May cause headache and dizziness.

4.3 Indication of immediate medical attention and special treatment needed:

General advice	:	Call a physician immediately.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	:	Alcohol-resistant foam., Carbon dioxide (CO2)., Dry extinguishing powder., Water.
Extinguishing media which must not be used for safety reasons	:	Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture:

Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

5.3 Advice for fire-fighters:

Special protective equipment for fire-fighters	:	Regular fire intervention clothes.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Personal precautions	:	Cleanup personnel must use appropriate personal protective equipment.
Additional advice	:	Observe normal precautions when handling chemicals.

6.2 Environmental precautions:

Environmental precautions	:	The product should not be allowed to enter drains, water courses or the soil.

6.3 Methods and material for containment and cleaning up:

Methods for cleaning up	:	Dike the spill if necessary. If spill occurs, apply a suitable absorbent material and collect into an impervious waste

container. Collect the product in a plastic vessel. Carefully collect leftovers.

6.4 Reference to other sections:

For waste disposal see section 13.
For personal protection see section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Advice on safe handling	:	Prevent product from diffusing.
Hygiene measures	:	Observe normal precautions when handling chemicals.Keep away from foodstuffs, drinks and tobacco.Employees should wash their hands and face before eating, drinking, or using tobacco products.
Advice on protection against fire and explosion	:	No special protective measures against fire and explosion required.

7.2 Conditions for safe storage:

Requirements for storage areas and containers	:	Keep container tightly closed.Keep in a dry place.
Further information on storage conditions	:	Keep container in a well-ventilated place.

7.3 Specific end use:

This substance is used only by trained professionals under restricted conditions.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters:

8.1.1 Components with occupational exposure limits rsp. biological occupational exposure limits requiring monitoring:

8.1.1.1 Occupational exposure limits:

Air limit values

- Caprolactam CAS-No.: 105-60-2

Basis	Revision Date	Value	Type
EU ELV	12 2009	10 mg/m3	TWA
EU ELV	12 2009	40 mg/m3	STEL
EH40 WEL	2007	10 mg/m3	TWA
EH40 WEL	2007	1 mg/m3	TWA
EH40 WEL	2007	20 mg/m3	STEL
EH40 WEL	2007	3 mg/m3	STEL

Biological limit values

We are not aware of any national exposure limit.

8.1.1.2 Additional exposure limits under the conditions of use:

No other exposure limits applicable.

8.1.1.3 DNEL/DMEL and PNEC-values:

DNEL

- N-vinyl caprolactam CAS-No.: 2235-00-9

Application area	Route of exposure	Health effect	Value
Worker: Industry	Inhalation	Long-term - systemic effects	4.9 mg/m3
Worker: Industry	Dermal		0.7 mg/kg
Worker: Industry	Inhalation	Long-term - local effects	0.17 mg/m3

PNEC

- N-vinyl caprolactam CAS-No.: 2235-00-9

Environmental compartment	Exposure time	Value
Fresh water		0.1 mg/l
Marine water		0.01 mg/l
Intermittent release		1 mg/l
Sewage treatment plant		262 mg/l
Sediment-fresh water		0.829 mg/kg
Soil		0.107 mg/kg

8.2 Exposure controls:

Occupational exposure controls:

➢ **Instruction measures to prevent exposure:**

Employees should wash their hands and face before eating, drinking, or using tobacco products. Keep away from foodstuffs, drinks and tobacco.

➢ **Technical measures to prevent exposure:**

Ensure adequate ventilation.

➢ **Personal measures to prevent exposure:**

Respiratory protection : not required under normal use

Hand protection : Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact use gloves made of the materials: butylrubber (thickness >= 0.70 mm, breakthrough time > 480 min).(EN 374). The use of protective gloves should conform to the specifications of EC directive 89/686/EC and the resultant standard EN374.
Additional advice: The data are based on own tests, literature data and information of glove manufacturers or derived from similar substances. Because several factors may influence these properties (eg temperature), one should take into account the fact that the life of a chemical gloves in practice may be considerably shorter than indicated by the permeation

		test. The high diversity of types of use are prescribed by the manufacturer.
Eye protection	:	Safety goggles. EN 166.
Body Protection	:	Safety clothes.
Personal protective equipment	:	Observe normal precautions when handling chemicals.

Environmental exposure controls:

Do not release into drain. Collect for removal by a licensed waste contractor. Effluent regulations/discharge/treatment/contents may vary from one area to another. Please consult the local regulations regarding the disposal of this material.

EU Directive	Status
European Directive 2000/60/EC (water)	not on list
European Directive 1996/62/EC (air)	not on list

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Basic physical and chemical properties:

9.1.1 Appearance:

State of matter	:	Liquid
Form	:	Liquid.
Color	:	Yellow
Odor	:	Sweetish smell
Odor threshold	:	No data available

9.1.2 Important health, safety and environmental information:

pH	:	Not applicable	
Melting point/range	:	< 0 °C	Method: Literature.
Boiling point/range	:	> 100 °C	Method: Literature.
Flash point	:	> 100 °C	Method: Literature.
Autoignition temperature	:	No data available	
Vapour pressure	:	No data available	
Relative vapour density	:	No data available	
Relative density	:	1.046	Method: Literature.
Density	:	No data available	
Solubility/qualitative	:	Immiscible with water.	
Water solubility	:	No data available	
Partition coefficient (n-octanol/water)	:	No data available	
Viscosity, dynamic	:	10.8 mPa.s	Method: Literature.
Viscosity, kinematic	:	No data available	
Lower explosion limit	:	No data available	
Upper explosion limit	:	No data available	
Evaporation rate	:	No data available	
Flammability (solid, gas)	:	Not flammable.	Method: Literature.

9.2 Other information:

VOC content	:	Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity:

Reactivity : Reactivity is not to be expected under normal conditions of temperature and pressure.

10.2 Chemical stability:

Stability : The product is stable under normal conditions of storage and use.

10.3 Possibility of hazardous reactions:

Hazardous reactions : The product is stable under normal conditions of storage and use.

10.4 Conditions to avoid:

Conditions to avoid : No data available

10.5 Materials to avoid:

Materials to avoid : No data available

10.6 Hazardous decomposition products:

Hazardous decomposition products : No specified dangerous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Toxicity data specific for individual ingredients in their pure state:

Toxicokinetics, metabolism and distribution:

No data available

Acute effects (toxicity tests):

➢ **Acute Toxicity**

- Isobornyl acrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	4,890 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rabbit	5,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	No data available			

- Phenoxyethylacrylate

	Effect dose	Species	Value	Method
Acute dermal toxicity	LD50		> 2,000 mg/kg	Literature.

Acute inhalation toxicity	Based on available data, the classification criteria are not met. No data available

- N-vinyl caprolactam

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	ca. 1,400 mg/kg	Literature.
Acute dermal toxicity	LD50	rat	> 2,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity	LC50	rat		
	It was demonstrated that during intended and foreseen applications, no respirable aerosol is formed.			

- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol

	Effect dose	Species	Value	Method
Acute oral toxicity				
	No data available			
Acute dermal toxicity				
	No data available			
Acute inhalation toxicity				
	No data available			

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 2,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rat	> 2,000 mg/kg	Literature.
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity				
	No data available			

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

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 2,000 mg/kg	OECD Test Guideline 401
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rat	> 2,000 mg/kg	OECD Test Guideline 402
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity				
	No data available			

- Benzophenone

	Effect dose	Species	Value	Method
Acute oral toxicity		rat	> 10,000 mg/kg	
Acute dermal toxicity		rabbit	> 3,535 mg/kg	

- Hexamethylene diacrylate

	Effect dose	Species	Value	Method
Acute oral toxicity	LD50	rat	> 5,000 mg/kg	OECD Test Guideline 401
	Based on available data, the classification criteria are not met.			
Acute dermal toxicity	LD50	rabbit	3,650 mg/kg	OECD Test Guideline 402
	Based on available data, the classification criteria are not met.			
Acute inhalation toxicity				

	No data available

➢ **Specific target organ toxicity (STOT):**

Specific effects	Affected organs
Irritating to respiratory system.	

➢ **Irritant and corrosive effects:**

	Exposure time	Species	Evaluation	Method
Primary irritation to the skin Irritation to eyes	Irritating to skin.			
	Eye irritation			

➢ **Irritation to the respiratory tract:**

May cause irritation of respiratory tract.

➢ **Sensitisation:**

Species	Evaluation	Method
	May cause sensitization of susceptible persons by skin contact.	

➢ **Aspiration hazard:**

No data available

Sub-acute, sub-chronic and chronic toxicity

➢ **Repeated dose toxicity:**

No data available

➢ **Specific target organ toxicity (STOT):**

May cause damage to organs through prolonged or repeated exposure.

➢ **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):**

- **Carcinogenicity**

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

- **Mutagenicity**

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

- **Genetic toxicity in vitro**

No data available

- **Genetic toxicity in vivo**

No data available

- **Teratogenicity**

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

- **Toxicity to reproduction**

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

➢ **Summarised evaluation of the CMR properties:**

Carcinogenicity	:	Based on available data, the classification criteria are not met.
Mutagenicity	:	Based on available data, the classification criteria are not met.
Teratogenicity	:	Based on available data, the classification criteria are not met.
Toxicity to reproduction	:	Based on available data, the classification criteria are not met.

Experiences made in practice:

Symptoms may be delayed. Consult your supplier if the material is to be used for special applications such as in the food industry or for hygiene, medical or surgical end-use. Other dangerous properties can not be excluded. At high concentrations the monomer vapours can cause eye and nose irritation.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:

- Isobornyl acrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	0.704 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	No data available			
Toxicity to algae	NOEC	72 h	Algae	0.405 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	EC50	72 h	Algae	1.98 mg/l
	Method: OECD Test Guideline 201			
Toxicity to algae	EC50	72 h	Algae	0.596 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	No data available			

- Phenoxyethylacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	No data available			
Toxicity to daphnia	No data available			
Toxicity to algae	No data available			
Toxicity to bacteria	No data available			

- N-vinyl caprolactam

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	318 mg/l
	Method: OECD Test Guideline 203			
	Based on available data, the classification criteria are not met.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	> 100 mg/l
	Method: OECD Test Guideline 202			
	Based on available data, the classification criteria are not met.			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	> 100 mg/l
	Method: Literature.			
	Based on available data, the classification criteria are not met.			
Toxicity to bacteria	EC50	16 h	Pseudomonas putida (bacteria)	622 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			
	Based on available data, the classification criteria are not met.			

- 2-Propenoic acid ,1-6-hexanediyl ester,polymer with 2-aminoethanol

	Effect dose	Exposure time	Species	Value
Toxicity to fish	No data available			
Toxicity to daphnia	No data available			
Toxicity to algae	No data available			
Toxicity to bacteria	No data available			

- Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Leuciscus idus (golden orfe)	< 100.00 mg/l
	Method: Literature.			
Toxicity to daphnia	EC0	48 h	Daphnia magna (water flea)	< 100.00 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia	3.53 mg/l
	Method: Literature.			
Toxicity to algae	EC50	72 h	Algae	> 1,000 mg/l
	Method: Literature.			
Toxicity to bacteria	EC50	17 h	Bacteria	> 500.00 mg/l
	Method: Literature.			

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

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Brachidanio rerio (zebra fish)	> 0.09 mg/l
	Method: OECD Test Guideline 203			
Toxicity to daphnia	EC50	48 h	Daphnia magna	> 1,175 mg/l
	Method: OECD Test Guideline 202			
Toxicity to algae	EC50	72 h	Scenedesmus subspicatus (algae)	> 0.26 mg/l
	Method: OECD Test Guideline 201			
Toxicity to bacteria	EC50	3 h	Bacteria	> 100 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

- Benzophenone

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Pimephales promelas (fathead minnow)	15.3 mg/l
Toxicity to daphnia	EC50	24 h	Daphnia magna	0.28 mg/l

- Hexamethylene diacrylate

	Effect dose	Exposure time	Species	Value
Toxicity to fish	LC50	96 h	Leuciscus idus (golden orfe)	4.6 to 10 mg/l
	Method: DIN 38412			
Toxicity to daphnia	EC0	24 h	Daphnia magna	1.6 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	24 h	Daphnia magna	6 mg/l
	Method: Literature.			
Toxicity to daphnia	EC100	24 h	Daphnia magna	25 mg/l
	Method: Literature.			
Toxicity to daphnia	EC0	48 h	Daphnia magna	0.8 mg/l
	Method: Literature.			
Toxicity to daphnia	EC50	48 h	Daphnia magna	2.6 mg/l
	Method: Literature.			
Toxicity to algae	NOEC	72 h	Algae	ca. 0.5 mg/l
	Method: DIN 38412			
Toxicity to algae	EC10	72 h	Algae	0.59 mg/l
	Method: DIN 38412			
Toxicity to algae	EC50	72 h	Algae	1.5 mg/l
	Method: DIN 38412			
Toxicity to bacteria	EC50	0.5 h		ca. 270 mg/l
	Method: OECD-Guideline No.209; 88/302/EEC C.11			

12.2 Persistence and degradability:

Physico-chemical removability

No data available

Chemical Oxygen Demand (COD)

No data available

Adsorbed organic bound halogens (AOX)

Product does not contain any organic halogens.

Biodegradation

No data available

Biochemical Oxygen Demand (BOD)

No data available

12.3 Bioaccumulative potential:

Partition coefficient (n-octanol/water)

No data available

Bioconcentration factor (BCF)

No data available

12.4 Mobility in soil:

No information available.

Henry's constant

Value	Temperature	Method
		No information available.

Transport between environmental compartments

No data available

12.5 Results of PBT and vPvB assessment:

This product does not meet the criteria concerning PBT or vPvB substances as described in Annex XIII of the REACH regulation (1907/2006 EC)

12.6 Other adverse effects:

This substance is not in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer. Avoid infiltration in to drinking supplies, waste water or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods:

Waste disposal methods

Environmental regulations, discharge of chemicals and washwater, waste treatment and disposal conditions of chemicals and their packaging may vary from one country to another. The relevant local regulations should be consulted. When this product or its contaminated packaging has to be removed as waste, contact an authorized waste contractor.

May be discharged to drain if local regulations permit.

Empty containers.

As the packaging can be contaminated with product residus, please observe the warnings of the label even when the container is empty.Do not reuse empty container without proper cleaning.Label precautions also apply to this container when empty.

For waste resulting from the expired product, it is recommended to use European Waste Code : 08 03 12 (waste ink containing dangerous substances).

14. TRANSPORT INFORMATION

ADR

UN-No	:	3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acrylate)
Class	:	9
Packing group	:	III

Classification Code	:	M6
Labelling No.	:	9
Risk No.	:	90
Environmentally Hazardous	:	Yes

RID

UN-No	:	3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acrylate)
Class	:	9
Packing group	:	III
Classification Code	:	M6
Labelling No.	:	9
Risk No.	:	90

ADNR

UN-No	:	3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acrylate)
Class	:	9
Packing group	:	III
Classification Code	:	M6
Labelling No.	:	9
Risk No.	:	90

IMO / IMDG

UN-No	:	3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Acrylate)
Class	:	9
Packing group	:	III
Labelling No.	:	9
EmS	:	F-A, S-F
Marine pollutant	:	P

ICAO / IATA cargo aircraft only

UN-No	:	3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Acrylate)
Class	:	9
Packing group	:	III
Labelling No.	:	9MI
Packing instruction	:	964

ICAO / IATA passenger and cargo aircraft

UN-No	:	3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (Acrylate)
Class	:	9
Packing group	:	III
Labelling No.	:	9MI
Packing instruction	:	964

15. REGULATORY INFORMATION

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

Authorisation and/or restriction on use

Authorisation	:	No
Restriction on use	:	Not listed on EU. REACH, Annex XVII, Restrictions on manufacture, placing on the market and use of certain dangerous substances, mixtures & articles (Reg 1907/2006/EC, as amended

Other EU regulations

Does not fall under specific EU-Regulations.

15.2 Chemical Safety Assessment

No Chemical Safety Report needed according REACH.

16. OTHER INFORMATION

Text of H-phrases referred to under headings 2 and 3:

H302	Harmful if swallowed.
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.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Text of R-phrases referred to under headings 2 and 3:

R22	Harmful if swallowed.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R43	May cause sensitization by skin contact.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53	May cause long-term adverse effects in the aquatic environment.
R62	Possible risk of impaired fertility.

Further information

This Safety Data Sheet is compiled in accordance with European Directives and corresponding national legislation.

The information disclosed in this Safety Data Sheet is believed to be correct to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other material or in any process, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management.

Sources of key data used to compile the datasheet

Handbuch der gefährlichen Güter, Hommel.
The Dictionary of Substances and their Effects, Royal Society of Chemistry.
Gefährliche Chemische Reaktionen, L.Roth und U.Weller.
Handbuch der Umweltgifte, Dauderer.
Chemiekaarten, latest version.
Safety Data Sheet from the supplier.
IUCLID Test data.This safety data sheet contains an ES (if applicable) in an integrated form. Contents of the exposure scenario have been included (if applicable) into sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet. The downstream user has to check whether his uses are covered by the integrated ES information in this safety data sheet.

Abbreviations

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 (GE)
ATEmix:	Acute toxicity estimate of the mixture
CLP:	Classification, Labelling and Packaging of substances and mixtures
CMR:	Carcinoge
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 (UK)
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:	Occupatianal 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:	Treshold Limit Value
TRGS900:	Arbeitsplatzgrenswerte (GE)
TWA:	Time Weighted Average
VOC:	Volatile Organic Compound
vPvB:	very Persistent and very Bioaccumulative substance